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NEW SOUTH WALES.

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VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE SESSION

OF

1894-5,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

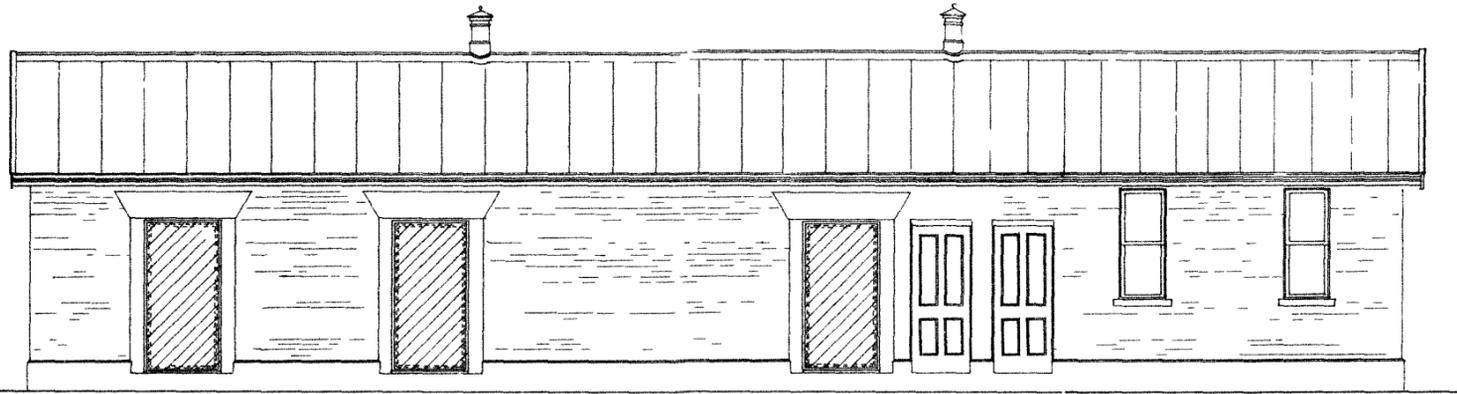
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IN SIX VOLUMES.

VOL VI.
—

SYDNEY :

CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP-STREET.

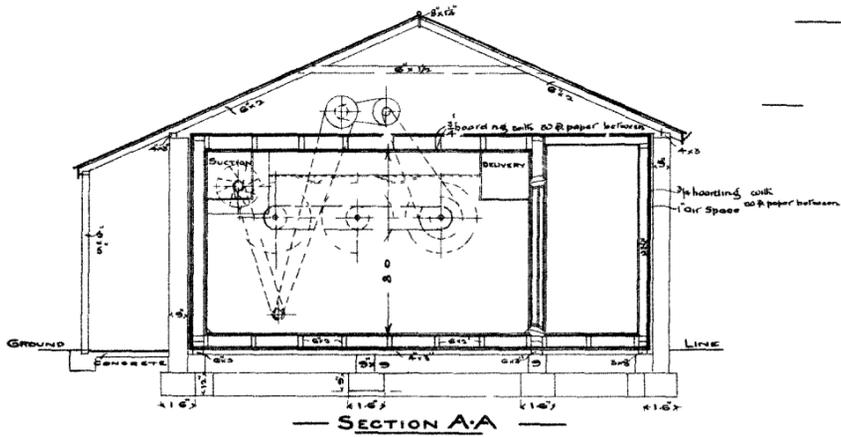
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— FRONT ELEVATION —

— REFRIGERATING TESTING ROOMS —

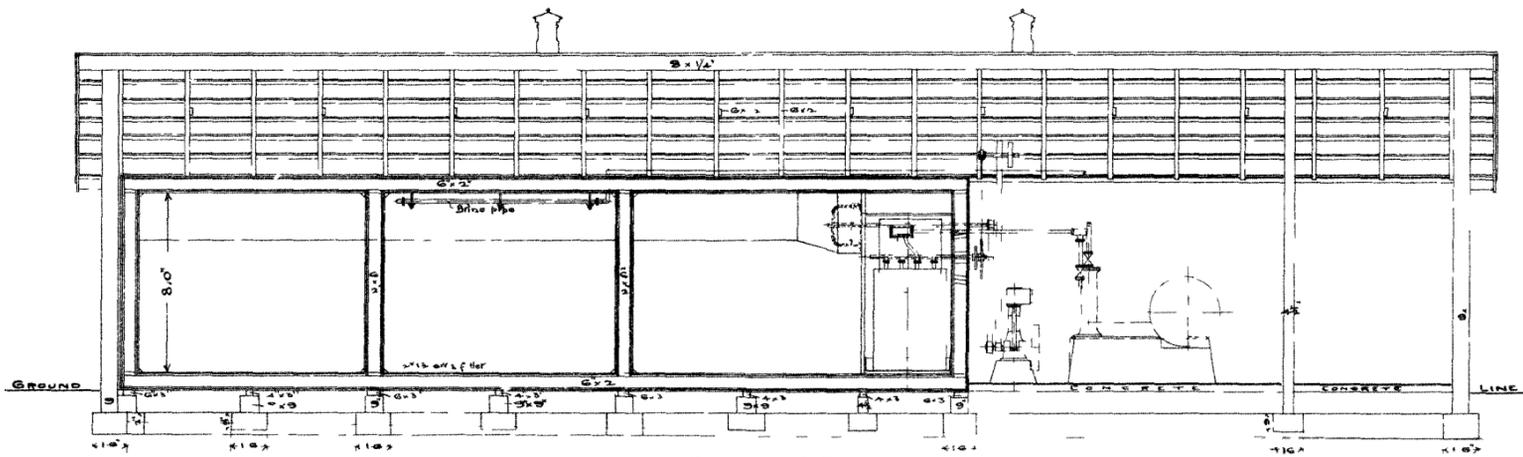
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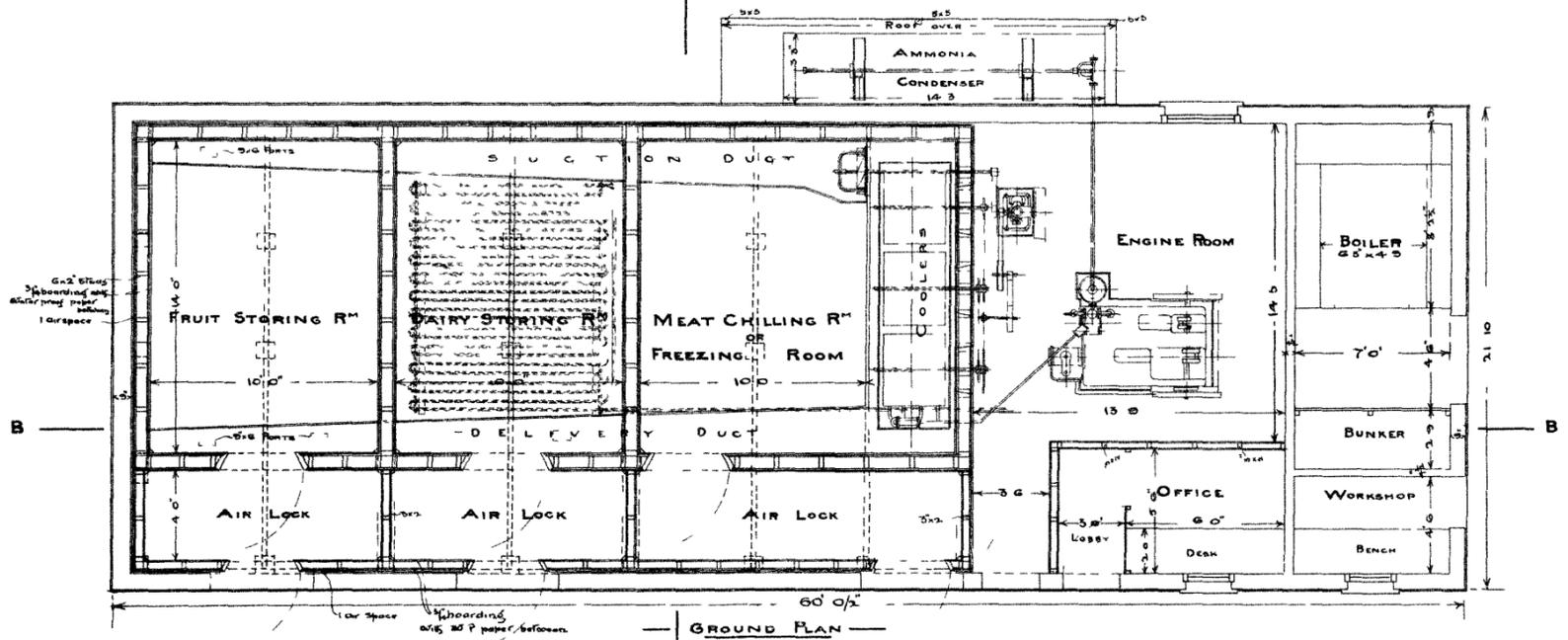
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Scale

— J. WILDRIDGE AND SINCLAIR —
— CONSULTING ENGINEERS —
37 PITT STREET SYDNEY



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1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

VOTES AND PROCEEDINGS.

SESSION 1894-5.

(IN SIX VOLUMES.)

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1894-5.

NEW SOUTH WALES.

REPORT

OF THE

PROCEEDINGS OF A CONFERENCE

RESPECTING THE

RABBIT PEST IN NEW SOUTH WALES,

COMMENCED AT THE DEPARTMENT OF LANDS, SYDNEY,

ON TUESDAY, APRIL 2ND, 1895,

IN RESPONSE TO INVITATIONS ISSUED AT THE DIRECTION OF THE
HON. J. H. CARRUTHERS, SECRETARY FOR LANDS.

Presented to Parliament by Command.



SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1895.

THE RABBIT CONFERENCE.

Held April 2nd, 3rd, 4th, and 5th, 1895.

REPORT of Proceedings, for Presentation to the Honorable J. H. CARRUTHERS,
Minister for Lands.

THE proceedings were opened by the Minister, who had invited, in addition to Representatives from the Country, Members of Parliament and other gentlemen, to take part in the deliberations for the purpose of securing an expression of opinion as to the best methods by which the eradication of the rabbit pest might be brought about. This, as he had explained in his opening address, was essential in the interests of the Colony; and the reason he had invited an interchange of opinion was that something practical might result which would be a guidance to him in future legislation.

The Honorable William Campbell, M.L.C., was unanimously elected Chairman of the Conference, in which the following gentlemen took part:—

W. H. Suttor, M.L.C.	William Fisher, Murrumbidgee.
J. MacIntosh, M.L.C.	S. Black, Chief Inspector under the
J. M. Creed, M.L.C.	Vermin Destruction Act, Victoria.
Philip Gidley King, M.L.C.	Robert Gibson, Hay.
T. Hassall, M.L.A.	T. Fitzpatrick, Murrumbidgee.
E. W. O'Sullivan, M.L.A.	J. A. Fotheringham, Secretary,
J. C. Watson, M.L.A.	Fresh F. & I. Co.
J. Ashton, M.L.A.	J. Lane, Corowa.
T. Waddell, M.L.A.	W. Farrell, Coonamble.
S. J. Law, M.L.A.	G. E. Traquair, Coonamble.
T. Brown, M.L.A.	Joseph Wilks, Menindie.
W. Affleck, M.L.A.	Kenneth Murchison, Girilambone.
H. Macdonald, M.L.A.	T. Irving Campbell, Mount Ida.
C. Collins, M.L.A.	D. Scott, Condoblin.
E. D. Millen, M.L.A.	D. Johns, Wyalong.
R. Sleath, M.L.A.	M. Tully, Bourke.
W. J. Ferguson, M.L.A.	D. Tully, Hillston.
Travers Jones, M.L.A.	J. M. Atkinson, Nyngan.
J. G. Carroll, M.L.A.	Harrie Wood, Under Secretary for
J. F. Barnes, M.L.A.	Mines.
G. H. Greene, Grenfell.	W. H. Walker, Tenterfield.
A. McCollough, Deniliquin.	H. A. Hough, Mount Ida.
D. A. Morgan, Wentworth.	F. W. Bacon, Brewarrina.
R. F. Roberts	P. Oakden, Cobar.
A. Anderson, Corowa.	J. B. Milne, Condobolin.
A. Macfarland, Hay.	W. Alison, Canonbar.
N. Gatenby, Forbes.	E. H. Wall, Narrabri.
R. A. Ryan, Sturt.	D. Robertson, Narandera.
Thomas Leslie, Forbes.	A. Ross, The Hume.
H. N. Cunningham, A. M. & A. Co.	H. C. Taylor, Rabbit Branch,
J. A. Gunn, Narandera.	Lands Department.
R. B. Wilkinson, Sydney.	A. T. Brooke, Bogabri.
William Devlin, Wagga Wagga.	E. Quin, Wilcannia.

After the reception of certain correspondence, the Conference proceeded to discuss the subject for which they had assembled. Mr. Millen, M.L.A., moved,—“That the rabbit pest, being a national evil, this Conference is of opinion that it should proceed to the consideration of the best means whereby the State, in co-operation with those in occupation of the land, can deal with such pest.”

Mr. Waddell, M.L.A., seconded the resolution, which was unanimously agreed to.

Several other motions were submitted, and, after discussion, Mr. Macfarland, in order to facilitate the business of the Conference, moved,—“That a sub-committee be appointed to schedule notices of motion and draw up a business paper.” The Conference agreed to the resolution, and an adjournment was made until 10 o'clock next day, when the Conference again met. The Chairman announced the receipt of a telegram from the Premier of South Australia, regretting that his Government would be unable to send a delegate, but desiring to be informed of the conclusions arrived at. This the Conference received, and the business paper as prepared by the sub-committee was proceeded with, and a series of resolutions as appended arrived at.

On Thursday morning, Mr. S. Black, Chief Inspector under the Vermin Destruction Act, Victoria, addressed the Conference, and in the course of his remarks explained the working of the Act of 1884, its repeal, and the substitution of the 1889 Act. The latter had been found to work well. Information on various matters was vouchsafed by Mr. Black, who, at the close, received the thanks of the Conference.

The result of the Conference deliberations was the adoption of the following resolutions:—

Mr. T. Leslie moved, and Mr. T. Waddell seconded,—

With a view to future legislation to more effectually deal with the rabbit-pest, this Conference is of opinion that the Rabbit Act of 1890 having failed to give the relief required, should be repealed.

Mr. J. A. Gunn moved, and Mr. McCollough seconded,—

That this Conference is of opinion that the matter of dealing with the rabbits be placed in the hands of the Pastures and Stock Boards until they are superseded by more representative bodies.

Mr. Leslie moved, and Mr. F. W. Bacon seconded,—

That the Pastures and Stock Boards be empowered to make special levies for the destruction of rabbits and the erection and maintenance of rabbit-proof barrier fences where necessary.

Mr. Gunn moved, and Mr. A. Ross seconded,—

That the local controlling authorities should have the power to make destruction compulsory in their respective districts.

Mr. D. Tully moved, and Mr. H. A. Hough seconded,—

That, with reference to the large extent of abandoned areas in the Colony, the Crown should be called upon to take such steps as shall ensure the re-occupation of the country upon any terms, provided there is a clause in the lease strictly enforcing the destruction of rabbits.

Mr. E. D. Millen, M.L.A., moved, and Mr. Murchison seconded,—

That as one means by which the State might beneficially co-operate with the landholders, this Conference recommends the free carriage of rabbits in any form on the State railways.

(This resolution was carried on the casting vote of the Chairman.)

Mr. H. Cunningham moved, and Mr. G. H. Greene seconded,—

That the duty on netting be abolished.

Mr. Cunningham moved, and Mr. G. H. Greene seconded,—

That netting be carried by rail free when cattle or sheep trucks, which would otherwise run empty, can be used.

Mr. T. Irving Campbell moved, and Mr. Murchison seconded,—

That the State should, on the Board's recommendation, supply netting to landholders, charging interest at the rate of 4 per cent. per annum.

Mr.

Mr. Hugh Macdonald, M.L.A., moved, and Mr. Scott seconded,—

That the Government is recommended to maintain the compulsory fencing clauses of the Rabbit Act, but to introduce an amendment to prevent hardships to individual owners, recognising that such cases do arise.

Mr. N. Gatenby moved, and Mr. Leslie seconded,—

That in all cases where rabbit barrier fences are constituted under the Pastures and Stock Boards they shall remain the property of those Boards, and provision be made to ensure their safety.

Mr. J. Ashton, M.L.A., moved, and Mr. Ross seconded,—

That, in order to secure the maximum of economy in the work of rabbit destruction, the controlling district authority should have power to proclaim that certain adjoining holdings shall constitute a group; to secure the fencing of such group; to enforce simultaneous and continuous destruction of the pest within the boundaries of the fenced area; and to apportion the cost of fencing and killing between the owners affected.

Mr. Alison moved, and Mr. Bacon seconded,—

That this meeting, having decided that the question of dealing with the rabbit pest should be placed in the hands of the Pastures and Stock Boards, it is further of opinion that the Government, in proportion to the unoccupied Crown lands in any district, should contribute towards providing funds for dealing with the pest in such district.

Mr. P. Oakden moved, and Mr. Alison seconded,—

That, without material assistance in the shape of subsidy or reduction in rents, the greater portion of the pastoral lands in the Western Division are unequal to bearing the weight of expenditure necessary for coping with the rabbit pest.

Mr. R. Gibson moved, and Mr. T. Irving Campbell seconded,—

That, owing to the devastations caused by the rabbits, a provision be inserted in the Rabbit Act allowing holders of infested country to have a re-classification and re-appraisal of their lands.

Mr. H. Cunningham moved, and Mr. W. H. Walker seconded,—

That all districts where rabbits are known to exist, or are in danger of becoming infested, be proclaimed infested areas.

Mr. Gatenby moved, and Mr. Leslie seconded,—

That this Conference recommends the Government to put the rabbit proof fence from Albury to Bourke in thorough repair, and take steps to ensure its effective maintenance, afterwards handing it over to the Stock Boards.

Mr. P. Oakden moved, and Mr. Hough seconded,—

That this Conference recommends the free carriage of rabbit skins on the State Railways.

Mr. D. Johns moved, and Mr. Alison seconded,—

That, as it is impossible for infested districts to combat the rabbit pest until the vacant lands are wire netted, the Government is urged to join in netting the boundaries of abandoned and unoccupied lands, reserves, and commons. To allow to any adjoining holders who may erect a wire netting fence adjoining these lands an abatement of rent which will, during term of lease, cover interest and capital on the Crown's proportion of the cost of erection.

A discussion as to the best methods for destroying the rabbit ensued and—

Mr. Oakden moved, and Mr. Macfarland seconded,—

For the destruction of rabbits this Conference recommends primarily the use of wire netting, poisoned water, and trapping at tanks, phosphorised pollard, poisoned twigs, tilt pit-traps along the lines of wire netting.

Mr.

Mr. D. Tully moved, and Mr. Ross seconded,—

That in the opinion of this Conference the maximum size of rabbit netting to be used in future shall be $1\frac{1}{2}$ in., with a minimum width of 42 in. by 17 in.

Mr. N. Gatenby moved, and Mr. Leslie seconded,—

That in any levies made under the Pastures and Stock Boards for the destruction of rabbits, and the erection and maintenance of barrier fences, such levies shall be *pro rata* on the acreage of land and not on a stock basis.

Mr. Oakden moved, and Mr. Ferguson, M.P., seconded as an amendment the insertion of the words, after the word land, "in proportion to its natural carrying capacity." The addition of these words was agreed to on division, the voting being 15 for and 13 against.

Mr. T. Leslie moved, and Mr. Hugh Macdonald, M.L.A., seconded,—

That where any boundary fence which has been or may hereafter be fenced with rabbit proof netting, whether in a proclaimed rabbit infested district or not, is used by the adjoining holder to make his holding rabbit proof, such holder shall be liable (after inquiry by the Local Land Board) to a contribution of one half the cost of making and maintaining such boundary fence rabbit proof.

Throughout the sittings members have evinced a strong desire to place before the Minister matters of urgent necessity, and this Conference desires to emphatically bring before the Minister the fact that it is its unanimous desire that the present Rabbit Act should be repealed, that the destruction of rabbits be entrusted to local control, and that the State accept its due responsibility with respect to unoccupied Crown lands, and urges the Minister to introduce speedy legislation to give effect to the reforms embodied in the foregoing resolutions.

W. R. CAMPBELL,
Chairman.
5th April, 1895.

THOS. LESLIE,
Chairman of Sub-Committee.

THE RABBIT CONFERENCE.

FIRST DAY.—April 2nd, 1895.

THE Conference met at 10.30 a.m., and the following gentlemen took part in the deliberations:—

W. H. Suttor, M.L.C.	Thomas Leslie, Forbes.
J. Macintosh, M.L.C.	H. N. Cunningham, A.M. & A. Co.
J. M. Creed, M.L.C.	J. A. Gunn, Narrandera.
Phillip Gidley King, M.L.C.,	R. B. Wilkinson.
W. Campbell, M.L.C.	William Devlin, Wagga.
T. Hassall, M.L.A.	William Fisher, Murrumbidgee.
E. W. O'Sullivan, M.L.A.	Robert Gibson, Hay.
T. Fitzpatrick, M.L.A.	J. A. Fotheringham, Secretary, Fresh Food
J. C. Watson, M.L.A.	and Ice Co.
J. Ashton, M.L.A.	J. Lane, Corowa.
T. Waddell, M.L.A.	W. Farrell, Coonamble.
S. J. Law, M.L.A.	G. E. Traquair, Coonamble.
T. Brown, M.L.A.	K. Murchison, Girilambone.
Travers Jones, M.L.A.	Joseph Wilks, Menindie.
W. Affleck, M.L.A.	T. Irving Campbell, Mount Ida
J. G. Carroll, M.L.A.	D. Scott, Condobolin.
Hugh Macdonald, M.L.A.	D. Johns, Wyalong.
J. F. Barnes, M.L.A.	M. Tully, Bourke.
C. Collins, M.L.A.	D. Tully, Hillston.
E. D. Millen, M.L.A.	Harrie Wood, Under Secretary for Mines.
A. McCollough, Deniliquin.	H. C. Taylor, Rabbit Branch, Lands Department.
D. A. Morgan, Wentworth.	W. H. Walker, Tenterfield.
R. F. Roberts, Wentworth.	H. A. Hough, Gunbar.
A. Anderson, Corowa.	F. W. Bacon, Brewarrina.
A. Macfarland, Hay.	P. Oakden, Cobar.
N. Gatenby, Forbes.	J. B. Milne, Condobolin.
R. A. Ryan, Sturt.	W. Alison, Canonbar.
G. H. Greene, Grenfell.	E. H. Wall, Narrabri.
D. Robertson, Narrandera.	A. Ross, The Hume.
A. T. Brooke, Boggabri.	E. Quin, Wilcannia.

The Minister for Lands in opening the proceedings delivered the following address:—

Gentlemen,—

I am very pleased to have the opportunity of welcoming you here to day and I feel assured that we all feel interested in conferences such as this, held periodically, on so important a subject as the rabbit question. Holding the position that I do, I do not wish to intrude on this Conference any observations of my own, with regard to any specific method of coping with the question. I have called you together as practical men, to give me the benefit of your opinion, your experience and advice in this matter, and I shall only scrutinise that advice in the light of my duty, and generally in the interests of the great body of taxpayers of this Colony. In doing this I shall have to protect the public funds, and the general public, but where you do not come into conflict largely with these two questions, you can be assured of my cordial support in any plan you may submit to me. The gentlemen forming the Conference have been called together with the object of considering the best means of dealing with the rabbit pest and of supplying the Minister with the result of their deliberations in the hope that he may, from the practical and personal experience gained by most of those present, be able to formulate some measure which will mitigate the pest complained of to such an extent as to render the occupation of lands in this Colony more profitable than it would appear to be at present, either by reducing its numbers in a cheap and wholesale manner, and, if possible, make the rabbit contribute to the cost of its own destruction by the utilisation of the skins and carcasses. Conferences to deal with this subject have been called together on previous occasions, and it cannot be questioned that they have been productive of much good. Legislation having for its sole object the destruction of the rabbit dates from the 1st May 1883, when the Bill introduced by Sir Joseph Abbott, became law. Previous efforts had of course been taken to cope with the rodent, but the machinery provided by the Pastures and Stock Protection Act was found quite insufficient for the purpose, and, in response to an almost universal outcry, the Rabbit Nuisance Act of 1883 was, as before stated, submitted to Parliament, and in due course became law. The main principle of this Act was the compulsory destruction of the rabbit by the occupants of the land, who were to be assisted in their efforts by the payment of a subsidy to be obtained from a fund raised by imposing annually a tax upon stockowners. Soon the greater portion of the Western District was in a state of activity, and large sums were spent in attempting to check the spread of this pest, which was known to be exercising such a prejudicial effect upon the pastoral interests of the Colony. It was, however, soon patent that the fund established would be quite inadequate for the purpose, and before long it became necessary to make large demands upon the Consolidated Revenue, in order that the work entered upon might be persevered with.

The

The following figures will show the sums of money paid through the medium of the Department charged with the administration of the Act solely for the purpose of attempting to get rid of the rabbit :—

	£	s.	d.
1883
1884
1885
1886
1887
1888
1889
to 30 June, 1890

or a total of £831,457 4s. 1d., of which sum £503,786 5s. 8d. was supplied by the Consolidated Revenue consequent upon the fund established by the Act being insufficient to meet demands. It must also be remembered that the enormous sum mentioned does not include the total cost incurred, as in all cases the occupant of the land had to bear at least 25 per cent. of the expenditure incurred in destroying rabbits, so that it may be safely stated that the known cost up to the date mentioned is considerably in excess of £1,000,000. From the 1st July, 1890, to the 31st December, 1894, the Government expenditure on account of the rabbit has been limited to the sum of £22,761, and almost the whole of this has been devoted to the erection of rabbit-proof fencing. During the period this expensive warfare was in progress efforts were being made to devise other means of dealing with the pest, and a Conference, with this object, met on the 1st October 1885 and the six following days, and a report was presented in due course. The succeeding year another gathering was convened, consisting of fifty-four delegates, jointly representing the whole of the landholders and pastoralists of the Colony. These gentlemen met on the 14th June, 1886, and seven following days, and a report, recommending among other things, the erection of a rabbit-proof fence from the Queensland border to the Victorian border, was submitted, and, as is known, this work was soon in progress. The experience gained in the year 1887, made it more than plain that the rabbit had come to stay. During that year the Department paid for in excess of 27,000,000 rabbit skins; but the pest was, if anything, more numerous at the end of the year than at the beginning, and the country lying to the west of a line drawn from Albury on the south to Barrington on the north, may be said to have been more or less infested. It is also known that about 3,000 men were engaged solely in the work of rabbit destruction, earning large wages, in some cases as much as £12 per week. Facts such as these had the effect of determining the Government of the day to put an end to a system found to be futile in its operation, and on the 31st July, 1888, the payment of all subsidy ceased, and from that date the Rabbit Act of 1883 may be regarded as a dead letter, and for a time the work of attempting to cope with the rabbit practically ceased; although spasmodic efforts continued to be made by owners alarmed at the devastation made on the pasturage upon which they were depending for the maintenance of large flocks of sheep. Nevertheless, fresh legislation dealing with the question did not eventuate, although a Bill with this object was submitted to Parliament in the year 1888. Prior to this time the terrible ravages caused by the rabbit had forced the Government to take some action, and on the 31st August, 1887, a reward of £25,000 was offered to any person or persons who would make known and demonstrate a process for the effectual extermination of the pest, in response to which upwards of 2,000 schemes were received from residents of various parts of the world. To investigate these proposals and report generally as to the best means of dealing with the rodent, a Royal Commission was appointed on the 16th April, 1888, consisting of representatives of Victoria, New Zealand, South Australia, Queensland, Tasmania, and this Colony, and on the 16th December, 1889, this Commission submitted its final report. The Commission reported that none of the claimants for the reward had propounded a scheme that would comply with the conditions under which it had been offered, but it went on to formulate certain definite conclusions, amongst others "That no finality in rabbit destruction would be obtained without making the erection of rabbit-proof fences compulsory." "That the system of compulsory destruction, with professional trappers and State bonuses, was radically bad" "That the responsibility for the destruction of rabbits, whether on freehold or leasehold land, should rest on the landholders." "That with regard to unoccupied country, the State should accept similar responsibility." To this report may perhaps be ascribed the existing legislation relating to the rabbit pest. This Act, assented to on the 20th December, 1890, purposes to facilitate and encourage the erection of rabbit-proof fencing, and to make the destruction of rabbits compulsory, under certain conditions. Whatever may be said in opposition to this Act, it may fairly be urged that its operations have brought about the erection of about 15,000 miles of rabbit-proof netting, which has unquestionably checked the onward march of the rabbit; but the cost has been so serious as no doubt to render the question of the continuance of this method under existing conditions a matter likely to engage the earnest attention of this Conference. Whilst on the subject of rabbit-proof fencing it may be mentioned that extensive fences have been erected at the cost of the State. A fence, starting at Barrington on the Queensland Border and following the Main Trunk Railway Line from Bourke to Corowa, a distance of 407 miles, has been completed. Another fence along the entire western boundary of the Colony, a distance of 346 miles, has also been erected at the public expense; whilst, as showing that the plague is not confined to New South Wales, the Queensland Government have found it necessary to erect a similar fence along a considerable portion of the northern boundary of this Colony. Under the existing Rabbit Act provision is made whereby, on a date to be named, the destruction of rabbits may, in areas to be specified, be made simultaneous and compulsory; but owing to agitation on the part of landowners, resort has not yet been had to this as a means for reducing the evils consequent upon the introduction of the rabbit into these colonies. Here is another point on which it is fair to assume that the time and experience of the Conference may be used to the advantage of all concerned. The extent to which the rabbit has spread in this Colony is now a matter of history, but the rapidity with which it has been done is still a source of surprise. New South Wales, it is generally believed, owes the presence of this curse to some no doubt well-meaning gentlemen residents of the Geelong District, Victoria, where the rodent is said to have been liberated some thirty years ago. However, many years elapsed before this Colony became alive to the danger likely to result. The first public announcement that the rabbit had invaded New South Wales is said to have been made in 1881 by Mr. Quin, who, in moving the address-in-reply to the Governor's speech

Speech, regretted that the Ministerial programme did not include a Bill to deal with the rabbit pest. The matter met with general ridicule, and a suggestion was made that Mr. Quin would do better by introducing a Bill to exterminate fleas. However, no great length of time elapsed before the evil became pronounced, and complaints as to the damage done began to arrive from the south-western corner of the Colony; and during 1882 the pest was to be met with in greater or less number on most of the holdings on the Murray frontage from Corowa to the South Australian Border, a distance from east to west of at least 350 miles, and then again from south to north about 200 miles. In 1883, when the first Act was brought into force, the rabbit had spread north a short distance above Silverton; thence across the Darling River, easterly, between Wilcannia and Menindie; then down the Lachlan above Hillston; then by a line almost due south to the Murray near Corowa—an area of almost one-fifth of the whole Colony. Inquiries made early in 1887 elicited the information that the infested area had at that time been at least doubled, whilst at the present time the whole of the Western Division and the bulk of the Central is more or less rabbit infested, whilst the Eastern Division is by no means free, although population in that part of the country has checked the spread of the pest. In short, the whole of the country to the west of a line drawn from Germanton on the south to Mungindi on the north, is to some extent subject to the depredations of bunny. During the period the rabbit has been a source of trouble and expense, the landowners in the Colony have tried numerous methods to grapple with the pest. In the early times the use of the old gin-trap was the most popular with the rabbit, and next to that, hunting with dogs. Bisulphide of carbon was used in many places suitable for the purpose, and with considerable success, although labourers had strong objections to the use of it. Natural enemies in the shape of the ferret and the mongoose were availed of, whilst men of experience were to be found who argued that if trapping operations were to cease, the iguana would be quite capable of putting an end to the wily rodent. The domestic cat was converted into an agent of destruction, and it is alleged that over limited and suitable areas they proved of service. To recapitulate the methods adopted in the attempt to check the rabbit invasion would doubtless be unnecessary, seeing that the gentlemen constituting the Conference have a vivid recollection of these various remedies and the cost of the same. It might, however, be mentioned that of late years the efforts have to a great extent been restricted to the use of poisons in conjunction with wire netting, and in seasons when food has been dry and water scarce, the result has been the wholesale destruction of the rabbit, and at a cost trifling in comparison with what it was a few years since. However, these efforts have no finality, and the expenditure is an annual one, and the reports received from time to time go to show that the rabbit is continuing his work of destruction and attacking new country. There can be no question that the continued activity of bunny results in the carrying capacity of pastoral holdings being reduced to a considerable extent, whilst the owners of agricultural lands are being harassed to such an extent as to seriously interfere with the profitable occupation of the land, and as a consequence the productiveness of the soil is retarded to such an extent as to be seriously felt not only by the actual occupants of the land, but by the State. At the present time the Crown has upon its hands something like 7,000,000 acres of land in the Western and Central Divisions, which may be referred to as abandoned resumed areas, and there can be no question that this due in some measure to the expense of working the country, consequent upon the prevalence of the rabbit pest. With the object of obtaining the most reliable and up-to-date information on this subject, the present gathering of practical men has been summoned in order that the State may obtain the benefit of their experience, and in the hope that some efficacious and inexpensive method of keeping the rabbit in check may be propounded. Extermination seems to be out of the question, but much may, it is thought, be done by combined action in the way of reducing the pest within manageable proportions, and at a reduced cost, the State, of course, taking its share of whatever responsibilities it may be thought necessary to impose. One feature of the rabbit question has not, it is thought, received sufficient attention at the hands of the sufferers in this Colony, and that is the commercial utilization of the animal. In the past suggestions of this character have met with condemnation, on the grounds that it would lead to the conservation of the rabbit, but it would appear that the time for such argument has disappeared. Experience in the past leads to the belief that the rabbit is a fixture, and there should be no reason why persons resident in localities suitable for the purpose should not seriously consider why the animal should not be made to contribute to the cost of its own destruction. It is, of course, apparent that operations of this character would only be possible over a limited area of the infested country, but with the easy means of reaching foreign markets, it is worthy of consideration whether the carcase of the rabbit may not be used as an article of food, either frozen or canned, and whether the skins and fur may not be profitably applied in the manufacture of gloves and felt. Industries of this kind are reported to have met with a fair amount of success in one of the other colonies, and quite recently reports were received from Narrandera indicating that similar operations are likely to be successful in that locality. Under the present Act power is given to declare districts overrun or likely to be overrun with rabbits to be rabbit infested, and upon such being done, the lands included therein are subject to the fencing provisions of the Act. A recently expressed intention of extending the area already declared infested has been received with considerable opposition, and an expression of opinion as to the advisability of persevering in this intention would be of value, and also as to whether the conditions relating to the erection of rabbit-proof fencing are unfair or harsh in their incidence, and if so, in what manner they are to be improved. As before stated, the Act in force gives power to make the destruction of the rabbit compulsory, and as some agitation is on foot to bring this power into active operation, it is thought that an expression of opinion as to the judiciousness of such a course would be desirable, without respect to the peculiar conditions existing in any particular district, but as a question of national policy. In order that you might deal with this question specifically, I have called you together, and it would be idle for me to offer you advice as to how you will conduct your business. You have the subject before you, and it is one that touches many of your breeches pockets, and I believe that men who are touched that way are likely to deal with the subject in a practical manner and come down to successful results. I ask you to elect your own Chairman, but I would suggest to you that Mr. Campbell or Mr. King, as gentlemen who are acquainted with parliamentary methods of conducting meetings, should be appointed. Mr. Taylor will be with you during the whole of the Conference, and I am glad to see Mr. Wood here, so that he may give you the benefit of his experience. We expect Mr. Black, Chief Inspector of Stock of Victoria. South Australia has been invited to send a delegate, but up to the present no reply had been received; and we hope before the Conference breaks up to have the benefit of the Queensland representative's views. Now to any person outside this Conference who desires to give information

I wish it to be made known that the Conference is willing to receive any such information from any source whatever, because if it can do no good it can do no harm. I shall not attempt to direct your efforts in any way; but this I advise you to do, to open with a general discussion on the question, and then embody the points in resolutions to be afterwards arrived at. Let a sub-committee be appointed to draw up a report, and let it be submitted to the Minister, so that it may become a State record. If the report goes too far, and does not meet with the approval of the Government, then you shall have an opportunity of amending that report so as to bring it within manageable limits. It is my wish to carry out your desires as far as possible, and I hope success will attend you in your deliberations, and I now ask you to elect your Chairman.

The Conference then proceeded to elect a Chairman, the Hon. W. Campbell, M.L.C., being unanimously chosen.

Mr. CAMPBELL thanked the representatives for the honour they had conferred upon him, and he hoped they would bear leniently with him in the discharge of his important duty. He was there to keep order, and to direct the debate as he deemed necessary. The question that they had met to deal with was one of the most important connected with the welfare of the country. They wanted to do practically what the Minister had already expressed, and to have his ideas carried out in the shape of practical legislation. He thanked them again for the honour, and hoped they would assist him as Chairman and restrict their remarks, on the different resolutions that would be submitted, as much as possible. There were several letters that had been handed to him by Mr. Taylor which he thought desirable to read. One was an application by Mr. Phil. Mowbray to give evidence as an expert witness on the subject before the Conference.

The Conference decided to acknowledge the receipt of Mr. Mowbray's communication.

The Rev. Hugh Dunlop wrote asking permission to exhibit two appliances for rabbit destruction. The communication was received.

Mr. L. Fane De Salis wrote expressing his regret at his inability to be present at the Conference, and stating that he still considered the plan which he had *ab initio* advocated in so many publications was the easiest, speediest, and cheapest (on the whole) of any plan yet proposed. The communication was received.

The CHAIRMAN thought that there should be someone prepared to make some definite motion, in order that members could speak to it.

The Hon. J. M. CREED, M.L.C., moved, "That the paper read by the Minister be printed, and circulated as soon as possible."

Mr. HUGH MACDONALD, M.L.A., drew attention to the expense that would be incurred in the publication of a document of the kind, and thought it altogether unnecessary. The Minister recommended that their first proceeding should take the form of a general discussion. We cannot improve a great deal on that. He suggested that in the discussion they should confine themselves to one particular aspect at a time. He had a resolution to move in relation to the operation of the present Act, but did not desire to submit it at that particular juncture.

Mr. MACFARLAND (Hay) seconded Dr. Creed's motion.

Mr. FISHER (Murrumbidgee) asked the mover if it was intended to have the document printed and distributed amongst the members of the Conference. If so, he considered it would occasion a great loss of time.

Mr. GREENE thought the printing of the document altogether unnecessary. He looked upon it simply as a waste of time.

Mr. HUGH MACDONALD, M.L.A., entered his protest against the incurring of such an expense.

Mr. WADDELL, M.L.A., thought it would be absurd to waste such time, as the Minister's remarks would probably appear in the morning papers.

The Hon. J. M. CREED, M.L.C., in reply, remarked that the thing was to get it through as quickly as possible. The whole matter had been considered in a general way for the last twenty years. He only wished to see some resolution come from that Conference.

The motion, on being put to the meeting, was negatived on the voices.

Mr. MILLEN, M.L.A., proposed to submit a motion which he thought would have the advantage of being sufficiently broad to permit of general discussion. It was as follows—"That the rabbit pest being a national evil, this Conference is of opinion that it should proceed to the consideration of the best means whereby the State, in co-operation with those in occupation of the land, can deal with such pest." He would ask the members to note one sentence contained in the motion, and that was "the State in co-operation with those in occupation." He thought it was well in moving the resolution that they should recognise very clearly the obligation resting upon the State. They might reasonably ask the State to do this. The fact that in this country the State was the landlord gave them a reason why they should expect assistance in this direction.

Mr. WADDELL, M.L.A., seconded the resolution.

Mr. WATSON, M.L.A., said he did not know anything about rabbits, and came there to listen. Before entering any further into the matter he thought it would be better for the members to thoroughly discuss the whole question.

Mr. GREENE thought the resolution was quite in conformity with what the Minister had suggested. He hoped it would be carried.

Mr. FISHER (Murrumbidgee) ventured to say that there would not be a dissentient voice so far as the motion, which was a good one, was concerned.

Mr. HUGH MACDONALD, M.L.A., said that the only objection he had to the motion was that it was too comprehensive.

The CHAIRMAN reminded him that he could move an amendment upon any motion before the meeting.

Mr. WADDELL, M.L.A., said that the object in the first place in having the Conference at all was to get men from all parts of the Colony, in order to obtain the general information they would be likely to get from men of such experience from different parts of the Colony. The object in moving the resolution was, he considered, to give everyone an opportunity of speaking and putting forth their views. Some members of the Conference would have an opinion of one kind as to the best means of dealing with the difficulty, whilst others would hold different views. Then they could proceed to frame different resolutions, having interchanged ideas on the subject. Some members might think it would be a good thing for the Government to take definite steps. Each one would have an opportunity if a general discussion took place of submitting definite resolutions, and the Conference would have an opportunity of considering them one by one.

Mr.

Mr. ASHTON, M.L.A., asked the members of the Conference not to put the motion to the vote until they had had an opportunity of discussing the question. He thought a general discussion on the question should take place, and the various methods for dealing with the pest thoroughly considered.

The CHAIRMAN said that members could speak on the motion. He hoped that members would explain their views to the Conference.

Mr. MACFARLAND (Hay) thought that the compulsory killing of rabbits should be the next thing taken into consideration. If this was to be under the control of the various Pastoral Boards, aided also by the police in the districts, the difficulty could be got over. These Boards should have the control of compulsory killing of rabbits. The use of poison as a means of extermination had been much facilitated, and much good had resulted therefrom, but he thought the various municipalities, which had control of commons from which revenue was derived, should be compelled to destroy the rabbit, and if it were made compulsory there would very soon be complete extermination.

Mr. GIBSON (Hay) wished to be informed whether they were going to make use of the rabbit, or whether they were going for complete extermination. They were fostering an industry, and he was of opinion that they should not recommend in any shape or form the rabbit as an article of commercial value.

Mr. GREENE rose to a point of order. They were entering now into matters of detail which he thought would be valuable later on.

Mr. GIBSON (Hay), on the point of order, considered that the resolution opened up the whole question. He was touching upon one phase of the question, while Mr. Macfarland touched upon another.

The CHAIRMAN said the point of order raised by Mr. Greene would not hold good in a case of that kind. It was just ventilating gentlemen's opinions on the subject, by means of which they could see which way the members' feelings were.

Mr. GIBSON (Hay) continuing, said: They knew that the Crown should destroy rabbits; but when it came to a question of spending the public money, was it feasible that the Crown would accept the responsibility. There was also the question of wire-netting, and whether it should be made compulsory or should the Government supply it at such a cost as to materially aid the occupiers. These were important matters that would have to be dealt with at an early stage.

Mr. MORGAN (Wentworth) said he could tell them something about what the landholders had done during the last ten years. As Mr. Macfarland had stated, poison had been most efficacious in his district up to the present time. Poison was found about the best means for destroying rabbits in his district, and it should be combined with wire netting. He suggested that wire-netting and poison should be generally adopted.

Mr. KENNETH MURCHISON (Girilambone) thought the best plan would be for the Government to supply the netting to the holders of the land. He knew the landholders were not in a position to wire-net their own land.

Mr. J. A. GUNN (Narrandera) considered it would save time if they dealt with the points that were most important. The chief points, he took it, were those relating to the question of infested areas, wire-netting, and also the commercial use of the rabbit. He thought it would be as well that these should be put before the Conference separately, and dealt with on their merits.

The CHAIRMAN said it would be easier to put it as a general motion, and let the Conference then go on with the different proposals.

The motion was then put to the meeting and carried unanimously.

Mr. J. A. GUNN moved:—"That the destruction of rabbits should be made compulsory throughout the Colony, and that the control of the operations should be placed in the hands of the Pastures and Stock Boards." For his own part, he was a believer in wire-netting and poison as a means of exterminating the rabbit, and he considered that the Boards would be able to cope with the pest in such a way as to cause it to be no longer a serious menace to the Colony.

Mr. A. McCOLLOUGH (Deniliquin) seconded the motion.

Mr. W. AFFLECK, M.L.A., desired to move an amendment. It seemed to him that, notwithstanding the fact that the Conference had been called for the purpose of considering the rabbit pest, they ought equally to take into consideration another danger, namely, the hare pest.

The CHAIRMAN said that the hare pest was not the question before the Conference.

Mr. W. AFFLECK, M.L.A., said he wished to move an amendment, which he thought would deal with the principles in a better way than the one suggested, and it would bring it more under the notice of those interested. It is a fact that we are on the eve, or expect to be on the eve, of getting Local Government.

The CHAIRMAN again drew the speaker's attention to the fact that he was not discussing the motion, and asked him to confine himself to the matter under consideration.

Mr. W. AFFLECK, M.L.A., desired to read his amendment which was—"That this meeting is of opinion that, as we are likely soon to have a Local Government Bill, the rabbit question should be delegated to those bodies, and that the Government be requested to grant assistance to the local governing bodies to destroy the pest." The reason why he proposed this was, that if they resorted to Stock Boards, they would be resorting to a body that was elected by stock owners; but if they referred the matter to local Boards, they were referring it to Boards that were elected by all sections of the community. If this Conference was going to consider the matter at all they ought to take all parties into consideration, and not only a section. The Conference was not formed for considering a single section of the community, but every section; and he thought that if the question was placed in the hands of these bodies instead of Stock Boards it would have a far greater effect.

The CHAIRMAN ruled the amendment out of order as there was no local government in existence, and he did not see what good could come of discussing questions that were not before them.

Mr. T. WADDELL, M.L.A., considered that to carry Mr. Gunn's resolution into effect, namely, "that the control of the destruction of rabbits be placed in the hands of the Pastures and Stock Boards," legislation would have to be passed. Mr. Affleck's amendment was just as pertinent to the question as the motion. He intended to oppose the motion, and support the amendment.

Mr. K. MURCHISON (Girilambone) also signified his intention of moving an amendment.

The CHAIRMAN said the question before them was that the destruction of the rabbit should be made compulsory, and that the operations should be in the charge of the Pasture and Stock Boards. He ruled Mr. Affleck's amendment out of order.

Mr.

Mr. F. W. BACON (Brewarrina) said he represented a district that was highly affected, and he thought that there were no persons better fitted to control these operations than the men who lived in the locality. The work would be done much cheaper and more efficiently. He considered rabbit-proof fencing a most efficient agency in the prevention of the spread of these pests.

Mr. T. WADDELL, M.L.A., said it appeared to him that the motion opened up a matter of great importance in connection with the destruction of the pest, and if it were carried it affirmed that the graziers and agriculturists should bear the expense. It was better for them to consider every step they took than to make any mistake which would appear hereafter. If they occupied a little more time in calmly and carefully considering what they had before them it would be time well spent. He objected to the first motion because its direct tendency would be to throw the expense of a national question upon a section of the people. It would be to the interest of the Government to take means to destroy this pest, and when he said the interest of the Government, that meant the interests of the whole of the Colony. There was another question which came in: If the Pastures and Stock Boards are to deal with this matter, fresh legislation, as he had already pointed out, would have to be passed. The Government must first pass legislation to give effect to the resolution, and invest the Boards with the power to act. They knew there was every probability of a Local Government Bill being passed very soon, and if they had that legislation passed side by side with the other, they would have two Acts giving the same powers to two sections of the people. He suggested that the Conference should carry a resolution to urge the Government to pass the Local Government Bill as soon as possible. The expense of extermination would then be borne by the whole of the Colony, and subsidised by Government funds. He thought the Conference would make a great mistake if they passed the motion as originally moved.

Mr. W. FISHER (Murrumbidgee) said he had been considering the matter very carefully, and the more he considered Mr. Gunn's motion the less he liked it.

Mr. HARRIE WOOD (Under Secretary, Mines Department) said that although the utilisation of the rabbit would only apply to certain districts, still it might be worth considering whether, within those districts where the rabbit could be utilised, they should be utilised or not. He had given the matter consideration, and had very nearly completed an arrangement by which rabbits would be placed on the English and Continental markets at sixpence each, and if they could be placed at that price they could be sold in millions. In this way they would get rid of a lot of rabbits, and would be giving a large amount of employment to men at the same time.

Mr. F. W. BACON (Brewarrina) objected, on the ground that Mr. Wood's remarks were not pertinent to the question.

The CHAIRMAN ruled the remarks in order, and said they wanted to get at what the resolution really meant. It seemed to him that it was a question that should be discussed as fully as possible.

Mr. HARRIE WOOD, continuing, moved as an amendment, the insertion of the words "or utilisation" after the word "destruction."

Mr. J. A. GUNN (Narrandera) hereupon agreed to alter his motion, with the consent of the Conference, making it to read as follows:—"That the destruction or utilisation of rabbits be made compulsory, and the control placed in the hands of the Pastures and Stock or any other local Boards that may be appointed."

Mr. J. ASHTON, M.L.A., said the wording of that would mean that while one person was engaged destroying, another would be engaged utilising. He thought that had the debate been confined to a discussion on the best methods to be employed to eradicate the pest, and every idea having found expression, they would have had a better opportunity of crystallising those ideas into motions. Then they would have made better progress than they were likely to do. The Conference might decide upon certain methods and motions which it would be more expedient to carry out under State control, and which would be better than vesting them in local bodies.

Mr. K. MURCHISON (Girilambone,) thought that they should give the power indicated to no Board, except the Government of the country. He was of opinion that the Government should help them to fence in the land as they were Crown tenants.

Mr. E. D. MILLEN, M.L.A., said, in the motion before the Conference there appeared to him two distinct principles. One was the compulsory destruction, and the other that of local control. He drew attention to the fact that they had in existence a law which permitted of compulsory destruction, and quoted certain clauses of the Rabbit Act, which showed that all occupiers of land should be compelled at once to destroy the rabbits. It had been pointed out that Ministers were not likely to do this so long as there were vacant areas, but the motion provided for it. He considered the motion, unless it was coupled with something else, a dangerous one for the Conference to accept. It appeared to him that it would be making matters worse if there was any attempt to place the control in the hands of Local Government Boards, as by such action those people who had no interest in the destruction of the rabbit would be called upon to pay towards the cost of destroying.

Mr. HUGH MACDONALD, M.L.A., remarked that the representatives seemed to imagine that any resolution passed by them was going to become the law of the land. He thought they were altogether too particular, as all they were required to do was to affirm a principle on broad lines for the destruction of the rabbit, without going into detail.

Mr. J. C. WATSON, M.L.A., suggested that the motion should be divided, for convenience sake, into two sections.

Mr. T. LESLIE (Forbes) opposed the amendment, and expressed himself as being quite at one with the original resolution, which he would support. He repudiated the remark which had been made to the effect that the Pastures and Stock Boards were not representative bodies. So far as the Board in his district was concerned, it had done good work in the destruction of noxious animals. In the Forbes district, under the Rabbit Act of 1883, £10,000 had been contributed to the fund, while they never had a rabbit near them. If the destruction of noxious animals were handed over to the control of Local Government Boards, they would have a repetition of the doings of 1883, when such a large sum of money was frittered away by a Government department. Under the Pastures and Stock Protection Board they had got the machinery to at once, with slight alterations, fetch the work under the control of the Board. The present Rabbit Act must be wiped out, as it had failed to afford the relief required, and had been opposed by all the small holders. That was the position of the Act, and the reason why a great many people had opposed
fresh

fresh areas being proclaimed rabbit infested. There was no simpler or better way as far as he could see as a matter of urgency than to place the destruction of rabbits under the Pastures and Stock Act. He thought it only waste of time going into matters of detail. What they wanted to do was to assert a broad principle, and if they did so every member of the Conference would admit that there was no better way of dealing with the destruction of the rabbit as to give the Pastures and Stock Boards the power of dealing with them as noxious animals. He thought that if the Conference would earnestly consider the matter they would see there was no better way, as he had said, as a matter of urgency, than by placing the matter in the hands of these Boards. He hoped Mr. Gunn would see his way to withdraw his consent to the amendment, as those gentlemen who were best able to judge of the matter would prefer to see the motion in its original form. In his district alone they had been working in this direction since 1892, with various promises from Ministers that legislation in the manner indicated should be introduced, and unless they struck out now, and did not shilly-shally, the districts which could be protected would be overrun with the pest. The objection that he took to the amended resolution was that it was too broad. They required to narrow it down to something as an expression of opinion from men who lived on the soil, to Ministers for legislation, and not to leave it too broad.

Mr. ASHTON, M.L.A., moved the adjournment of the debate, but the Chairman ruled that he was not in order, as he had already spoken.

Mr. MACFARLAND (Hay) moved—"That a sub-committee be appointed to receive notices of motion, and to schedule the same, in order to arrange a business paper and be prepared to proceed with the business of the Conference at 10 a.m. next day.

Mr. ASHTON, M.L.A., seconded the resolution.

Mr. E. D. MILLEN, M.L.A., said they had met to discuss certain business, and not one of them knew what they were going to discuss. If a business paper was printed and handed round in the morning they would be able to arrive at something definite. As it was it was generally considered that time had been wasted.

Mr. F. W. BACON (Brewarrina) said he did not agree with Mr. Millen as to time being wasted. He proposed as a further amendment that they should not adjourn until some definite expression of opinion had been taken in a broad way on Mr. Gunn's motion.

Mr. HUGH MACDONALD, M.L.A., thought they ought to carry the amendment.

On the motion for the adjournment of the discussion until 10 a.m. being put to the Conference, it was carried.

The following were appointed as a sub-committee to draw up a business paper:—Messrs. Gatenby, Leslie, Roberts, MacFarland, Ashton, Millen, Taylor, Gibson, Devlin, and Murchison, with power to add to their number; and five to form a quorum.

Mr. ASHTON, M.L.A., moved—"That members of the Conference be invited to send in notices of motion to the sub-committee by 4 p.m. this day, and that Mr. H. C. Taylor be appointed Secretary to the sub-committee appointed to draw up business paper."

Mr. WATSON, M.L.A., seconded the resolution, which was carried on the voices.

Mr. ASHTON, M.L.A., moved the adjournment of the Conference until 10 a.m. next day, which was agreed to.

The Conference adjourned until 10 a.m. next day.

SECOND DAY.—April 3rd, 1895.

THE Conference met at 10.30 a.m., the Hon. WM. CAMPBELL, M.L.C., in the Chair.

The minutes of the previous sitting were read and confirmed.

The Chairman read the following telegram from the Premier of South Australia:—"The Premier of South Australia regrets that his Government will be unable to send a delegate to the Conference, but desires to be informed of the conclusions arrived at." He also announced the presence of Mr. S. Black, Chief Inspector under the Vermin Destruction Act of Victoria. Communications were also received from Messrs. Baker and Cobb, drawing attention to their rabbit-trapping invention. With regard to the latter communication, he pointed out that it would be quite impossible for them to entertain and discuss such subjects, because there were doubtless thousands of matters of like nature which could be brought under the notice of the Conference. He would ask the Conference, as the first matter of business, to proceed with Mr. Gunn's motion, "That the destruction or utilisation of rabbits be made compulsory, and the control placed in the hands of the Pastures and Stock, or any other Local Boards that may be appointed."

Mr. GUNN said he wished to withdraw his motion until it came in its proper course and as placed upon the business paper by the sub-committee.

Mr. WADDELL, M.L.A., said that as Mr. Leslie had a motion which was practically the same as the one standing in his name, he desired to withdraw his motion, which was, "That in the opinion of this Conference the Rabbit Act of 1890 has failed to attain the end it was passed for and should therefore be repealed."

This was agreed to, and the motion was withdrawn.

Mr. THOMAS LESLIE (Forbes) moved—"With a view to more effectually dealing with the rabbit pest, this Conference is of opinion that the Rabbit Act of 1890 having failed to give the relief required, should be repealed." He said his object in moving the motion was because, so far as his experience went, the Rabbit Act of 1890 had failed entirely in giving any relief to those in non-infested districts, and what was more, it had the effect of creating a great amount of opposition in districts likely to be infested, for the reason that some of its provisions were looked upon by small holders as being arbitrary and unfair. In the district he represented the Government had to extend a large area below Condobolin, on the western side of Forbes, and had given notice that such would be proclaimed, and although it was two or three years since, members of the Government for fear of losing support, had refused to proclaim this area as being rabbit infested. The Government had taken no action to give the necessary thirty days' notice and proclaim these districts infested. Nothing had been done, or so little had been done under the Act, that it was practically useless; and for the purpose of enabling them to devise some effective method for dealing with

with the rabbit question this Act should be repealed, as by so doing time would be saved and fresh legislation might be enacted. He would not detain them by discussing the want of utility in the Act of 1890, which might not be the fault of the Act, but the fault of the administration, and with a view to getting more effective legislation he moved that it be repealed.

Mr. WADDELL, M.L.A., seconded the resolution.

Mr. ALISON (Canonbar) agreed with the motion, but at the same time thought it would be advisable that something should be done about the fencing clauses, and without saying how the fencing should be dealt with he would ask the mover to accept an amendment. He would like, if the Rabbit Act of 1890 was repealed, that special and more distinct regulations with regard to fencing should be introduced, in order that they might not revert to some old Act. He did not propose to discuss the details of the measure, but he thought that provision should be made, as, if the Act was repealed entirely, they would be going back to some old Act, seeing that the motion said nothing respecting fresh legislation. He suggested after the word "view" the insertion of the words "to future legislation."

Mr. LESLIE accepted the suggestion.

The CHAIRMAN asked the consent of Conference to the resolution being amended in the manner indicated.

Mr. HUGH MACDONALD, M.L.A. : I do not understand the amendment.

The CHAIRMAN read the motion as amended, which was, "With a view to future legislation to more effectually deal with the rabbit pest, this Conference is of opinion that the Rabbit Act of 1890, having failed to give the relief required, should be repealed," and explained that the purport of the motion was simply the repeal of the Act of 1890, no reference being made to future legislation. The amended motion provided for this.

Mr. HUGH MACDONALD, M.L.A. : Am I to understand that if the amendment is carried the motion, as altered, will still be open to discussion ?

Mr. GIBSON (Hay) said there was no necessity to put the amendment to the Conference at all, as the mover of the motion had already consented.

The Conference consented to the alteration.

Mr. GIBSON referred to the enforcing of contributions with regard to fencing, and said that if the principle was a right one every person who made a claim should have reasonable facility for getting that claim enforced.

Mr. HUGH MACDONALD, M.L.A., asked whether or not the carrying of the motion would interfere with other motions on the paper dealing with specific parts of the existing Act ?

The CHAIRMAN said he did not think it interfered. If the motion was carried by them that did not repeal the Act, and consequently other motions could be dealt with.

Mr. HUGH MACDONALD, M.L.A. : Exactly so. Then I would like to point out that we should be placing ourselves in a ridiculous position by, on the first vote, carrying a resolution to repeal the Rabbit Act, and subsequently discussing and agreeing to amendments on specific parts of the same Act. I hope the meeting will not pass the resolution.

Mr. SLEATH, M.L.A., said if he understood the thing aright the Conference had been called together for the purpose of making recommendations upon which future legislation was to be based. If these recommendations were adopted, and if they were different to the Rabbit Act of 1890, then such parts of the Act would necessarily be required to be repealed. They set off, first, by repealing the whole Act, and then were going to recommend that certain portions of it should be adopted for fresh legislation. If they decided that the Act should be repealed, not that it should be amended, then, if they proceeded afterwards to make certain recommendations, which would be part and parcel of the Act, in his opinion they would be holding themselves up to ridicule. He admitted that the Act of 1890 had been pretty well a failure, but there were conditions in it that it would be unwise to deal with at the present time. He was of opinion that they had started at the wrong end, and that it would have been better for them to make certain recommendations.

Mr. G. H. GREENE said that he had had some experience in the conduct of similar conferences, for he had been a member of three Rabbit Conferences, and the only effect of those bodies was to gather certain information for the guidance of the Minister, and to suggest alterations. He thought their efforts would be futile if they attempted to make a new Act ; and, in his opinion, the best thing to do was to place before the Minister the views held by the Conference. There was a good deal of common-sense in the arguments adduced by Messrs. Macdonald and Sleath, and he thought that it would be a simple matter for them to give a clear expression of opinion before any decision was arrived at. He considered that for the Conference to affirm the failure of the Act of 1890 was sufficient, without any reference to repealing. Instead of saying that the Act should be done away with, he thought it would be better to hear the views of members.

Mr. WADDELL, M.L.A., disagreed with the views expressed by Messrs. Sleath and Macdonald. He looked at the motion in this way : The whole of the provisions of this Act, with the exception of the one with respect to fencing, had been a failure, and he thought he had the unanimous assent of the Conference to that statement. The Act had been a total failure, and had been of considerable expense to the country, and should be wiped away. When they saw how it had acted, and that no good results had ensued from its passage, then would it not be a wise course to pursue in helping to sweep away such rubbish, and leave the Statute Book clear for a fresh enactment. The removing of the legislation now existing was the first thing to be considered, and as it had been proved to be a total failure, with the exception of that one small part already referred to, let the Government, in introducing new legislation, embody any recommendations which the Conference might arrive at.

Mr. K. MURCHISON (Girilambone) thought the Act had been found a failure, and the sooner they got rid of it the better.

Mr. J. ASHTON, M.L.A., said he intended to vote against the motion, one reason for his doing so being that the mover had not shown why the Act should be repealed ; that, as the mover had pointed out the failure of the Act was due to the fact that its provisions had not been enforced. The most potent argument in favour of the repeal of the Act was the statement that districts had not been proclaimed infested in accordance with the power given to the Minister under the Act. So far as he could ascertain, if that power had been exercised by the Minister, Mr. Leslie would have no fault to find with the Act as it stood to-day

to-day. He concurred with the views expressed by Mr. Greene, that the better course to pursue was not the repeal of the Act. They desired that future legislation should be passed, leaving it to the framers of such legislation to decide as to whether they should proceed to deal with the difficulty by means of an amending Act, or whether an Act should be substituted for it. If the Conference could confine itself to finding out the weak spots in the Act, it would lead to a more coherent issue to the proceedings than would be the case if they commenced their proceedings by repealing the Act and then dealing with certain clauses now contained in the Act.

Mr. GATENBY (Forbes) considered the present Act of no use, and could not see why they should not vote for its repeal.

Mr. FARRELL (Coonamble) suggested the exercise of more unanimity between the large and small owners.

Mr. F. W. BACON (Brewarrina) considered that the present Act had done much good. Mr. Waddell had pointed out that the chief aim of the Act had been in the direction of fencing, and undoubtedly without fencing they could never proceed to destroy the rabbits. Since fencing his run, upon which rabbits had been for the past seven years, they had been able to keep them in check. He thought that if they tried to amend the present Act by means of the adoption of the recommendations of the Conference, they would be doing more good. It was not wise for them to throw away the dirty water before they got cleaner.

Mr. T. BROWN, M.L.A., said he desired to move an amendment on the motion, and would base it on the resolution standing in Mr. Waddell's name.

The CHAIRMAN reminded him that Mr. Waddell's resolution had been withdrawn.

Mr. BROWN, M.L.A., said he desired to move—"That, in the opinion of this Conference, the Rabbit Act of 1890 having failed to attain the end for which it was passed, should be amended so as to embody the suggestions of this Conference." He thought that they were pretty well agreed that the Act, while it may embody some desirable features, had largely failed to meet the end for which it was intended. At the time that legislation was passed the rabbit pest was very largely confined to the Western Districts, where big areas of land were held by pastoral lessees, and the same conditions did not exist in the Central Districts. To apply the provisions of the Act of 1890 to the Central Division would entail a large amount of hardship upon settlers there, and that is the reason why the attempts of the Department to enforce the Act have been blocked and prevented. He thought it would be generally recognised that any attempt to apply the provisions of the Act of 1890 would meet with strong opposition, and it was desirable that they should consider, in their future suggestions and amendments of this Act, these conditions, and make suggestions that would meet their requirements. Under the Act the pastoral lessee could fence in, and could compel every settler within the fenced area to contribute towards the cost of the fence. The question now being discussed had been given notice of and appeared upon the business paper.

The CHAIRMAN said that Mr. Brown was perfectly in order with his amendment.

Mr. BROWN, M.L.A. continuing pointed out, that in order to protect themselves from damage by rabbits settlers were compelled to fence their holdings in, and having done this it would be a great hardship to such holders if they were compelled to contribute to the cost of erection of a barrier fence round some large area. This was the strong objection which had been successfully urged against this Act and prevented its being brought into operation in the Central Division, and to compel them to contribute to a barrier fence would be tantamount to giving them notice to quit. He would point out that whatever this Conference decided there was a power outside that would have a voice in any Act that was framed, as to whether it should operate or not. He did not think it was the desire of members of the Conference that the small holder should be harshly dealt with in any way, and he thought that by the passing of his amendment they would retain those provisions contained in the Act which were workable and at the same time leave themselves room to make such suggestions that would meet the conditions they were now attempting to legislate for.

Mr. G. H. GREENE, seconded the amendment, and in doing so said he had much sympathy with all he had heard from Mr. Brown who he considered had shown an extensive knowledge of the working of the Act. He shared with him the opinion that there was not one present that desired to inflict any hardship on that portion of the community known as selectors. The present Rabbit Act showed that the Board had power to apportion the contributions in accordance with the respective areas of the holdings of such owners in grouped lands, and the amount declared by the Board to be payable by any such owner was a charge equally distributed over and upon all lands within the holding, and a purchaser of such holding or any portion thereof was bound to inquire as to the existence of such charge. He had had considerable experience and he knew that such cases as mentioned by Mr. Brown might occur. He thought that latitude should be given to the Board so as to enable it to deal with such cases. As one who had been anxious for years to have his own district proclaimed he desired it to be understood that he was equally anxious to guard against injustice to any man. He desired that the Act should in every case be dealt with on its merits and amendments suggested so as to do away with any injustice that may be worked under its present conditions.

Mr. ALISON (Canonbar) thought that everyone present recognised that the fencing clauses should be amended. Could anything good be shown in the present Act. Then let them pass the resolution and propose what they would like to see in the next Act.

Mr. HUGH MACDONALD, M.L.A., objected to the Act being repealed. There was an amendment before the Conference and he desired to point out that both in relation to the motion and the amendment the whole matter resolved itself into a discussion on the 20th clause. He had a motion on the paper which specifically dealt with this clause, and he would ask that the members of the Conference would restrain themselves until his motion came on.

Mr. MACFARLAND (Hay) reminded the Conference that their time was precious, and although they appreciated the intention of the Minister in consenting to Members of Parliament being present to assist them with their advice, still he claimed the indulgence of the meeting to mention that if all these things could be threshed out in their own way much time would be saved.

Mr. OAKDEN, (Cobar) opposed the amendment. He came from a district where they had had unfortunate experiences. If they voted for the repeal of the Act it would show that they condemned it and deemed it unworkable, with the exception of the fencing clauses, which also required amendment.

Mr.

Mr. SLEATH, M.L.A., did not intend to deal with the amendment, but he entered his protest against the remarks made by Mr. Macfarland. He considered every member present had the same rights as each other.

The CHAIRMAN drew attention to the fact that Mr. Sleath's remarks were irrelevant.

Mr. SLEATH, M.L.A., said that certain members desired to conduct the business in their own way, and asked the Chairman in future to try and prevent such remarks as those which had been made. He thought he had a right to ask this, and also thought the Chairman had no right to allow such remarks to pass without reproof.

The CHAIRMAN said he thought members of the Conference would not allow any personal matter to upset the deliberations, and he hoped Mr. Macfarland would apologise to the meeting. He thought the meeting would stand by their Chairman. As Chairman he was there to maintain order, but he would not put up with insult.

Mr. MACFARLAND regretted that his remarks had caused any unpleasantness.

Mr. SLEATH, M.L.A., asked whether Mr. Brown's amendment would have the effect of shutting out any other amendments?

The CHAIRMAN: Certainly.

Mr. LESLIE (Forbes), in reply, said the arguments adduced against the resolution were, as far as his intelligence went, not very forcible, and he had not heard one good reason advanced why such a motion as his should not be carried by the Conference. Everyone who had spoken had admitted the fact that the Act had been a failure, some even going so far as to say that the clause in regard to fencing was the only one worth considering. Its weak points had been shown, and the general opinion seemed to be that it should be removed from the statute-book. If they intended to ask for the repeal of the Act, and replace nothing in its stead, then he could understand opposition; but they did not propose to do that. Later on they proposed to fetch in a series of resolutions, which would give those gentlemen anything they wanted in the shape of fencing, and which would deal with all in a more equitable manner than they were dealt with under the present Act. Mr. Bacon had told them that the Act of 1890 had worked well, and in the same breath said they were dead against the fencing provisions, which they could not enforce. What then, he asked, was the good of keeping an Act which did not afford relief, and enable them to recover for fencing. Mr. Brown, in moving his amendment, spoke of the injustice likely to be done to small holders. To attempt to amend an Act which was so full of faults would be a work that would occupy the Legislature for months. They wanted to administer their own affairs, and if the stockowners of the Colony were not capable of managing their own affairs then God help them. In working for this object, he thought they, the stockowners, ought to be heard, and their views should be taken before those of men who knew nothing of the Act, and who had not contributed a penny towards its administration. He hoped that the motion would be carried by a large majority, for the reason that if the Conference showed that the views of the stockowner were decidedly opposed to the continuance of the Act it would very much strengthen the Minister, and enable him to introduce to Parliament an Act which would effectually deal with the rabbit. He thought the men who lived and worked on the soil would support the motion almost to a man.

The Chairman then put the amendment.

Mr. ASHTON, M.L.A., desired to intimate that as he was not a representative for any district, it was not his intention to vote.

The amendment was negatived by 30 votes to 10.

The CHAIRMAN then put the motion, which was carried.

Mr. LESLIE suggested that before the next resolution was discussed, it being then a quarter to 12 o'clock, they should adjourn until 2 o'clock, to enable those who had notices of motion on the business-paper to have an opportunity of rearranging their motions, so as to bring them within reasonable dimensions.

The CHAIRMAN thought it would be better to let the business proceed on its ordinary course.

Mr. GUNN moved—"That this Conference is of opinion that the matter of dealing with the rabbits be placed in the hands of the Pastures and Stock Boards until they are superseded by more representative bodies." He thought the matter had been pretty well discussed on the previous day, and that everybody was convinced of the importance of the destruction of the rabbit under a system of local control. The squatters and the Government had in years gone by failed to cope with the pest, and it was about time that something should be done whereby local bodies, who understood the method of dealing with the evil, should have control of the operations. He was opposed to the control being left to a body which did not exist, such as local government control.

Mr. WILKS, on a point of order, contended that there was no room for discussion, the matter having already been dealt with.

The CHAIRMAN ruled the discussion in order.

Mr. GUNN, continuing, said the Local Government Act was an Act which did not exist, while the Pastures and Stock Boards were ready to take action in any fair share of legislation. He therefore moved the resolution.

Mr. McCOLLOUGH seconded the resolution.

Mr. MORGAN drew the attention of the Conference to several clauses in the Pastures and Stock Act. In the first place, noxious animals, such as marsupials, &c., were dealt with under the thirteenth section thereof; that embraced the rabbit pest. Under the Pastures and Stock Act they could necessarily deal with the rabbit pest; but if they saw any better method of conducting the movements in this direction, then it could be adopted afterwards. At the present time he thought their requirements were embodied in that Act. The people in his district did not want other legislation: they would rather conduct the business in their own way; and if they failed to conduct it properly, let the neighbouring boards come in and show they were not doing their duty, and do it for them. They had been dealing with the rabbit pest for ten or twelve years.

Mr. IRVING CAMPBELL desired to move an amendment upon Mr. Gunn's motion, which the Chairman thought unnecessary, and, upon the suggestion of several members, he subsequently withdrew.

Mr. MURCHISON (Girilambone) desired to move that the words "Pastures and Stock" be struck out, and "Local Land" substituted. It was a grass question they had to deal with. They knew that a considerable amount of money had been spent on this matter, and notwithstanding that such had been the case he ventured to say they had not done very much. He thought they would be able to see their way to
falling

falling in with the amendment he had proposed, and that they would be able to kill the rabbits if they gave the power to do so into the hands of Local Land Boards. As these bodies had the machinery in their hands, the Conference could not do better.

Mr. H. C. TAYLOR seconded the amendment.

Mr. OAKDEN (Cobar) was strongly in favour of the advisableness of the matter being placed under the control of the Pastures and Stock Boards.

Mr. SLEATH, M.L.A., said that in the event of the amendment being defeated he wished to give notice of an amendment to the effect:—"That the Pastures and Stock Boards be omitted, and that the control be placed in the hands of Boards." This would agree with certain resolutions that were already on the paper providing for the appointment of Boards.

The CHAIRMAN reminded Mr. Sleath that only one amendment could be moved to the resolution, and a verbal amendment could be moved on that, and as he had previously endeavoured to impress upon members of the Conference that would be the end of the question.

Mr. SLEATH, M.L.A., said he understood the Chairman to say that after one amendment had been moved that that would close the question altogether.

The CHAIRMAN stated that they could not have any more than one amendment, for the reason that if they had they would not be able to get along at all. As a matter of fact, if he were to permit such a course there would be no finality to the discussion.

Mr. KING, M.L.C.: I understand that when you have taken the vote—say, that the meeting agrees to omit the words "Pastures and Stock,"—then comes the question, what words are to be inserted in place of them? When the first part is disposed of, is it competent for the Conference to propose another amendment?

Mr. WADDELL, M.L.A., remarked that if they debated that matter they would be adopting an interminable method of procedure.

Mr. SLEATH, M.L.A., said it was contrary to the procedure of the Assembly, and not in accordance with the ordinary rules of debate. He moved the omission of the words "Pastures and Stock." This had already been moved, but there had been certain other words added, and he merely required the omission of these words. If the Chairman could point out to him how he could possibly move an amendment according to his opinion on the question then he would be satisfied, otherwise he would refuse to vote at all.

Mr. T. BROWN, M.L.A., on the point of order, pointed out that so far as he understood there was a Pastures and Stock Board, a Local Land Board, and a Special Board, and they had to decide to which body it was wise for them to hand over the power of dealing with the rabbits.

The CHAIRMAN said: The original motion they already knew, since the moving of which Mr. Murchison proposed as an amendment to strike out certain words. He proposed to put the question in the usual way, which was that the words proposed to be left out stand part of the question, and it followed that if those words were left out then there was a blank created, and it would be within the province of the Conference to deal with that blank as they pleased.

The amendment on being put was negatived, and the original motion was carried on the voices.

Mr. LESLIE (Forbes) moved:—"That a short amended Bill be added to the Pastures and Stock Protection Act, bringing the rabbit pest under the jurisdiction of the Pastures and Stock Boards, and that these Boards be empowered to make special levies for the destruction of rabbits, and the erection and maintenance of rabbit-proof barrier fences where necessary, such levy not to exceed ½d. per head per annum on sheep, and 3d. per head on large stock." He desired to strike out of his motion all the words after "that" down to "jurisdiction of."

Mr. BACON (Brewarrina) seconded the motion.

Mr. LESLIE thought that it was necessary that the power should be given to the Boards to raise a further fund should circumstances require it. He did not think opposition need arise on that portion of the resolution, for the reason that if they voted against it they would be increasing the burden of the stock owner. He would not detain the Conference longer, but would leave it to the members to discuss.

Mr. BACON said he had some experience of the working of the Boards in Queensland, where the system worked very well. He supported the motion.

Mr. LANE considered that it was not fair for them to have to pay. He was one of those who believed that it was only fair for all classes to bear the burden, and thought they should all be dealt with alike. He considered there was no necessity for this compulsory taxation. If he wanted to fence in his own land, well and good; but he could not see the justice of being compelled to contribute towards fencing in a large landholder as well. He did not want to say anything against the large landholders, but thought he might be permitted to say that in justice a small holder should be equally fairly dealt with.

Mr. T. BROWN, M.L.A., was strongly opposed to the motion. Which were the lands which were chiefly affected? They were the lands with little or no stock, and the resolution proposed to put the whole charge of deciding and dealing with the rabbits on the less infested areas. He agreed with the last speaker in saying that the effect of the motion would be to create great hardships to the small holders who had their lands heavily stocked. He proposed that, after the word "necessary," to insert "that such levy for rabbit destruction be a *pro rata* charge on the lands protected."

Mr. T. IRVING CAMPBELL (Mount Ida) seconded the amendment.

Mr. OAKDEN (Cobar) wished to move another amendment, whereupon—

The CHAIRMAN reminded the Conference there would be no finality if so many amendments were to be permitted.

Mr. OAKDEN said that if they accepted Mr. Leslie's motion a large area of country which was perpetuating the rabbit pest would be allowed to go "scot free." He thought the machinery for collecting funds on stock had worked well for years past, and they ought to stick to that. He thought people ought to contribute, and that a tax upon unstocked and abandoned country would meet the case. He agreed with the principle of the assessment of stock, and considered that it would be the best plan. At the same time he thought abandoned country should be made to contribute its quota.

Mr. MORGAN (Wentworth) said that it was true there was a good deal of open country in the district he represented, and the assessment was raised by a levy on stock alone. Therefore the owners of stock had to pay the whole of the expense of the working of the Act, with the exception of a small subsidy from Government. Some years ago the funds locally raised were subsidised £ for £, but it had been narrowed down until now it only amounted to 4 per cent. The Government at the present time could not see their way to increase the subsidy, so that if the Rabbit Act was thrown on their hands they would have a great deal more expense.

Mr.

Mr. HUGH MACDONALD, M.L.A., entered his protest against the motion. It was incomplete, inasmuch as it did not provide that the State should undertake to bear its share of the obligation.

Mr. ASHTON, M.L.A., thought the motion, and the amendment also, were open to grave objections. The motion provided a levy to meet the case of fencing in connection with the rabbit destruction at a half penny per head per annum on sheep, and 3d. per head on large stock. He provided, as an alternative means of taxation, a taxation of the lands according to value; but he would like to point out that the lands most heavily infested will be less in value, and secondly, in the amendment it would contribute less to the cost of carrying on the work of rabbit destruction. The principle for levying was to erect a barrier proof fence, which, he took it, was for the purpose of separating one district from another. The people on the side where the rabbits were not would benefit mostly by this arrangement, while, if there were no barrier fences, the rabbits would have a larger area to travel over, and there would probably be fewer rabbits in the infested districts. Undoubtedly the men who were protected by barrier fences from the rabbit invasion were the men who benefitted most by this, and the effect of rabbit fencing was to drive the rabbits back upon those who had not protected their holdings. Whatever way they looked at the question the objection still remained that the advantage was not to those people on the rabbit side of the fence, but to those who were on the side of which it was not rabbit infested. He did not intend to give any vote on the question before the Conference, understanding, as he did, the object of the Conference was to instruct the public and the Parliament as to what was requisite.

Mr. BACON offered a few words in explanation of the amendment. The gentleman who had spoken seemed to be under a misapprehension as to the working of the barrier proof fencing. He had a property in Queensland managed by one of these Local Rabbit Boards, and the first step the Board took in connection with the property he referred to was to make a levy to erect a barrier fence on the western boundary of the district. This fencing was paid for by the contributions of those living on the eastern side, which was the protected side, of the barrier fence.

Mr. FISHER (Murrumbidgee) thought the motion one that should receive careful consideration. Previous to this motion there was one carried on the motion of Mr. Gunn. Having carried this resolution, how could the Pastures and Stock Boards be expected to conduct operations unless supplied with the sinews of war? The amendment proposed by Mr. Brown was most indefinite, whereas with representative men on the Pastures and Stock Boards, though in many cases he thought they were not representative, he thought better work might be done, and to enable it to be done money necessary to carry on the operations must be forthcoming.

Mr. A. ROSS (The Hume) supported the motion, and said that they would be willing to pay their share in the taxation necessary for the destruction of rabbits. He suggested that if Mr. Brown would withdraw his amendment he would propose a taxation on stock in districts where the land was stocked.

At this stage the Conference adjourned until 2:15 p.m.

On resuming, Mr. WILKS (Menindie) said that he was opposed to the resolution and also to the amendment. He looked upon the matter as one of national importance, and until the State as landlords took some means to render their property of the value it should be to the tenant all he had to say was that in taxing themselves they were wrong. He was speaking now particularly for the Eastern and Central Divisions. Speaking on behalf of the Western District, which was a large division, and which was probably more affected by the rabbit pest than either the Eastern or Central Divisions, they had burdens in the way of rent, and when the rent was assessed by the Minister for Lands the destruction of rabbits was never taken into consideration. The land was assessed as if there was no such thing as a rabbit on the land. The land was owned by the nation, and therefore the nation should help to protect its property; and unless something was done to give them state aid, no burden ought to be put upon the lessee, no matter what position he was in. He represented hundreds of thousands of acres owned by small holders, and millions of acres owned by the squatters, and they were one and all opposed to anything in the shape of a burden being put upon them until the State found some way to assist them. He would ask the Conference to take this into consideration, and negative both the motion and the amendment. What was the use of giving powers to Boards that would not make use of them when they had them? He contended that there was no use, and in negating the motion they would be acting in the right direction. There could be no doubt that landholders should bear a portion of the burden; and, if the State reduced the rents, the whole of the burden might be borne by lessees, but until some means were enforced to reduce the present difficulties under which lessees and holders generally laboured he felt that they had no right to suggest the imposition of additional burdens. It had been pointed out that money collected by the Pastures and Stock Boards was subsidised by the Government, but there was no law to compel the Government to subsidise local contributions, and it seemed to him that they had to depend largely upon the whim of the Government for the time being as to what extent this subsidy should go to, or whether there should be any at all, and what they now required was a guarantee that they should be subsidised to a fair amount. A mean 4 per cent. would not help them out of their difficulties, and, as a representative of the Western Division, he had no hesitation in affirming that the burden of taxation on both large and small holders was too much at the present time, and accordingly would oppose both the motion and amendment.

Mr. LESLIE desired to ask a question. He wished, with the permission of the Conference, to withdraw his motion with a view to substituting another in its place. If the Conference permitted him to withdraw he would indicate the direction a fresh resolution would take.

The CHAIRMAN said he could do so if the Conference consented, but reminded him that there was also an amendment, and that also it would be necessary to withdraw.

Mr. MILLEN, M.L.A., thought that under the circumstances they should deal with the question at once.

Mr. GREENE asked whether it would be competent for any other amendment to be moved, provided the Conference agreed to Mr. Leslie's request.

The CHAIRMAN said that an amendment had already been moved.

Mr. BROWN, M.L.A., said that if Mr. Leslie was permitted to state the nature of the proposed alteration he might be enabled to see his way clear to withdraw his amendment.

The Conference objected to the alteration of the resolution.

Mr. LESLIE, replying to the arguments used in opposition to his motion, said that it seemed to him that a great deal of the opposition came from persons who were not sufficiently up in the working of the Pastures

Pastures and Stock Act. For instance, he would point out that where a district was not rabbit-infested there would be no necessity whatever for the Board in that district to make a special assessment for putting up rabbit-proof fencing. His resolution simply gave the Board power that where they required the money for special purposes such a levy could be made. An objection had been taken on the ground that those outside the fencing would be called upon to contribute equally with those inside. This was a mistaken notion, as under the Pastures and Stock Act there was the power of appeal, which was sufficient safeguard he thought. If any person so assessed was injured by these levies for rabbit fencing he had the power to appeal to the Board against such assessment being made, and he did not think any Board would be so unjust as to require a man to contribute towards a thing which did not benefit him. Then again it was stated that they were asked to impose additional taxation upon themselves. There had been a general expression of opinion in the district he came from that people, rather than be ruined, were actually prepared to tax themselves. The Minister had told them that he would, as far as possible, carry out the recommendations of the Conference so long as they did not ask for too much from the Consolidated Revenue, and in a matter of this sort the cost would be so trifling to each individual holder that it was hardly worth quibbling over. In his district they had land at the present time upon which it was intended 30 miles of rabbit-proof net-fencing should be erected, and it was contemplated that this would be done by contribution, and the difficulty which they had to contend with was, that where one man would contribute four or five who derived equally as much benefit would not. If they did not get power to enable them to protect themselves they would find that there would be a great many men that would shirk their responsibility. He thought it unnecessary to proceed further, for the reason that he considered the matter had been fairly and thoroughly discussed.

The CHAIRMAN then put the amendment, which was to omit all the words after the word "necessary," which was agreed to.

Mr. BROWN, M.L.A., then moved the insertion of the words "and that such levy for rabbit destruction be a *pro rata* charge upon the lands protected" in lieu of those previously struck out.

The words were not inserted.

The amended motion,—“That the Pastures and Stock Boards be empowered to make special levies for the destruction of rabbits and the erection and maintenance of rabbit-proof barrier fences where necessary”—was agreed to, 20 voting for and 13 against the resolution.

Mr. FISHER (Murrumbidgee) said that the motion seemed to him that the resolution, as carried, left it in the power of the Pastures and Stock Boards to charge what they liked. He desired to know whether they could limit the powers of the Boards in this direction.

The CHAIRMAN: No.

Mr. FISHER: Then I say the meeting has not understood what they were voting for.

The CHAIRMAN remarked that he had tried to explain the meaning of the resolution, and he was sorry if he had failed to make himself clear.

Mr. BROWN, M.L.A., said the Stock Boards were an improvement upon the present arrangements, inasmuch as they had the machinery for the destruction of rabbits at their command; but he thought the question was one that required special consideration and special dealing with, and that the better plan would be to place it under Boards so charged with the work of carrying out the destruction. He contemplated that these Boards would be limited by the land-holders within the area of the separate districts to the extent of the levy to be imposed for the proper carrying out of the duties devolving upon them. Much had been stated in favour of the Stock Boards, but they knew that these Boards generally represented large class interests, whilst the smaller holders had not been so well represented. The rabbit pest, in his opinion, was a special matter which required special attention, and instead of overloading the Stock Boards it would, in his opinion, have been better if separate Boards could be appointed to deal with the question in the manner best suited to the different localities.

Mr. MURCHISON agreed with the remarks of the last speaker, as he considered the appointment of special Boards would be a step in the right direction.

Mr. BROWN, M.L.A., moved, “That for the purpose of the more effective extermination of the rabbit plague future legislation should contain the following provisions:—

- (1) The subdivision of the Colony into suitable and conveniently sized rabbit-infested districts.
- (2) In order to ensure the more effective destruction of the pest, said districts may from time to time be further subdivided.
- (3) The land-holders of such districts shall be empowered to elect a Board annually; said Board to be charged with the work of protecting the district from outside invasion of the pest, and enforcing such provisions as may be determined upon to ensure the eradication of the pest within said district.
- (4) The Board shall be empowered to enclose the district with a rabbit-proof fence, and maintain same in good order and condition. The cost of erection and maintenance of said fence shall be raised by a *pro rata* charge upon the lands within said protected district; the Board to be armed with the necessary powers to enforce the payment of these *pro rata* charges.
- (5) Adjoining districts or private land-holders shall only be required to contribute towards the cost of the erection of rabbit-proof fences where the lands are directly benefited by said fences.
- (6) The land-holder, who has or who may hereafter enclose his holding with the prescribed rabbit-proof netting, shall be required to contribute towards the erection or maintenance of a district fence. Provided the Board may require such exempted holder to keep his fence in good order and condition whilst so exempted.
- (7) The Board shall also be charged with the eradication of the pest within such districts, and shall be empowered to enforce such regulations or methods of extermination as may from time to time be agreed upon.”

Mr. GIBSON (Hay) suggested that the subsection should be taken *seriatim*, which was agreed to.

Subsection 1 was moved by Mr. BROWN.

Mr. GATENBY (Forbes) drew attention to the fact that subsection 1 was somewhat like motion 6 on the business paper, and he moved that No. 6 be substituted for the motion.

Mr. LESLIE seconded the amendment.

Mr. ROSS did not think the amendment in order, as it partook of the nature of a fresh resolution.

Mr. ASHTON, M.L.A., on the point of order, contended that the amendment was entirely irrelevant. The resolution, so far as he could understand, referred purely to geographical districts. The amendment had nothing to do with that special section, and if an amendment of the kind was to be proposed it should be proposed when subsection 3 came on for discussion.

Mr. GATENBY withdrew the amendment.

The CHAIRMAN then put the first subsection of the resolution,—“The subdivision of the Colony into suitable and conveniently sized rabbit-infested districts.”

Mr. A. ROSS (The Hume) opposed the motion. They had already a Land Board and a Pastures and Stock Board, and by agreeing to the subsection proposed they would be affirming the desirableness of the formation of a host of other Boards to control operations in these proposed new districts. He thought that the Conference should not agree to this as, in his opinion, one Board could do the whole of the work.

The CHAIRMAN explained that the idea was to make the operations more effective.

Mr. ROSS considered that the actual meaning of the proposal was the election of a new Rabbit Board.

The CHAIRMAN: There is nothing in the subsection to do with the Rabbit Board.

Mr. MORGAN (Wentworth) said it appeared to him that in effect the resolution negatived the work already done. It had been proposed and carried by the Conference that the matter of dealing with the rabbits should be placed in the hands of the Pastures and Stock Boards.

Mr. GIBSON (Hay) thought the motion should be carried as a matter of form. Experience might show that it would be better for the Rabbit Act to be administered under Local Government. As it was, by agreeing to the resolution, they committed themselves to nothing.

Mr. ALISON (Canonbar) thought the resolution altogether unnecessary. The present Boards were already defined on the maps and they were working alright, and where was the necessity for interfering with them. Taken as a whole, the motion was practically a Bill in itself.

The subsection having been put, was negatived.

Mr. BROWN, M.L.A., desired to withdraw subsection 2, and moved subsection 3.

Mr. GIBSON (Hay) said he was one of those who was not in favour of the Pastures and Stock Board being the only body to administer the Act. They had never had an opportunity of giving a vote as to the ultimate Board which was to administer the Rabbit Act, and only until there was a more representative body they had decided that the Pastures and Stock Boards should perform the duties.

Mr. GATENBY (Forbes) again desired to move motion No. 6 on the paper as an amendment.

Mr. ALISON objected to Mr. Gatenby bringing in his motion at this stage.

Mr. CUNNINGHAM (A.M. and A. Co.) seconded the amendment.

The CHAIRMAN suggested that the resolution had better be postponed until the following day, in order that it might be put into proper form. He thought it hardly advisable to pass a resolution in this way.

Mr. WILKS (Menindie) pointed out that the word “such” after the words “land-holders of” rendered the subsection of no use. As it was, it meant nothing, and was altogether unintelligible.

Mr. BROWN, M.L.A., proposed to amend the subsection by putting in the word “stock” after the words “land-holders of” instead of “such,” so as to make it read “the land-holders of stock districts may be empowered,” &c.

Mr. MORGAN (Wentworth) said that the subsection was already provided for, as the Pastures and Stock Board was elected annually.

The CHAIRMAN thought it a pity to pass a matter of such importance in a hurry. He thought it would be better to have it postponed until they could substitute some other section that would be more in accord with the ideas of the Conference.

Mr. BROWN, M.L.A., said that if it was the will of the Conference they could thresh the matter out on Mr. Gatenby's motion, and he would, therefore, with the consent of the Conference, withdraw the whole of his motion.

Consent was given, and the motion withdrawn.

Mr. GATENBY (Forbes) moved, “That the Colony be divided into Rabbit Boards, constituted as follows:—Three or more sheep districts to each nominate one of their members, and the members so nominated to constitute an Executive Committee of the various Boards, into whose hands shall be delegated the special administration of the funds collected for the purposes of rabbit prevention and destruction.”

Mr. D. TULLY (Hillston) seconded the motion.

Mr. GATENBY (Forbes) said that in Queensland the system was working admirably, and they were able to raise money and carry out their barrier-proof fences, and it was that principle that he wanted introduced here. He mentioned that he had tried in vain in Sydney to get a copy of the Queensland Act so that he might further elaborate his motion and have it placed before the Conference. He felt sure they would consider the motion with favour, as he was confident that it would work well.

Mr. ALISON (Canonbar) scarcely thought the motion should pass. Supposing a man thoroughly understood one district, it did not follow that he would understand another, and the carrying of the motion either meant paid men to travel round and see the districts or the work devolving upon one of the members of the present Pastures and Stock Boards. With regard to the destruction of rabbits, surely it was much better to let each district deal with its own, as in that case every man would do what he considered most advantageous for his own district. He hoped that the Conference would not carry a motion which would have the effect of entailing new machinery and more expense.

Mr. T. IRVING CAMPBELL (Mount Ida) thought the members of the Boards should be elected by the land-holders of the district, and should be charged with the administration of the Act.

Mr. A. ROSS (The Hume) thought that encouragement should be given to every individual to fence his land in. He considered the Pastures and Stock Boards had the best machinery to assist in the destruction of the rabbit.

Mr. WILKS (Menindie) maintained that the Pastures and Stock Boards in the Western Division would be utterly unable to erect fences, as the attempt to raise a levy for the purpose would be opposed all round, owing to the different conditions which existed out west as compared with those of the Eastern and Central Divisions. Therefore, in his opinion, the question required to be fought out in a broader manner.

Mr. MURCHISON (Girilambone) moved the adjournment of the discussion.

Mr. FISHER (Murrumbidgee) seconded the motion for adjournment.

Mr.

Mr. GIBSON (Hay) objected to the adjournment, as he had travelled all the way from Hay, and did not want to be kept in Sydney longer than was absolutely necessary.

The motion for adjournment was negatived.

Mr. ASHTON, M.L.A., asked whether the mover of the motion under discussion intended the executive body to be one that would supersede the Pastures and Stock Board, as provided in the resolution moved by Mr. Gunn, and agreed to by the Conference. If not, it seemed to him that they appeared to conflict.

The CHAIRMAN drew attention to the fact that the mover had already spoken in reply, and put the motion, which was lost on the voices.

Mr. MURCHISON (Girilambone) again suggested an adjournment, in order that the Conference might accept an invitation to inspect some rabbit-catching contrivances at Kirribilli Point.

Mr. GREENE explained that the members of the Conference could go over and see these appliances, and then come back to the Conference and proceed with their deliberations. He would be sorry, however, to interfere with the progress of business.

Mr. CUNNINGHAM strongly objected to the Conference being made a medium for advertising.

Mr. FISHER seconded the motion for adjournment, which was negatived.

Motion No. 7 standing in Mr. Leslie's name, as follows:—"That the Government shall define the boundaries of each Rabbit Board, but not until it has had an expression of opinion as to the proposed Rabbit Board from the various sheep districts interested," was withdrawn.

Motion No. 8, standing in Mr. Campbell's name, as follows:—"That the Rabbit Bill should contain provisions for the appointment of Local Boards, elected by the landholders of each district, to whom would be entrusted the administration of the Act," was withdrawn.

Mr. GUNN (Narandera) moved: "That the local controlling authorities should have the power to make destruction compulsory in their respective districts." He thought the Local Boards should have the power of making the destruction of rabbits compulsory in districts when they considered it advisable. He thought the motion a necessary one, and expressed the wish that the Conference would adopt it.

Mr. ALISON (Canonbar) seconded the motion.

Mr. RYAN (Sturt) pointed out that on some holdings in the Western Division there was a large portion of the resumed areas cut off from the stations, which they could not make any use of at all. He hoped the Boards would try to meet these cases in some shape or form.

Mr. OAKDEN (Cobar) said that the Boards for the administration of the Act were virtually of their own creation, seeing that they were chosen by their respective districts, and should be so acquainted with its requirements as to be able to administer in accordance with the circumstances of the district.

Mr. HOUGH (Gunbar) said that to compel him to contribute his quota towards the destruction of rabbits would be inflicting a great hardship upon him in common with many others living near him. The rabbits encroached upon his place in thousands at a time, and it was only by netting in small areas that they could live. He had tried poison, and had killed them in thousands, but unless they had an army of men almost continually on the watch it was an impossibility to keep them out. Nine years ago they erected a barrier fence, and it did not keep them out, as they were as bad on one side as the other. He was anxious to keep the pest down, but was not in a position to pay additional taxation, and many others were similarly situated. If any member of the Conference could devise a scheme to keep them down he would willingly do his share. He had heard of cases near to where he lived where the fences over night were intact, and on the following morning were found to have holes in them, and rabbits in the enclosure, the holes having apparently been bitten by the rabbits. On one station he had himself seen the rabbits going, some over, some under the netting, and some through the netting, and in sandy country it was utterly impossible to do more than temporarily check their inroads. Netting had certainly proved of temporary benefit, but it was not effectual, as he had proved by the fact that when he took up his holding four years ago there was scarcely a rabbit, and now, in spite of wire netting, he himself had poisoned thousands, and was at that moment a ruined man through the pest.

Mr. WILKS (Menindie) rose to a point of order. He thought the speaker should confine himself to the question before the Conference.

The CHAIRMAN said that Mr. Hough's remarks were not strictly within the limits of the discussion, but he was sure members were not going to restrict information that was likely to assist them in arriving at satisfactory conclusions.

Mr. HOUGH, continuing, said that he had found that the people who had been out in his district seven years were unable to cope with the pest, and he could assure the Conference that in order to make a living those very holders were compelled to leave their holdings and take work elsewhere, whenever the opportunity offered itself. One man who lived near him had about 7,000 acres and he was working and toiling with his family yet, although he had lost five or six thousand pounds. There were other evils which they had to contend against, such as losses by fluke and anthrax. He had known those evils to take away nearly all his sheep, but he could always successfully cope with these, but the rabbits were too much for him. He did not wish to discourage others if they thought they could deal with the evil and keep it down.

Mr. GIBSON (Hay) considered the motion one of the most important the Conference had to deal with. They would find one man in favour of compulsory killing and another in favour of making it optional. If they made killing compulsory, and if the Crown could evade its responsibility, they would be making it a difficult matter for the unfortunate landholders whose property had been destroyed. That, in his opinion, was the difficulty they had to contend with in the matter of compulsory killing. What was the position of the man who had to kill his own and kill his neighbours as well? The Boards could exercise a certain amount of discretion in enforcing their powers, otherwise unfortunate men would be driven through the Insolvency Court, through the sole reason of their being in the neighbourhood of badly infested country.

Mr. BROWN, M.L.A., thought there was a great deal in what the last speaker had said about compulsory killing. There was no doubt on the one hand the Boards must have certain powers to compel landholders to take active measures towards the destruction of the pest. On the other hand, if compulsory killing were to be enforced immediately, it would mean that a lot of the holders would have to quit at once. He thought that under the control of Local Boards the conditions would be better understood and better dealt with than under the control of authorities such as existed at the present. In the back country, some time ago, there was considerable consternation through the working of the barrier-proof fences. They had

been

been trying phosphorized honey and other things, and they had yet to work out the problem of how to destroy the rabbit pest as cheaply and thoroughly as possible, and until they could do that it would be injudicious to enforce drastic measures with respect to the destruction of the pest.

Mr. WILKS (Menindie) said that the Pastures and Stock Boards possessed all the powers that Mr. Gunn had made out, and thought those Boards could not effect any more than they had done in the past.

Mr. GUNN, in reply, said it appeared to him that there had been some objections raised to the effect that making the destruction compulsory would create hardships. His motion made it discretionary whether they should make destruction compulsory or not, and he felt that there was not the slightest danger of any measure being enforced which would impose hardship on the holders. They were bound to carry out the work in the interests of the whole.

The motion was carried unanimously.

Motion No. 10, in Mr. Morgan's name, as follows:—"That the destruction of rabbits be compulsory, and that the compulsion be within the discretionary power of the Pastures and Stock Protection Boards throughout the Colony under the existing Pastures and Stock Protection Acts," was withdrawn.

Mr. D. TULLY (Hillston) moved, "That with reference to the large extent of abandoned areas in the Colony the Crown should be called upon to destroy the rabbits existing thereon, or take such steps as shall ensure the re-occupation of the country upon any terms, provided there is a clause in the lease strictly enforcing the destruction of rabbits." He had a list of the acreage of the abandoned areas in the Hillston district and these areas he contended were, so far as the rabbit pest was concerned, a standing menace to the whole of the holders around. These areas were simply no man's land, and were a scourge to the district, affording as they did a breeding ground for the pest. He thought that some measure should be included in any legislation on the question which would embrace what he intended in his motion.

Mr. HOUGH (Gunbar) seconded the motion.

Mr. A. ROSS (The Hume) suggested an adjournment of the debate until the following morning.

The suggestion was not accepted.

Mr. ROSS, speaking to the motion, said he was a thorough believer in rabbit-proof fencing, and did not think rabbits would ever be put down without the use of it. He thought the Government had control of such a large amount of land that in justice to holders they ought to be compelled to keep the rabbits down on it. He believed the pest could be kept down if the destruction was made compulsory and the Crown took its share of responsibility. Pressure ought to be brought to bear upon the Government to lease these areas of abandoned and unoccupied lands upon any terms.

Mr. GIBSON (Hay) supported the motion. In the Hay district they had a large area of abandoned country within 25 miles of the railway which showed that it was situated in a very central position. Farmers there had been completely eaten out by the pest, and the moment they commenced to cut their crops, it was a race as to which should have the most, the farmer or the rabbits, and the latter generally came out best. The only way out of the difficulty was for the Government to let the land which was a standing menace to the neighbourhood, and to the whole Colony.

Mr. CUNNINGHAM (A. M. and A. Co.) asked the mover to insert in his motion the words "reserves from leases and commons."

Mr. WILKS (Menindie) considered the Crown was in the same position as private owners in all matters under the Rabbit Act.

Mr. MORGAN (Wentworth) supported the resolution. In the western district they also had large areas of abandoned country. He considered that Mr. Tully had put a fair and reasonable motion before the Conference, and he had much pleasure in supporting what the mover had said. It was very necessary that the people should be assisted in this respect, and that these large areas should no longer continue as breeding grounds for rabbits.

Mr. OAKDEN (Cobar) pointed out that the amendment did not exactly embrace the whole of Mr. Tully's motion, because they were taking steps to ensure the occupation of this abandoned country. He would support the motion as his district also contained a very large area of abandoned country south and west of it which was simply breeding ground for rabbits, and wild dogs as well. It was highly essential that these abandoned areas should be occupied. In January last, three men erected a fence on the barrier line, to which they were contributing individually in order to fence off part of this abandoned country, but of course that was not final as the rabbit succeeded in getting under and over. The motion was one of the most important that had been submitted to the Conference.

Mr. ALISON (Canonbar) in speaking to the motion, referred to a motion he purposed moving on the following day. The motion he purposed moving was "That this Conference having decided that the question of dealing with the rabbit pest, be placed in the hands of the Pastures and Stock Boards, it is further of opinion that the Government should contribute towards providing funds in the pest district." He contended that the Crown should contribute towards the funds of the Pastures and Stock Boards in proportion to the areas held by the Crown, and considered that would be a more satisfactory way of dealing with the Crown, than by calling upon the Government to destroy the rabbits. By all means they must endeavour not to give the Government a loop-hole whereby they could start and do the work, as to ask the Government to send out men to destroy the rabbits would result in complete failure. Mr. Tully's motion did not meet with his approval in respect to calling upon the Government to kill the rabbits, and further, he did not think any one would take these unoccupied lands if there was a clause in the lease providing for the destruction of rabbits. He would move as an amendment that after the word "to" in the second line, the words "destroy the rabbits existing thereon or" should be omitted.

Mr. GREENE seconded the amendment which was agreed to.

Mr. BROWN, M.L.A., pointed out that one part of the clause affected not the Rabbit Act but the Land Act. He had not heard any reference to this provision as to whether it met with the ideas of the Conference or not. He thought that the land should be leased on very reasonable terms, and although anxious not to prevent discussion, thought the matter might very well be discussed with the new land Bill, and that if they had any suggestions to make they should make them for the guidance of the Minister.

Mr. FARRELL (Coonamble) did not think that the clause should be brought before the Minister for Lands at all. The Minister had asked them to furnish him with all the information they could which would be likely to assist him in regard to framing legislation for the destruction of the rabbit, and he did not see that they were going about it in the right way. To his mind the part of the resolution dealing with the occupation of the abandoned areas was no good. Who were they going to get to occupy this country.

Mr.

Mr. LANE (Corowa) did not think it right for the selectors to throw obstacles in the squatters way. Some of these gentlemen had lost hundreds of thousands of pounds in this country. They had met there for consideration of the great rabbit pest, and to endeavour mutually to arrive at some means of eradicating or lessening the evil, and they should deal with others as they would like to be dealt with themselves. Every consideration should be given to the question, and they should ask the Government to assist them. It was only fair for the Government to throw open the lands in question for, say, five or ten years, and it would not be too much to ask them to do so. He thought every delegate present should support the motion.

Mr. RYAN (Sturt) thought that the Government should get these lands reoccupied at any sacrifice. What was really required was permission for any person to rent these lands in order to keep the rabbits down, as the extermination of the pest was simply an impossibility.

Mr. MURCHISON (Girilambone) did not think the motion could be improved upon in any way. The Government should do something with the lands lying idle at the present moment.

Mr. ALISON moved as an amendment the omission of the words "provided there is a clause in the lease strictly enforcing the destruction of rabbits," which was negatived by 13 votes to 11.

The motion, as amended, and which reads as follows:—"That with reference to the large extent of abandoned areas in the Colony, the Crown should be called upon to take such steps as shall ensure the re-occupation of the country upon any terms, provided there is a clause in the lease strictly enforcing the destruction of rabbits," was agreed to.

On the motion of Mr. McFarland (Hay) the Conference adjourned until 10 o'clock next day.

THIRD DAY.—April 4th, 1895.

THE Conference met at 10-30 a.m., the Hon. W. Campbell, M.L.C., in the chair.

The minutes of the previous sitting were confirmed. Several communications having been read and received, the Chairman said that before they proceeded with the first motion on the business paper, Mr. S. Black, Chief Inspector under the "Vermin Destruction Act of Victoria," who was present, had consented to give them a slight sketch of the work in Victoria, which he thought would be of considerable advantage to them in their deliberations.

Mr. S. BLACK said that formerly in Victoria the rabbits were bad, and the north-west was infested to a very large extent. The Shire Councils agitated the Government to bring in a new Bill to make it compulsory for the destruction of the rabbits all over the colony. The Act of 1884 gave the administration of rabbit destruction into the hands of the Shire Councils. It was at that time generally agreed that the Councils were the best bodies to deal with the pest, as they were composed of local men. The Shires appointed inspectors to carry out the Act. This meant an expenditure of £13,000 to the Shires. For the first year the Act was very fairly administered, but when the inspectors found that they had to take proceedings under the penal clauses of the Act, there was a great outcry that the inspectors were doing more than their duty, and the Shire Councillors being interested, the Act soon became a dead letter. For two or three years an agitation was kept up amongst the Shires throughout the colony that the Government should administer the Act. The Government brought in a Bill, and it was passed in 1889, vesting the administration in the hands of the Chief Inspector, subject to the control of the Minister. He was appointed Chief Inspector, and he proceeded to appoint 70 inspectors; that gave about 1 inspector to each Shire. The provisions of the Act were that the inspector must visit the land of the occupier, and if he found rabbits on the land, one, two, three, or twenty, he served a notice under the Act that the owner or occupier must take steps within fourteen days to destroy the rabbits on the land. That notice was served personally or by registered letter. When the inspector visited the run again, say a week or two afterwards, and found that the holder had not taken any steps to destroy the rabbits, there were two ways open to him. The inspector could either summon the occupier at the police court, or put a man on and destroy the rabbits at the expense of the owner. Something like 970 prosecutions had taken place in three years, and they had expended £10,000 in destroying rabbits on private land. The penalty averaged for the first offence from £2 to £10, and for the second from £10 to £50; and these cases had to be tried before a stipendiary magistrate and one or more justices. As regarded the compulsory destruction of log and brush fences, they were great harbours for vermin, and so was undergrowth of any kind; and the inspector, when he discovered this, could serve a notice on the owner or occupier to have the fence destroyed in six months without any compensation. In a few years many thousands of miles of log and brush fence had been destroyed. The compulsory destruction did not rest with the inspector, but with himself. He had not yet, however, had to give instructions for the destruction of any fences; it had always been a voluntary act on the part of the owners, who could see the utility of the work. Still the power was vested in him, and he could enforce it if he wished. He had had great assistance in carrying out the Act by reason of the wire-netting clauses of it. Part 2 of the Act gave the Government power to loan out £150,000 to the Shire Councils to purchase wire netting with, and to give the owners and occupiers of infested land an opportunity of fencing in their holdings. The Shire Councils repaid to the Government one-tenth of the loan every year, whether they received it from the occupiers of the land or not. The money was loaned to the Shire Councils without interest, and the Councils lent it as a loan to the occupiers. So far the five instalments had been paid back to the Government within a few hundred pounds. All the money would be repaid in ten years. Every year, about the month of February, a day was proclaimed for simultaneous action throughout the colony for the destruction of rabbits. The day was proclaimed in the *Government Gazette*. He sent the proclamations all over the colony, and also advertised them in the weekly papers. In Victoria they had found that digging the rabbits out was the best means of destruction. In the summer they could reduce them by poison by 60 per cent.; that was mostly on poor country where it would not pay to dig them out. Under the Victorian Act they could declare any animal to be vermin—foxes and wild dogs were proclaimed under it. Last year there were 8,000 foxes destroyed, and 5s. per head was paid for them. The Government paid one-half of the subsidy, and the Shires the other half. Of wild dogs about 1,000 were destroyed. The Government paid 10s. per head, and the Shires another 10s. per head for them, making £1 for each dog.

dog. They were getting very scarce now. Generally speaking the Rabbit Act had given satisfaction. Of course there were a few objections to it. There had been three Rabbit Acts in Victoria, but it was acknowledged that this was the best they had yet had, and it gave satisfaction to the local bodies. Regarding utilising the rabbit, because of its commercial value, he was opposed to it. It only conserved the rabbits. There were three rabbit-freezing factories in Victoria, but the general opinion was that they were only doing harm.

The CHAIRMAN said they were very much obliged to Mr. Black for the valuable information he had given them. No doubt they had all been taking notes of what had been said. He noticed that in one place Mr. Black had spoken of the compulsory destruction of log and brush fences without compensation, and also that the Government had loaned the Shire Councils £150,000 without interest in order to enable those bodies to lend it again to the holders for the purpose of procuring wire-net fencing. He had noticed also that the Chief Inspector had full power to act as he pleased. He was, as it were, dictator so far as the rabbit was concerned. He was sure that the observations made by Mr. Black would be of great value to them in their deliberations.

Mr. GREENE thought that some form of recognition of Mr. Black's attendance and information should be made by the Conference. He moved a vote of thanks to that gentleman for his kindness in attending, and the assistance he had given them.

Mr. FISHER seconded the motion. He thought it extremely kind of the Victorian Government to send Mr. Black over here. That gentleman had given them a lot of valuable information which they would act upon in the future.

The motion was carried by acclamation.

Mr. HUGH MACDONALD, M.L.A., said that, speaking to the motion standing in his name, he would just like to say that when he saw that two other motions in the direction of compulsory destruction had been passed, he had almost intended to withdraw it, but since arriving there that morning he had been asked to go on with it, because included in his motion there were two points which had been overruled in the others. First, that the destruction of the rabbits in the districts referred to should be simultaneous; and secondly, that the State was called upon to recognise and accept its responsibility in the matter. So that the Government must accept the same responsibility in regard to public lands as private owners on private lands, he therefore moved—"That in the opinion of this Conference the Minister should give effect to the provisions of the 27th Clause of the Rabbit Act of 1890, by making the destruction of rabbits simultaneous and compulsory in all districts that have been proclaimed rabbit infested, upon the distinct understanding that the State accepts the same responsibility with regard to public lands as applies to the owners and occupiers of private lands." He hoped that the motion would be passed, as he did not think there was anything that could be objected to in it.

Mr. FISHER (Murrumbidgee) seconded the motion. He had a motion upon the business paper, and the carrying of the motion proposed would save him the trouble of going on with his. He thought they must admit that compulsory action was the only way of coping with the rabbit, and he would like to point out to the boards of management that the extermination of the pest might be conducted in different ways in the various districts. All districts were not alike, and the one he represented he was sure that compulsory fencing would not be good for the inhabitants. If they introduced simultaneous poisoning they might be able to cope with the rabbits without asking the Crown for assistance, or without being asked to put their hands in their pockets for fences. Where the boards found that the people were doing their best in the matter of the rabbit pest, then they ought not to compel them to go on wire netting.

Mr. LESLIE (Forbes) rose to a point of order. He thought that by passing a motion of that kind they would be going back over ground that had already been dealt with. They preferred to go on the principle that the Rabbit Act should be repealed. They had also affirmed that the destruction of the rabbit should be placed under the control of the Pastures and Stock Boards.

Mr. HUGH MACDONALD, M.L.A., on the point of order, pointed out that when the motion affirming the desirableness of repealing the Act was under discussion he had drawn the attention of members to the fact that in passing the resolution there was a danger of blocking all other resolutions specifically dealing with the amendment or enforcing of the present Act, and had told members that if the passing of the resolution was intended to do this members would be wrong in passing it. He was then told that the passing of that resolution would not interfere with any motions relating to specific clauses, and he thought that that was understood by other members of the Conference, because they were not to suppose that the Act was to be repealed simply because the Conference carried a resolution to that effect.

The CHAIRMAN ruled that it was quite within the province of the Conference to discuss the matter. There must be fresh legislation, and they wanted to embody in their report anything that would be valuable to the Minister.

Mr. ALISON (Canonbar) said he remembered once they had received in his district a notice from the Stock Board to destroy simultaneously, and it was found to be impracticable and utterly useless to attempt it. He was strongly opposed to Government destruction, as they had an illustration of the Government work in the amount of money spent before when they took over the same business. The only way that sort of thing worked out was that men were sent out far west simply to loaf on the Crown. He strongly opposed the motion.

Mr. MILLEN, M.L.A., said it appeared to him from the remarks of the last speaker that there was an objection to the State taking up the destruction of the rabbit. He considered that if the State was prepared to send out men to destroy rabbits on Crown lands, that was a State concern and not theirs. They had no right to say to the Government by what method and under whose direction the rabbits should be destroyed. Mr. Alison had also said that it was not possible to have simultaneous compulsory destruction, but he thought that difficulty might be got over by making simultaneous action apply to all districts in the Colony. If that was done, he thought it would overcome the objection urged by Mr. Alison. In Victoria the simultaneous destruction had proved rather successful, and that fact should encourage them.

Mr. MORGAN (Wentworth) said it had been remarked by one of the speakers that simultaneous action was taken with respect to the destruction of marsupials. This he knew to have been proved a failure. The destruction of wild dogs was carried out in the same manner, and men were sent round the district simultaneously, and from what he could gather he did not believe there was a single dog destroyed by the whole lot. It had also been suggested that, in order to make the destruction of rabbits effective, it should

be simultaneous throughout the whole of the districts. Now, the rabbits were about the most whimsical lot he ever had to deal with, and required to be dealt with in accordance with their whims. The districts were divided equally at the present time, and men in the districts worked well together to destroy the pest. He felt sure that if they introduced simultaneous and compulsory action with respect to this matter the attempt to destroy the rabbits would be a failure and end in nothing.

Mr. WILKS (Menindie) said that in the district he represented the conditions were different in various parts. In one part they had been able to destroy the rabbits wholesale, whereas in other parts it was hopeless to attempt to deal with them. He objected to the word simultaneous.

The CHAIRMAN thought it would expedite matters if someone was to move the omission of the word "simultaneous."

Mr. HUGH MACDONALD, M.L.A., in reply, said he would like to point out that the motion did not attempt in any way to enforce details. It was simply advocating a principle, and he was agreeable to so alter his motion as to enable simultaneous action to be confined to certain districts. He did not wish to be bound to details, but was willing to substitute the word "several," instead of "all," in the third line of the resolution. The efforts of those who were compelled to take action would be multiplied because a few refused to fall in with the arrangement. He thought there was nothing to be objected to in the motion; and although the plan had failed in regard to dogs and kangaroos, there was no reason why it should not succeed with rabbits. In certain districts the action should be as simultaneous as possible.

The resolution on being put to the Conference was lost, 5 voting in favour and 16 against.

The motion standing in Mr. Fisher's name, to the effect, "That the destruction of rabbits by the use of poison be made compulsory," was withdrawn.

Mr. WADDELL, M.L.A., moved (1) "That in the opinion of this Conference the Government should take active steps to open up markets in England and other parts of the world for Australian rabbits. (2) With a view to such, the Agent-General should be instructed to secure the services of a capable and trustworthy man (with wide experience on the London meat markets) to assist in opening up profitable markets in England, and on the continent of Europe, for Australian rabbits." He said that he recognised that some of the members of the Conference appeared to be under the impression that if the rabbits were made a commercial commodity, it would tend to increase the pest rather than diminish it. He could not help thinking that anyone coming to that conclusion had come to it rather hastily. If they made these animals a commercial commodity, then they would have men in different parts of the Colony taking up this employment, and applying to owners for permission to go on land for the purpose of killing them. It had been stated that if such a condition of things were brought about it would be a bad thing for the country, and that it would be impossible to make them a commercial commodity and a profitable export to the English market. He denied this. Others would contend that the time of the year was not suitable to get them ready for the English market; but they knew that almost at all times there would be parts of the Colony where the climatic conditions would be favourable for getting them ready. Coming to the matter of the appointment of a man in London to assist producers in the Colony, he did not think they could take a better step than this. The last consignment of rabbits sent home from Victoria realised 7d. per head. They had been down to 6d. He would mention that the Government should appoint commercial agents to help the producers to find markets for their produce, as in this way markets in France and Germany could be opened up. He thought Mr. Wood was doing good service in this connection in endeavouring to open up markets for the exportation of rabbits, and if they were successful they would be going a long way towards making a profitable industry. He would like members of the Conference who held similar views to himself when they rose to speak to point out why they thought making the rabbit a commercial commodity would help to eradicate the pest, and those who held contrary views, to explain in what way they thought action in this direction would tend to increase rather than diminish the pest. The experiment would entail very little expense, and if successful would certainly be of great advantage to the people of this country.

Mr. ALISON (Canonbar) seconded the motion.

Mr. HUGH MACDONALD, M.L.A., considered the whole matter a fad, and nothing else. Mr. Black had told them that the only rabbits that would be marketable in England must weigh $2\frac{3}{4}$ lb. That alone was enough to upset the export trade as regards New South Wales, as he did not believe there was one out of every 500 rabbits killed that would weigh that amount. Another thing that occurred to him, was that seeing that 200,000 had the effect of glutting the home market, he could not see where the market for one or two millions was to be found.

Mr. BACON (Brewarrina) thought that if Mr. Waddell had spoken in favour of freezing beef and mutton, and had suggested that the Government should look after that industry, he would have been doing a good thing for the country. They had met there to consider the best means to eradicate or diminish the rabbit pest, and in his opinion the motion did not tend to the end they sought. It had been shown that rabbits were sold in London for 6d., and the cost of sending them there amounted to 7d. He admitted that they would get rabbits in certain districts that would be fit for exportation, but the majority were not fit, therefore, he thought it a waste of time discussing the matter. They would have, in reality, to fatten the rabbits before they were fit for exportation. They would have, if they desired to benefit the country and themselves, to diminish them by poisoning. He hoped they would waste no more time over the matter of exportation, which he looked upon as one of little importance.

Mr. GUNN (Narrandera) was opposed to the Government spending public money in continuing such a pest as the rabbit, as he maintained that in spending money to utilise the rabbit the Government would only be continuing the pest, and the object for which they had met was to devise means by which the pest could be exterminated. He referred to Mr. Black's remarks with respect to the factories in Victoria, and drew attention to the fact that the general opinion in that Colony with respect to these factories was that they were only doing harm, and only that morning they had heard from the Chief Inspector of Victoria that a strong agitation was on foot to have a clause inserted in the Rabbit Act with special reference to these factories. In his opening address the Minister had informed them that in the year 1887 the Department paid for upwards of 27,000,000 rabbit skins, and still, at the end of that year, the rabbits were worse than ever, although some 3,000 men were employed at an enormous expense to the Government. At that time there was only a comparatively small portion of the country infested, yet the Government found their efforts futile. They had heard from various speakers that the placing of a few hundred thousand rabbits on the London market had brought the price down to 6d., and that the actual cost up to the time

of

of landing them was 7d., which meant a distinct loss. It had also been pointed out that employment would be found for many if the rabbit became a commercial commodity, but he maintained that employment would also be found for the pest, who would continue their work of destruction.

Mr. MILLEN, M.L.A., said it appeared to him that members were running away on the wrong scent. There was nothing in the motion which would tend to perpetuate the pest. They had got the rabbit, and would they allow it to be destroyed to rot, or would they permit of and provide means for its utilisation. He did not wish to discredit the evidence given by Mr. Black, but the last speaker had discredited that evidence when he said that the preservation of the rabbit would only tend to increase their numbers. The last speaker had also said that after spending a lot of money the rabbits were on the increase in this Colony. He felt surprised that a body of gentlemen like those assembled could understand for one moment that 200,000 rabbits were a glut. It was absurd on the face of it, and it was for that reason he intended to vote for the motion. As far as he could see, the only thing necessary was to enlarge the channels through which their trade must flow. All that was requisite was the appointment of someone in London to find markets for the produce sent home. It was contended that by making the rabbit a commercial article they would be simply perpetuating the nuisance. That argument was not used in regard to the sale of kangaroo skins, and the rabbit, he contended, was in the same position as the kangaroo, and he failed to see what possible harm could arise from selling the rabbits when they were killed.

Mr. CUNNINGHAM (A. M. and A. Co.) opposed the motion.

Mr. MORGAN (Wentworth) said that before speaking to the motion he would like to ask a question. Was it the intention of the mover to export poisoned rabbits to England? He would answer the question himself by saying—No. Well, then, how were they going to catch them? They were very hard to catch. They might be able to catch them when they are poor, but he had seen thousands run into the traps, and nine out of every ten of them were as nothing in their hands, and his experience had taught him that the only thing to do with them when caught was to knock them on the head—they were good for nothing else, exportation being out of the question. The only way they could get fat rabbits was by going through runs of five or ten miles in extent, and bringing them into some place where they might be frozen and preserved to enable them to be sent to England or any other market, and he contended that this plan could scarcely be worked, as in two hours in our climate the rabbits would be tainted. He was of opinion that they should be allowed to deal with the rabbits in their several districts as they saw best.

Mr. TRAVERS JONES, M.L.A., supported the motion. He had had some experience of the rabbit in the interior. He had known properties where thousands of pounds had been spent in the effort to exterminate them, and the efforts had resulted in failure. When these properties were cut up into small holdings they could see one nowhere. Of course, there were only certain seasons of the year in which the rabbit could be exported and made of commercial value, but during those seasons employment would be found for many. In the summer season the drought had a great hand in decreasing their numbers, and in such seasons poisoning could be resorted to. Taking a rational view of the case, he thought they could be utilised in a manner which would provide food for people instead of allowing them to rot on the ground. As regarded the Government, his experience led him to the conclusion that the more they gave for the extermination of the pest the more they would have to give. Taking all things into consideration, he would support the motion.

Mr. MURCHISON (Girilambone) could see no harm in preserving the carcasses, and would support the motion.

Mr. FISHER (Murrumbidgee) was sorry to see valuable time wasted over the discussion. The Conference had met there for the purpose of determining the best means of exterminating the rabbit, and after coming hundreds of miles the members were confronted with this resolution for making the rabbit a commercial commodity, which, if carried, would spoil all their efforts in the direction of extermination. He hoped that, considering their time was valuable, and a number of delegates were anxious to get away, members would allow the question to be put, as in his opinion enough discussion had taken place.

Mr. LANE (Corowa) said that on the banks of the Murray he had at certain times seen thousands of rabbits lying dead. He considered that those living in infested districts were the best able to judge as to how the pest should be coped with, and he thought their views should be heard.

Mr. HOUGH (Gunbar) stated that he had had forty years' experience in this Colony, and twenty-four of these years were spent amongst the rabbits, and he believed that in nine drives out of ten the rabbits they caught were too poor for export. Moreover, there was not one person in ten near enough to the railway to send them down at a profit. With regard to the utilisation of the rabbit, the matter of asking the Government to aid and assist them was quite wrong, and if they carried the motion the rabbits would increase largely. If they could get people to open up the land, then he thought the rabbits might be kept down. However, he believed in the principle of killing and getting rid of them.

Mr. ROSS (The Hume) hoped that the Conference would not endorse the motion, as he considered the object of the gathering was to devise means for getting rid of the rabbits. If people wanted to export them after they had caught them, by all means let them do so. It was within the experience of many that when the rabbits were trapped they still continued to increase, and the only effectual means of decreasing their numbers was by poisoning.

Mr. HARRIE WOOD (Under Secretary for Mines) said that so far the intention was to export rabbits from districts where there were chilling works on the railway line, and that, of course, would only affect a very limited area of country. The results of his inquiries had shown that they could put the rabbits on the London market at 6d. each. Reference had been made to the distance from chilling works, but that difficulty could be got over by sending the rabbits down alive, and killing them at the establishment. Those rabbits that did not reach a marketable weight could be tinned, instead of being sent home frozen. The information he had from London was that at such a price as 6d. the rabbits could be sold in millions, and the fact that the market may have been glutted might possibly be due to the fact that up to the present time the export trade in rabbits had been carried on with a view to securing the highest price, coupled with the fact that efforts had been made to introduce the rabbit to the wealthy consumer, whereas up to the present time no effort had been made to bring the rabbit within the reach of the working classes, and if this was done they would be sold in millions. If a scheme of this kind could be carried out, it would not interfere with the land-holders who wished to destroy the rabbits, because the area which would be affected was so small at the present time as to make very little difference to them, but if the industry increased, then

then probably their chilling works would also increase. As regarded extermination, he might say that he had been connected with the administration of the Rabbit Act from the start until it was transferred to the Lands Department, and he was sure they would never succeed in exterminating them. The only thing they could hope to do was to keep them down, and whether this was accomplished by trapping or poisoning, it seemed to him that it mattered very little to the land-holders. If the rabbits from those districts where there were chilling works could be exported, then the cost to the landholders would be nothing, because the trapper would get as much from the chilling works as would pay him for his labour. One speaker had remarked that the difference in climate was so great as to render it impossible to keep up the export of rabbits all the year round, but he did not agree with this. He thought that if the rabbits could be exported, it would be a great pity to simply destroy them when they might be utilised, seeing that it would offer employment to a large number of men, do no injury to the landholder, increase the railway traffic, and provide food for poor people.

Mr. GIBSON (Hay) saw no reason why the Conference should not pass the motion, while at the same time they should go as far as possible to exterminate the pest. Taking the Colony as a whole, the exportation of the rabbit would be a small item in connection with the rabbit question. He had shipped to London two or three thousand rabbits in October last, and he desired to inform the Conference that he just came out about square. He thought that if, as had been pointed out, a fall had taken place in connection with the price of rabbits, the Government, to make it pay, would have to subsidise the experiment to the extent of 3d. per pair. They knew that the Victorian Department had been sending rabbits home, and he understood that when they received the rabbits in Melbourne they stacked them and froze them, and put them on board the steamer at a penny a pair.

Mr. FOTHERINGHAM, Secretary, Fresh Food and Ice Company, furnished a number of details in connection with prices obtainable for rabbits, and the cost of the same until placed on the London market.

Mr. WADDELL, M.L.A., said his object in moving the motion was to obtain an expression of opinion from the Conference to the effect that it would be better for the Colony, as a whole, to make some use of the rabbits that were killed without poison than to throw them away. Mr. Macdonald mentioned that the motion was simply a fad. He could well understand Mr. Macdonald making that remark, as, so far as he could understand, that gentleman's policy had been to destroy industries, and not to foster them. Mr. Bacon had opposed the motion on the ground that it would tend to foster the rabbit rather than help to exterminate, but he had advanced no reasons in support of this contention. Then Mr. Gunn made a similar statement, and said they knew districts where bunnies had increased in spite of trapping and poisoning. (Several members, No! No!) If the argument of Mr. Gunn was correct, it came to this: Because the means used in the past had not been successful they should calmly fold their arms and let the pest go on. Another member had asked the question: "Did he intend by the motion that poisoned rabbits should be exported?" What kind of question was that to ask a man? Was it reasonable to think that any man in his senses could think of such a thing? Mr. Morgan knew that there were millions of rabbits in this country that were trapped and fit for food. Again, he understood Mr. Black to say that there was no market for more than a few hundred rabbits, but they found from Mr. Wood's statement that there was a market for millions of them, and he (Mr. Waddell) said that if the Conference came to the decision that to make rabbits a commercial commodity was not the right thing, then let the Conference be logical. The object of the Conference was to deal with the whole matter of the rabbit question, and if the majority of the delegates had arrived at the conclusion that what was being done by the Mines Department was advantageous, let them vote for the motion. The whole matter hinged upon one of two things—whether it was advisable to make the rabbit a commercial commodity or not; and if the Conference decided that it was inadvisable, then it would wisely vote against a motion of the kind submitted by himself. But he believed he spoke the feelings of the majority of the people of this country when he said that in the best interests of the country the Government, and private individuals as well, should do their best to open up markets for the rabbits. It would also give employment to a large number of men within the Colony. Having judged the feeling of the Conference on the matter, he begged leave to withdraw his motion.

The motion was then, by consent, withdrawn.

Mr. MILLEN, M.L.A., moved—"That as one means by which the State might beneficially co-operate with the landholders, this Conference recommends the free carriage of rabbits in any form on the State Railways." He said that after the debate on the previous motion, he would, with the consent of the Conference, withdraw his motion.

Objection having been taken, and the motion having been seconded by Mr. Murchison,—

Mr. MILLEN, M.L.A., said that the other motion provided for State assistance in one way, and his motion provided for it in another way.

Mr. FISHER (Murrumbidgee) announced his intention of supporting the motion, and referred to the mover's disinclination to proceed with his own motion.

Mr. BACON (Brewarrina) intimated that he would vote against the motion, following so closely as it did the proposal for utilisation made by Mr. Waddell. He did not see why the rabbit should be carried free any more than their beef or mutton. Mr. Wood had spoken with reference to the rabbit being introduced as an article of consumption for the poorer classes in England. Their mutton was sold in England at 2d. and 2½d. per pound, whilst a rabbit, weighing only a little over 2 lb., would cost, taking the price it would have to be sold at to make it a profitable investment, at the least 6d. Was it fair to expect these animals to be carried free to compete with their meat products? He did not think it wise to preserve animals which were undoubtedly a pest.

Mr. ALISON (Canonbar) supported the motion. It had nothing to do with Mr. Waddell's motion, and he thought that where it was possible to send the rabbit free to Sydney there would be no great harm in doing so. They might fairly ask the Government if rabbits were carried at all to allow them to be carried free, as it would not in any way interfere with the destruction of the rabbit.

Mr. MURCHISON (Girilambone) considered that it was only right that the rabbit should be carried free.

Mr. WADDELL, M.L.A., hoped that the Conference would agree to the motion as it would be a step in the right direction.

Mr. MILLEN, M.L.A., thought he was entitled to refer to the statement made by Mr. Fisher, who had referred to his disinclination to support his own motion. His reason for desiring to withdraw his motion was to save the time of the Conference, as he thought he understood by the tone of the remarks on the previous motion that his motion would not find favour. Mr.

Mr. LESLIE (Forbes) asked who were eligible to vote on this question. Was the voting to be left to the delegates, or were those who were present by invitation also entitled to vote?

The CHAIRMAN explained that the gentlemen present who were not delegates were present on the invitation of the Minister, and he took it were equally entitled to vote with the delegates.

The motion was then put to the Conference, and the voting being equal, 15 in favour and 15 against, it was carried on the casting vote of the Chairman.

Mr. CUNNINGHAM (A. M. & A. Co.) moved—"That the duty on netting be abolished. That netting be carried by rail free when cattle or sheep trucks, which would otherwise run empty, can be used." He said that when he sent in his motion he intended that there should be two separate motions, because he could conceive that some members might vote for one but might not wish to vote for the other part. He would therefore, with the consent of the Conference, take the first part, "That the duty on netting be abolished."

This course having been consented to,

Mr. CUNNINGHAM said that for the purpose of cheapening the work for the producer he was moving the motion, and he would ask members in speaking to it to remember that they were in attendance at a Rabbit Conference and not in their electorates. He would draw the attention of the Conference to the fact that under the high protective duties in vogue in Victoria there was no duty placed on rabbit netting.

Mr. GREENE seconded the motion, and in doing so said that there was a strong consensus of opinion in favour of the abolition of this duty, and it would require only a light pressure to be brought to bear on the Government to cause them to take steps to remove it.

Mr. HUGH MACDONALD, M.L.A., said that a lot of the speakers had referred to the Members of Parliament being present as if they had no business there. There were Members of Parliament there, not in their capacity of members of Parliament, but as representatives of Districts and Boards. For his part he desired to make it known that he was present as a delegate.

Mr. ALISON (Canonbar) was opposed to the motion. He had no doubt that the taking of the duty off would tend to cheapen the cost slightly, but he objected to the question of freetrade or protection being introduced to the Conference and hoped that the Conference would decide that it was not their business to deal with such a subject.

Mr. ROSS opposed the motion on the ground that the duty, if it affected them at all, did so in so slight a manner as to be scarcely felt; in fact, if the duty was taken off, he did not think netting would be one penny cheaper.

Mr. ASHTON, M.L.A., said that the rabbit question rose far above any consideration of freetrade and protection, and to negative the motion would be equivalent to sending it out to the world that the men living in the rabbit country did not want the netting any cheaper.

Mr. WILKS (Menindie) said the question they had to consider was, could they keep the rabbits down at a reasonable cost; and he thought, when they came to reduce the price of a mile of wire netting by 30s., it must necessarily be of great assistance in keeping the pest in check.

Mr. WADDELL, M.L.A., said that although a protectionist he had always looked upon this as a special matter, and he thought it was upon an amendment of his in the Assembly that the duty was reduced. He thought that they had good hopes of succeeding with the Government if they agreed to the motion.

The motion was then put and carried unanimously.

Mr. CUNNINGHAM (A. M. & A. Co.) moved—"That netting be carried by rail free when cattle or sheep trucks, which would otherwise run empty, can be used."

Mr. GREENE seconded the motion, which was also unanimously agreed to by the Conference.

Conference adjourned until 2.15 p.m.

On the resumption of business at 2.15 p.m.,

Mr. T. IRVING CAMPBELL (Mount Ida) moved, "That the State should, on the Board's recommendation, supply netting to landholders, charging interest at the rate of four per cent. per annum. That abandoned areas be fenced off from settled districts, the fence to be erected at the expense of the State." In speaking to the motion he drew attention to the deplorable position of the district which he represented. The Mount Ida District comprises the selected portions of the abandoned areas lying between Gunbar, Whitton, and Hillston. Mr. Tully, in his motion dealing with compulsory killing, described these abandoned areas as a continual menace to the adjoining holders. He would go further and say that the neglect of the State in dealing with these areas had resulted in the ruin of the district. They had heard his neighbour's (Mr. Hough's) statement of his position as one of the residents of the district, and he could endorse what he had said as a fair account of their position in the Mount Ida District, but he had to confess that it had not come under his notice that the rabbits were eating the netting. It would also indicate the opinion of the residents when he said that a petition to the Minister was in course of signature to this effect. By advancing netting at a sufficient rate of interest to cover cost of money to the State, together with cost of distribution, would be the cheapest and most effective way of dealing with the rabbits without cost to the State. By making it compulsory that those to whom wire netting was advanced should cultivate part of their holding in proportion of 15 acres for each mile of netting received, the State would also receive direct benefit. It had been decided by the Conference to urge on the State the necessity of taking steps to ensure the re-occupation of abandoned areas upon any terms. He trusted also that the justice of extending special assistance to selectors adjoining and surrounded by abandoned areas would also be embodied in the recommendation of the Conference. In order to illustrate the position in which they stood he would place before them the case of one of their more fortunate residents, who was in a position to wire net. Mr. Hough had also referred to the same case when he was demonstrating the inutility of netting. Mr. Hough was correct when he stated that this family had killed over 20,000 rabbits off their holding of 2,560 acres since the first day of September, but he forgot to mention that owing to a bush fire a large portion of the fence was destroyed, and in consequence of a dispute as to reinstatement the place was open for a period of twelve months to the entry of rabbits from the worst infested block in the district. However, the fence has been repaired, and he had in his possession a diary of rabbit destruction dating from the first of September, 1894, to the 29th of March, showing a total of 22,808 rabbits actually killed and counted. That diary he would be glad to submit for inspection, and as the numbers for each day are entered, it should be useful to indicate the ability of selectors to cope with the pest when they have only their own rabbits to deal with. The diary closes with the entry that they had ultimately to go to the adjoining area to provide food for the dogs

dogs and pigs. In order to show that his district was worth saving he would also submit some of the agricultural statistics. Mr. Peck, off an area of 240 acres netted in, received a return of 981 bags of wheat, or an average of 17 bushels, and Mr. D. McInnes, off an area of 10 acres enclosed, 24 bushels to the acre; whilst a list of other holdings unenclosed show areas of 600 acres returning a total of 187 bags, many only averaging about 6 bushels, and areas of 28, 30, 50, and 90 acres, totally destroyed by the rabbits. He would not presume to say what should be done with the whole of the abandoned areas of the Colony, but he submitted that the State should extend privileges and concessions to the selectors who were surrounded or joined by these areas. Should the motion be carried it would be necessary to deal with the second part of the motion, for, of course, if their holdings were fenced in the abandoned areas would be fenced out. In submitting the motion to the meeting he would like to point out that they asked the assistance of the State as their landlords; they, as tenants, were asking for reparation for damage for which they were not responsible.

Mr. MURCHISON (Girilambone), in seconding the motion, said he had heard a remark made that wire netting was of no use, and to that remark he took exception. He thought that by the Government supplying wire netting in the manner suggested in the motion much good would be done, both large and small holders being benefited. There were many people who to-day were not in a position to fence their holdings, but if the Government provided them with the netting they could then step in and compel them to kill the rabbits on their holdings.

Mr. FISHER (Murrumbidgee) supported the motion on the ground that the mover had made out a strong case, which he, from personal knowledge, could corroborate. The country that was untenanted was the sole cause of the trouble, and he felt that the Conference should sympathise with the remarks made by Mr. Campbell and support his motion. Some might consider the charge too high, but the principle was a good one, and it was the principle he was advocating.

The latter part of the motion, to the effect "that abandoned areas be fenced off from settled districts, the fence to be erected at the expense of the State," was, by consent, withdrawn; and the motion—"That the State should, on the board's recommendation, supply netting to landholders, charging interest at the rate of 4 per cent. per annum," was agreed to.

Mr. HUGH MACDONALD, M.L.A., moved—"That, in the opinion of this Conference, much injustice is done by the operation of the fencing clauses of the Rabbit Act of 1890, and that it is therefore desirable that no holder of land should be compelled to contribute to the cost of erection or maintenance of any rabbit-proof fence erected by any other person unless such landholder shall be benefited or protected by the same." The previous motion he had moved that morning was lost, he believed, because it referred to certain provisions in the Rabbit Act after the Conference had decided by resolution to ask the Minister to repeal the Act in its entirety. He would like to draw the attention of the Conference to the fact once again that it was not because they agreed to recommend the repeal of the Act that it was to be repealed, and if he was certain that the Act was going to be repealed he would not require to go on with his motion. He, in moving the resolution, desired to call attention to the fact that his motion affirmed the principle that where no benefit was conferred no expense should be incurred, as, if the landholder was not protected by the erection of a fence, then he should not be compelled to pay towards the cost of its erection or maintenance. His motion was no new affair, as when the Act was under discussion in the Assembly Mr. Waddell moved an amendment virtually the same; and the principle should receive the support of Mr. Alison, who was at that time a member of the House.

Mr. SCOTT (Condobolin), in seconding the motion, said that under the clauses of the present Rabbit Act there was much hardship occasioned, and no doubt there was room for improvement. There was certainly room for great injustice to those who were outside the boundary of wire netting and had received no benefit from it. On the west side of his boundary there were a number of men who had holdings, and he would have to compel those men to contribute towards the cost of the erection of the rabbit fence when at the same time that very rabbit fence was doing them an injury by throwing the rabbit back on to their holdings. He hoped the principle would be endorsed by the Conference.

Mr. ASHTON, M.L.A., thought that it was to the interest of everybody to have the fullest light thrown on the operation if carried into effect. The motion provided that no holder of land should be compelled to contribute to the cost of erection or maintenance of any rabbit proof fence erected by any other person unless such landholder shall be benefited or protected by the same. He considered that the question was one of great importance, and should be looked at from every point of view and in the interests of the general body of people, and their first consideration should be: Would the law work well? Suppose, for instance, a holder wire-netted his holding, and his neighbour adjoining did not do the same, the fence would not be of benefit to the latter, and he would be able to avoid payment of a contribution; but if he subsequently fenced the other sides of his holding, then the fence originally erected by his neighbour would be of benefit, forming as it did a dividing and at the same time rabbit-proof fence. Under such circumstances as these he did not think a man should be deterred from levying.

Mr. GUNN (Narrandera) said that the district he represented was infested for a great number of years, but he thought that nearly every block of holdings there was now practically fenced. Had it not been for the compulsory clause, he did not think they would have been fenced. There may be perhaps some slight cases of hardship under the present fencing clause, but in comparison with the benefit it had conferred on the people and the country at large these had been slight indeed.

Mr. WADDELL, M.L.A., said that he realised that the pastoralists and the large class of land-holders in the Colony wished to have a law passed that would be equally effective to the small holders. He believed there was a spirit of fair play amongst them, and a desire for justice to be done to the small holders. The latter were not in a position to erect a boundary fence, and a compulsory clause might simply work destruction to them; and he thought that in the interests of all classes it was better to consider every interest before they came to a decision on the matter. If they took a broad view of the whole question, and gave fair consideration as far as possible, then they would be doing what was best in the interests of all concerned. These suggestions could be incorporated in a new Bill very satisfactorily. He recognised the force of what Mr. Ashton had pointed out, and his contribution to the debate on this matter was of great advantage.

Mr. ALISON (Canonbar) was afraid that the motion was more conflicting than he had at first considered, and he was afraid of doing anything which would interfere with wire netting. It was generally recognised that wire netting was absolutely essential, and if they placed drawbacks in the way of getting fencing,

fencing, it might possibly work in this way—that the runs might not be fenced and an injustice committed towards the whole of the Colony for fear of doing some slight hardship to an individual. He had no desire to do injustice to any individual, and would be loth to injure anyone; but at the same time he was compelled to say that the whole of the pastoral districts, big and little, recognized that fencing was a good thing. Therefore they must be exceedingly careful. He was not in a position at the present time to give a definite opinion on the question, and would like to see a motion substituted, setting forth that the fencing part of the Rabbit Act should be maintained with amendment.

Mr. GATENBY (Forbes) thought the motion proposed met the case very well, although at the same time he thought it was cruel of them to force a man to pay who was not in a position to pay. He would support the motion.

Mr. BACON (Brewarrina) was opposed to the motion. The Government had recognised the principle of fencing, and he was sure that if the resolution was carried it would only tend to discourage it. There would be terms in every Act and every Bill which would, no doubt, create in some cases individual hardship but the proportion of such cases would be very small.

Mr. WALKER (Tenterfield) thought that Mr. Macdonald was hardly in order in bringing the motion before the Conference, inasmuch as it applied to the Rabbit Act, which they wished repealed. He might say this with regard to the fencing that many people who were compelled to fence thought it was a curse, and had lived to find it was a blessing. In a previous Conference it had been carried, and it was very important to have the small holdings fenced in as far as possible. He would oppose the motion.

Mr. ALISON (Canonbar) desired to move an amendment.

The CHAIRMAN ruled him out of order.

Mr. LANE (Corowa) said he represented very small selectors, and he submitted that it would be an insult to turn these men off the lands, as that was what the carrying of the motion meant.

Mr. FISHER (Murrumbidgee) considered that if the Conference rejected the motion, then he could only assume that the Conference believed in making a man pay for fencing, whether he received any benefit or not. He thought it would be better to err rather on the side of justice, and accordingly he would vote for the motion.

Mr. WILKS (Menindie) supported the resolution. He had listened attentively to what had been said, and he felt certain his district would not be in favour of compulsory fencing. If they struck a levy in the back country for this purpose the people would never be able to pay it.

Mr. OAKDEN (Cobar) said that he understood that Mr. Macdonald was prepared to substitute a modification of his motion.

Mr. HUGH MACDONALD, M.L.A., said that having heard the objections to the motion by the Conference, and realising that there was no desire on the part of any delegate to perpetrate an injustice to the small holders, and he would therefore, with the consent of the Conference, substitute the following motion in lieu of the one already moved,—“That the Government is recommended to maintain the compulsory fencing clauses in the Rabbit Act, but to introduce an amendment to prevent hardships to individual owners, recognising that such cases do arise.”

Mr. WILKS (Menindie) objected to it.

Mr. MACDONALD, M.L.A., asked the Chairman to rule whether he could move the proposed substitute motion now that it had been objected to.

The CHAIRMAN ruled that he could not; but Mr. Wilks having withdrawn his objection, the substituted motion was seconded by Mr. Scott, and carried.

Mr. N. GATENBY (Forbes) moved, “That in all cases where rabbit-barrier fences are constituted under the Pastures and Stock Boards they shall remain the property of those boards, and provision be made to ensure their safety.”

Mr. LESLIE (Forbes) seconded the motion, and in doing so said that if the fences were the property of the boards the boards should have power to go on to the land in order to ascertain if they were kept in proper repair.

The motion was carried.

Mr. ASHTON, M.L.A., moved, “That in order to secure the maximum of economy in the work of rabbit destruction, the controlling district authority should have the power to proclaim that certain adjoining holdings shall constitute a group; to secure the fencing of such group; to enforce simultaneous and continuous destruction of the pest within the boundaries of the fenced area; and to apportion the cost of fencing and killing between the owners affected.” He said he had not much to say in favour of the motion. The Conference had passed a resolution in favour of the State assisting the holders and others to fence their holdings, and that being so it seemed to him that it was only right and proper that the State should have the power to step in in certain cases, as it was of no use erecting 32 miles of rabbit netting when by a little judicious management 8 miles or 16 miles would answer the purpose just as well. The Rabbit Act provided for the grouping of holdings, but it left it quite a voluntary matter on the part of the controlling authorities to group their holdings or otherwise; but now the State had been asked to assist holders in providing fencing material, he thought in the interests of the State and for the sake of economy that holdings should be grouped, and that the State, through the controlling authorities, should declare such grouped holdings.

Mr. A. ROSS (The Hume) seconded the motion, which was carried unanimously.

The following motion, standing in Mr. ASHTON'S name, was withdrawn—“(1) That the Crown has not properly recognised its obligations in connection with the rabbit pest. (2) That in consequence of such failure this Conference desires to affirm as a principle that Crown tenants and alienees whose lands have been reduced in value by the incursions of the rabbit are entitled to a reclassification of their lands.”

Mr. ALISON (Canonbar) moved, “That this meeting, having decided that the question of dealing with the rabbit pest should be placed in the hands of the Pastures and Stock Boards, it is further of opinion that the Government, in proportion to the unoccupied Crown lands in any district, should contribute towards providing funds for dealing with the pest in such district.” The only thing that had occurred to him since placing the motion on the business paper was that the Government might possibly say that if they subscribed certain funds to the Pastures and Stock Boards it was probable the boards might devote the funds so subscribed to purposes other than the destruction of the rabbit on Crown lands. He would therefore like to add to the end of his motion, “Such funds will be spent on the Crown lands.”

Mr.

Mr. LESLIE (Forbes) objected, on the grounds that it would render the administration unworkable.

Mr. ALISON said he scarcely expected any opposition, but if there was opposition he would refrain from saying more until he replied.

Mr. BACON (Brewarrina) seconded the motion, which was carried.

Mr. GUNN (Narrandera) intimated that Messrs. Waddell and Greene had requested him to ask the Conference to permit them to postpone their resolutions until the following morning. The permission was granted.

Mr. OAKDEN (Cobar) moved, "That, without material assistance in the shape of subsidy or reduction in rents, the greater portion of the pastoral lands in the Western Division are unequal to bearing the weight of expenditure necessary for coping with the rabbit pest." He thought the resolution was self-evident, and that the necessity for some assistance to enable them to bear the weight of expenditure, largely increased owing to the rabbit pest, was so widely known and felt that it was unnecessary for him to say anything further.

Mr. ALISON (Canonbar) seconded the motion. They were nearly all aware that there were runs continually being abandoned, which clearly proved that the rabbits were too much for them. He knew of a number of leases which had been abandoned in certain districts, and undoubtedly the rabbits would continue to increase unless there was not something done in the direction of the reduction of rent.

Mr. FISHER (Murrumbidgee) supported the motion.

Mr. BACON (Brewarrina) supported the motion. He would point out, however, that the first part of the motion had, in his opinion, been dealt with by the Conference when they carried Mr. Alison's motion, which specified that the Government should provide funds for dealing with the pest, and further that the second part, which touched upon reduced rents, was provided for in the Land Bill, which had just been passed through the Council.

Mr. WILKS (Menindie), in supporting the motion, said that the holders in the western portion of the Colony were justly entitled to a reduction of rents, for the money they had been compelled to expend, owing to the pest, was enormous. The value of the lands had been appraised as though there were no rabbits in existence. They had found that the Act had not done any good, therefore they were justified in asking for a reduction or some equivalent.

Mr. MURCHISON supported the motion. The Minister had told them at the opening of the Conference that some millions of acres had been abandoned, and that was sufficient to show that something really was required to assist those who were yet sticking to their holdings.

Mr. OAKDEN said that as far as assistance by extension of tenure was concerned, extension of tenure upon many of the holdings in the west meant nothing else but ruin. He was not asking for what was unjust or unfair, but for simple justice, and he hoped they would agree to the motion unanimously.

The motion, upon being put by the CHAIRMAN, was carried.

Mr. HOUGH (Gunbar) moved, "That, in the opinion of this Conference, the interest and instalments on all C.P. and C.L. land, in all badly-infested rabbit districts, should be remitted by the Minister, and no forfeiture incurred where good cause can be shown of inability to pay; and that in such rabbit-infested country the interest on C.P. land be reduced by at least one-half, and that on C.L. land be remitted entirely until such time as the rabbits have been reduced to a minimum. All fines in such cases remitted."

Having submitted the motion, Mr. Hough asked permission to withdraw it.

Mr. GIBSON (Hay) objected to the withdrawal. It was a question forming part and parcel of the great question they had met to consider.

Mr. HOUGH thought himself that the rabbit question was largely mixed up with the land question, and that the subject of his motion was part and parcel of the question they had met to consider. He had felt inclined to withdraw because he felt that the motion was not approved of, and he did not wish to needlessly occupy the time of the Conference. An objection having been taken, he would accordingly proceed with the motion. If they agreed to the motion it would save many holders from foreclosure by the Banks. He knew of one instance where a man could not pay the interest required, and he was compelled to go through the Bankruptcy Court—the rabbits simply ruined him. Many like cases might be quoted, and he felt sure that numbers sitting at that table could endorse his remarks as to the absolute necessity of rents being reduced.

Mr. MURCHISON (Girilambone) seconded the motion.

Mr. GIBSON (Hay) moved, as an amendment, "That, owing to the devastation caused by the rabbits, a provision be inserted in the Rabbit Act allowing holders of infested country to have a re-classification and reappraisal of their lands." Owners of buildings had had to make concessions to their tenants, and holders of conditional purchases, seeing that circumstances had altered considerably, were justified in coming forward to ask the Government for re-classification. The question was this: Would it pay the Crown to lose these men? Because when men were compelled to leave the land who was to be got to take their places. By making some concessions at the present time holders would try and pull through. He thought the amendment would meet with the approval of the selecting party of the community, particularly in the Western Division, and that the Conference would be assisting the holders by asking the Government to grant these concessions.

Mr. T. IRVING CAMPBELL (Mount Ida) seconded the amendment.

Mr. HOUGH agreed to accept the amendment, and

The Conference having agreed to accept it in lieu of the motion,

Mr. WALKER (Tenterfield) said it was most important that they should keep as many people on the soil as possible, in order that the rabbits might not be permitted to increase, as the more land that was thrown back on the hands of the Government so much the greater became the scope upon which the rabbits would be unmolested, and they all knew how rapidly they increased when undisturbed, and in his opinion nothing tended so much to keep the rabbits down as settlement. He hoped the amended resolution would be agreed to.

The substituted motion by Mr. Gibson was then put to the meeting and carried.

The CHAIRMAN pointed out that before the Conference dispersed, and in order that the Minister might be immediately apprised of the result of the Conference, it would be necessary to appoint a sub-committee to prepare a draft report. The Conference would meet again in the morning, when the draft report would be submitted for adoption.

Mr

Mr. OAKDEN (Cobar) asked leave to withdraw the motion standing in his name, on the ground that the principles contained in it had been affirmed by a previous resolution (Mr. Alison's).

The withdrawal of the motion was agreed to.

Mr. CUNNINGHAM (A.M. and A. Co.) moved, "That all districts where rabbits are known to exist, or are in danger of becoming infested, be proclaimed infested areas." He asked leave to amend his motion, seeing that the Conference had carried a motion recommending the repeal of the Rabbit Act, so that it would read, "That it be a direction to the local Boards in districts where rabbits are known to exist, or are in danger of becoming infested, to proclaim them infested areas."

Mr. WALKER (Tenterfield) seconded the resolution.

The Conference would not accept the alteration, and on the motion, as printed, being put it was agreed to, 11 voting in favour and 7 against.

Mr. OAKDEN (Cobar) said that as the Conference had already agreed to the free carriage of rabbits on the railways, he thought that the same principle should be agreed to concerning rabbit skins, and he therefore moved—"That this Conference recommends the free carriage of rabbit skins on the State railways."

The motion was seconded by Mr. HOUGH and carried, 14 being in favour of it and 5 against.

Mr. D. JOHNS (Wyalong) moved, "That, as it is impossible for infested districts to combat the rabbit pest until the vacant lands are wire-netted, the Government is urged to join in netting the boundaries of abandoned and unoccupied lands, reserves, and commons; to allow to any adjoining holders who may erect a wire-netting fence adjoining these lands an abatement of rent which will, during the term of lease, cover the cost of erection."

Mr. ALISON (Canonbar) seconded the resolution, which was carried.

Mr. GATENBY (Forbes) moved, "That the Government be urged to at once put the rabbit-barrier fence from Albury to Bourke in thorough repair, and take such measures as will ensure its effective maintenance whilst under its control. Subsequently, on demand of the various Stock Boards through or along the boundaries of which it runs, shall be handed over to their care." He thought that what was asked for in the motion was only reasonable, and he had moved the motion because he considered that where fences along a certain line were in disrepair the Government might reasonably be expected to put them in repair.

Mr. SCOTT (Condobolin) seconded the motion, which was agreed to without further discussion.

The CHAIRMAN asked the Conference to appoint a sub-committee to prepare the draft report, as whatever they had done, unless put into some form for presentation, would be utterly useless.

Mr. WILKS (Menindie) moved, "That the following gentlemen be a committee to draw up a draft report embodying the motions passed at this Conference, for the purpose of presenting the same to the Honorable the Minister for Lands for his consideration:—Messrs. Gatenby, Leslie, Oakden, M'Farland, Gunn, Lane, Gibson, Murchison, Ross, and Hough, of which five should form a quorum."

Mr. GIBSON seconded the motion, which was carried.

Mr. OAKDEN (Cobar) moved, "That, for the destruction of rabbits, this Conference recommends primarily the use of poisoned water and trapping at tanks, phosphorised pollard, poisoned twigs, tilt pit-traps along the lines of wire netting." The best way, in his opinion, for dealing with the pest was by poisoning the water in tanks. He thought that when they had a long dry season there was nothing equal to poison for destruction. The skins would cover the cost of the poison. The tilt pit-traps along wire netting had also proved very successful indeed, and no barrier lines of fencing should be without them, as by the means of these thousands had been caught. Then again, in the event of the rabbits being required for market, the pit-traps were of much use in catching them. He thought that those members of the Conference who had tried these methods would agree that they were most effective.

The motion was seconded by Mr. M'FARLAND.

Mr. CUNNINGHAM said he would like to see wire netting included among the means for destruction, as unless they had it included in the recommendation they might leave the impression that it was not considered of much use, whereas throughout the Conference reference had been made to its efficacy.

Mr. SCOTT (Condobolin) said that in his district there were a great many settlers, and their belief was that they could keep down the rabbits in their holdings with the aid of wire netting and phosphorised pollard. One of his neighbours had lately used this poison with the greatest success, and he was the only man he ever heard say he could completely keep down rabbits. Of course, that was only one man's opinion. He believed in wire netting, but still phosphorised pollard could do a lot, and a bushel could be laid at very little cost, and that amount would lay a train from 12 to 14 miles, the pellets being about 4 or 5 feet apart. Judging from that, the objections of the selectors to poisoning on the score of expense fell to the ground. Pit-traps had also been found very serviceable in the work of destruction.

Mr. WILKS (Menindie) said no man could doubt that fencing could keep rabbits down, but what they wanted was a cheap means of destruction, and in the Western districts they were already paying more than they could afford to keep the pest down.

The consent of the Conference was given to the insertion of the words "wire netting" before "poisoned water," and the motion as altered was agreed to.

Mr. M'FARLAND proposed, and Mr. OAKDEN seconded, the adjournment of the Conference until 10 a.m. the following morning.

Conference adjourned accordingly at 5.30 o'clock.

FOURTH DAY—Friday, April 15th, 1895.

The Conference met at 10:30 a.m., the Hon. W. Campbell, M.L.C., presiding.

The minutes of the previous sitting having been confirmed,

Mr. OAKDEN desired it to be understood that he had withdrawn his motion (No. 18 on the previous day's paper) as he understood that the principle contained therein was met by a previous motion, agreed to by the Conference.

Mr. D. TULLY (Hillston) said that before the business was proceeded with he desired to draw attention to the fact that a resolution he had given notice of had been omitted from the business paper. He hoped that he would be permitted to discuss it.

The Chairman said that he would be in order in moving it when the other business had been disposed of.

Mr. OAKDEN's motion, upon which the discussion was adjourned on the preceding day, was then put to the Conference and carried.

Mr. WADDELL, M.L.A., said that with reference to motion 1 standing in his name to the effect "That the matter of dealing with the rabbit pest being a national question, this Conference is of opinion that the Government should supplement at the rate of pound for pound all moneys raised by local contribution," he desired to postpone it. On the previous day a motion had been agreed to which he thought would require to be rescinded before he could discuss the one in his name, and unless that motion was rescinded he would not proceed with his.

It was agreed to postpone the consideration of motion 1.

By consent Mr. Greene was permitted to withdraw his motion, which was "That in view of the increased power proposed to be conferred on the Pastures and Stock Boards, especially in regard to the expenditure of public money it is necessary that provision be made for the adequate representation of the State upon such Boards."

A motion in Mr. Morgan's name to the effect "That for the purpose of rabbit destruction in rabbit-infested districts a rebate duty be allowed on the following articles:—Wheat, pollard, phosphorous, rabbit-traps, and poisoning machines," was, on the motion of Mr. Gunn, struck off the business paper, the mover being absent.

Mr. OAKDEN said that with the consent of the meeting he would, on behalf of Mr. Hough, withdraw the motion standing in that gentleman's name. The motion was as follows:—"That in view of the widespread desolation and ruin caused by the enormous increase of rabbits, and to further their complete annihilation the Minister be asked to embody in the Bill now before the House a provision enabling anyone to occupy 640 to 1,000 acres absolutely free for ten years, in all badly infested country, conditionally on their surrounding the holding with a netting fence, to be approved by the Local Board; residing thereon continuously, and destroying all rabbits therein; and in necessitous cases to extend the same privilege to conditional purchase and conditional leaseholders, thereby putting them on the same footing, and giving them a chance to keep their holdings."

Permission was given, and the motion withdrawn.

Mr. D. TULLY (Hillston) moved, "That in the opinion of this Conference the maximum size of rabbit netting to be used in future shall be $1\frac{1}{2}$ x 42 x 17." He considered the size of the netting was a most important matter for them to consider in connection with rabbit destruction, and that they should have a proper gauge to fence in holdings with. The majority of holders knew that with the gauge under the 1890 Act the width of the mesh was utterly useless as a means for keeping out rabbits. He had much pleasure in moving that this should be the maximum gauge in any future legislation.

Mr. ROSS (The Hume) seconded the motion.

Mr. GUNN (Narrandera) agreed with the mover in thinking that the mesh should be reduced, but he would have gone further, and proposed that it be $1\frac{1}{4}$ -in. gauge. It was known that rabbits would go through an inch and a half. He would, however, support the motion, but would have had greater pleasure in doing so had the gauge been fixed at $1\frac{1}{4}$ in.

Mr. MCFARLAND (Hay) supported the motion so far as the mesh and height of the netting. He thought a $1\frac{1}{4}$ -in. mesh would be too expensive to start with. He thought that with a mesh of $2\frac{1}{2}$ in. and 2 ft. 6 in. above the ground they would do well.

Mr. OAKDEN (Cobar) proposed as an amendment the insertion of the words "with a minimum width of" in front of "42 in." What they really wanted was a maximum mesh and a minimum width.

Mr. SCOTT (Condobolin) seconded the amendment.

Mr. OAKDEN pointed out that the amendment merely drew the attention of the Conference to the maximum mesh and minimum width. He had used wire netting with traps, and fairly-strong young rabbits would go through the $1\frac{5}{8}$ -in. mesh, and that size was generally condemned by all who knew anything about it. He had used 42-in. netting, and had carried a resolution at a previous Conference to the effect that it was desirable to do so, and it was pointed out that the extra expense would affect the use of wire netting very seriously. Nevertheless, he believed that 42-in. netting would be more serviceable. He had seen rabbits jump over netting 3 ft. above the ground, and netting that high was not a complete barrier.

Mr. MORGAN (Wentworth) thought that $1\frac{1}{2}$ in. was far too big for a rabbit-proof fence, and in fact he thought that any fence less than 3 ft. high was not rabbit-proof. He would like to see the maximum mesh $1\frac{1}{4}$ in. as $1\frac{1}{2}$ in. did not meet the requirements.

Mr. GUNN said that there had recently been introduced a new kind of fence, which while adding greatly to the efficiency had largely reduced the cost. He moved, "That the maximum mesh be $1\frac{1}{4}$ -in. up to 1 ft. above the ground, and $1\frac{3}{8}$ -in. above the minimum height to be 42 in."

Mr. HOUGH said that with regard to the size of the mesh he concurred in the remarks made by Mr. Gunn. Rabbits could get through a $1\frac{1}{2}$ -in. mesh, and lived afterwards, but with a $1\frac{1}{4}$ in. they all died that succeeded in getting through. He would like to see the height fixed at 42 in., but it would make the material considerably dearer. He understood that the combination mentioned by Mr. Gunn had proved very satisfactory in Queensland.

Mr. WILKS (Menindie) said that with respect to the $1\frac{1}{2}$ -inch mesh, he was not in accord. He thought the $1\frac{1}{4}$ -inch much better. Between this Colony and South Australia, where a barrier fence had been erected, it was wise not to put up $1\frac{1}{2}$ -inch mesh netting, for where they had one side through which foreign rabbits could get in, where was the use putting $1\frac{1}{4}$ -inch on the other three sides. The

The CHAIRMAN said that, if there was no objection, he would put the motion in sections, "That in the opinion of this Conference, the maximum sized mesh shall be 1½ inch." On that Mr. Gunn had moved an amendment, "That the maximum mesh be an inch and a quarter up to a foot above the ground, and an inch and five-eighths above, the minimum height to be 42 inches."

Mr. BACON (Brewarrina) opposed Mr. Gunn's proposition. He thought they had better establish a maximum of an inch and a half instead of an inch and a quarter.

Mr. RYAN pointed out that an inch and a quarter and an inch and five-eighths might do very well in some parts of the country, but he ventured to think that anyone who had seen a border fence that netting a foot and a half from the ground would be no use at all, because if a shower or two came the fence would be completely blocked with *debris*, which formed an easy means for rabbits or anything else to get over. Netting of any larger mesh than one and a quarter right up would be of no use.

Mr. QUIN concurred in what Mr. Ryan had stated. On the South Australian border the fence there was quite covered with sand, and he saw the other day on one of the runs in the Western District a man having to remove the sand where it had completely covered the fence. What, in cases of that kind, were the men to do? As for saying that the Government would recognise their liability, that was all rubbish. The Government would do nothing of the kind. They all knew that the pastoralists who were fencing their runs would be made to do it by the Local Land Boards. What was the use of bringing a matter of that kind forward, when the Government would not recognise their responsibility.

The CHAIRMAN pointed out that the resolutions arrived at by the Conference were for the Minister's guidance, and it did not follow that because they held those opinions that he would adopt them. The whole of the proceedings would be placed before him, and he would then be able to judge for himself as to the wisdom or otherwise of making use of the resolutions arrived at by the Conference.

Mr. QUIN still urged that the size of netting as contained in the motion should not be considered to apply to the Western District.

Mr. HUGH MACDONALD, M.L.A., considered that netting more than an inch and a quarter in mesh was of no earthly good, and without doubt it was only fair that, if through anything agreed to by the Conference a compulsory fencing clause was introduced, they should so word their suggestions as to ensure that those who did have to pay received something which would benefit them in return.

Mr. Gunn's amendment, with reference to a combination fence, was negatived by 15 votes to 12, and the original motion, providing for a mesh of 1½ inch diameter, was agreed to on the casting-vote of the Chairman.

Mr. OAKDEN (Cobar) moved that instead of 42, a minimum width of 36 should be inserted.

The Conference decided that the 42 should be retained, and that as proposed the words "with a minimum width of," should precede it. A gauge of 17, as per original motion, was agreed upon, and the motion as amended, and which read, "That in the opinion of this Conference, the maximum size of rabbit netting to be used in future shall be 1½, with a minimum width of 42 by 17," was agreed to.

Mr. GATENBY (Forbes) moved, "That in any levies made under the Pastures and Stock Boards, and the erection and maintenance of barrier fences, such levies shall be *pro rata* on the acreage of land and not on a stock basis."

Mr. LESLIE (Forbes) seconded the motion.

Mr. GATENBY said that he was in favour of any assessment that might be made, or any levies made by the Pastures and Stock Boards, and no doubt it was a comparatively easy matter to make the levies on the stock, but there were serious objections to such a course being pursued, as if it were levied on a stock basis, the more a man had improved his holding, the greater would be his tax; and it was only fair that those men who had not taken advantage of their opportunities and improved their holdings, should be made to pay their share.

Mr. QUIN thought the introduction of such a system as was proposed in the motion would in many cases work great hardship.

Mr. MURCHISON (Girilambone) supported the motion, and explained that in the district where he lived there was splendid land and very little improvement. He would like to be informed why a man who by sheer hard work brought his holding to a high degree of perfection should be compelled to pay for the man who, with the same opportunities, calmly sat down and did nothing towards making improvements on his holding.

Mr. BACON (Brewarrina) did not favour the motion on the principle adduced by Mr. Quin.

Mr. OAKDEN (Cobar) moved as an amendment the insertion of the words "in proportion to its natural carrying capacity."

Mr. FERGUSSON, M.L.A., seconded the amendment.

Mr. LESLIE (Forbes) thought that the Government should pay their quota. He believed the Conference had expressed its opinion that the Government should recognise its responsibility in paying something towards the destruction of noxious animals, and that there was a large amount of land which had been abandoned by owners because it had become rabbit infested. If the words were inserted, a great quantity of land would carry nothing, and the tax would be nil.

Mr. ASHTON, M.L.A., said that there was much in what the last speaker had said. In a rabbit-infested country the natural carrying capacity amounted practically to nil. If they based the valuation on the carrying capacity of the lands, men, who had kept up that carrying capacity by improving it, would have to pay far more than the Crown would pay. The question was were those abandoned and resumed areas to escape their just portion of taxation through the fact that they had been neglected. If they could fix a value to these Crown lands, then tax it at a certain rate per acre and the lessee who had improved his land at the same rate, fixing the rate sufficiently high to raise the amount of revenue required. By this means the system would operate equitably.

The amendment was agreed to, 15 voting in favour and 14 against.

The motion as amended, "That in any levies made under the Pastures and Stock Boards for the destruction of rabbits and the erection and maintenance of barrier fences such levies shall be *pro rata* on the acreage of land in proportion to its natural carrying capacity, and not on a stock basis," was then carried.

Mr. LESLIE (Forbes) moved, "That where any boundary fence, which has been or may hereafter be fenced with rabbit-proof netting, whether in a proclaimed rabbit-infested district or not, is used by the adjoining holder to make his holding rabbit-proof, such holder shall be liable (after inquiry by the local

Land

Land Board) to a contribution of one-half the cost of making and maintaining such boundary fence rabbit-proof." In moving the resolution he said his object was to protect those who had already erected fences beside lands which were proclaimed areas. They all knew people would shirk their obligations unless some definite arrangements were decided upon. He would not detain them, as he considered the justice of the thing was so apparent as to secure their sympathy and support.

Mr. HUGH MACDONALD, M.L.A., seconded the motion, which to him appeared perfectly fair.

Mr. J. M. ATKINSON desired to point out that this provision was already in the Rabbit Act, and under the provision recovery had been made.

Mr. MORGAN said the motion was intended to apply to districts where the Rabbit Act was not in force.

Mr. FISHER said the putting in operation such a principle as that contained in the motion would be very severe. During the whole of the discussion the tendency had been not to insist on a man paying for rabbit-proof fencing unless he received some benefit. If a man took up a piece of land, two sides of which were proof fenced and the other two open, was he to pay for these two sides? He did not think he ought to be compelled to do so.

Mr. LESLIE explained that the motion did not convey this idea.

Mr. FERGUSSON, M.L.A., said there was a provision in the old Act that was somewhat similar to the one now under discussion.

Mr. QUIN presumed that the mover had submitted the motion, assuming that the Rabbit Act would be repealed.

Mr. LESLIE: Yes.

Mr. GATENBY thought the motion one which many of the delegates would support. He considered it only just and fair that if a man received a benefit he should pay for it.

Mr. LESLIE, in reply, said that so far as he had heard no argument had been advanced against the motion. The result certainly could not affect men who had already fenced, and it was only to protect those who may have fences in districts which had not been proclaimed rabbit-infested, and which might hereafter be proclaimed, and he thought the motion would commend itself to the good sense of the Conference.

The motion was agreed to.

Mr. WADDELL, M.L.A., withdrew the postponed resolution standing in his name.

Mr. GUNN suggested that as many of the members had made arrangements to leave for their respective homes, any further business not on the business paper should not be taken.

Mr. LESLIE moved the adjournment of the Conference for twenty minutes to enable the Sub-Committee to complete the Draft Report for presentation to the Minister.

On resuming, the Sub-Committee presented the Report which was read by the Secretary and adopted unanimously.

It was then arranged that the Chairman and the members of the Committee should wait on the Minister on the following Monday at 10 a.m., for the purpose of handing him the result of the deliberations as set forth in the Draft Report.

Before dispersing, votes of thanks were accorded the Chairman and the Secretary.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

PASTURES AND STOCK PROTECTION ACTS AMENDMENT BILL.

(MESSAGE No. 33.)

Ordered by the Legislative Assembly to be printed, 12 December, 1894.

R. W. DUFF,
Governor.

Message No. 33.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends, for the consideration of the Legislative Assembly, the expediency of making provision to meet the requisite expenses in connection with a Bill to amend the Pastures and Stock Protection Act and Pastures and Stock Protection Act Amendment Act of 1881.

*Government House,
Sydney, 12th December, 1894.*

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

THE PROSPECTS OF THE FROZEN MEAT TRADE ON THE CONTINENT OF EUROPE.

(REPORT OF THE CHIEF INSPECTOR OF STOCK ON.)

Ordered by the Legislative Assembly to be printed, 19 March, 1895.

From what I learned while on the Continent, more especially in Berlin and Paris, I had doubts—in view of the extent to which protection exists in Germany and France and the great influence of the Agrarian Party in both these countries—whether a paying trade in Australian meat of any great extent could be permanently established on the Continent; and I considered it the safer course in regard to this portion of my report on the meat trade, to take time to prepare it while attending to my own special duties (which of late have occupied more than the whole of my time), and wait the result of the efforts which were being made by Messrs. W. Weddel & Co. and Messrs. Geddes, Birt, & Co. to secure a footing for our meat on the Continent, before submitting my report, lest, in view of the heavy duty and expense which must be incurred on meat taken to the Continent, and the risk and uncertainty which attaches to trade with foreign countries, and where alterations of the regulations may take place at any time, I might give rise to hopes which would not be realised.

What mainly led me to take this rather doubtful view of the prospects of the Continental trade in Australian meat was the treatment the question of its introduction into Berlin received while I was in Germany. As I explain more fully in my report on the Berlin meat trade, previous to my arrival in that city an application had been made in due form by Messrs. W. Weddel & Co., of St. Helen's-place, London, for leave to introduce Australian meat into Berlin; and, although their agent made repeated endeavours to obtain a reply to their application, and I also enlisted the assistance of the English Embassy, they only received a reply after a delay of some five or six weeks to the effect that the meat would not be admitted, while at the time the application was made there was no law or regulation forbidding its introduction, the authorities merely instructing their officers not to inspect the meat, and without inspection it could not be introduced.

Seeing what had happened I expressed a fear to some of those who were thinking of embarking in the Frozen Meat business, lest the same course might be taken in regard to the rest of Germany,—as for instance at Hamburg,—and was assured that it would not; but now we learn that an interdict has been issued against the introduction of frozen mutton into any part of Germany, and what I was afraid of has actually taken place with respect to the meat in which we are principally interested.

But while this is the case I would recommend that we continue to urge on the Governments of France and Germany the withdrawal of the restrictions which seriously interfere with its introduction into these countries (which would otherwise be by far our best customers) without, as we think, adding anything to the guarantee which we are prepared to give, that the meat is free from infection, by carrying out a careful inspection of the stock both before and after slaughter, by qualified veterinary surgeons.

THE MEAT TRADE IN GERMANY.

GERMANY, with a population of some 50,000,000, has not sufficient live stock to supply them with animal food. According to the latest available returns, she has 17,496,000 cattle and 13,775,000 sheep. Her annual average imports of live stock are, say, 251,000 cattle, 7,800 sheep, and 910,000 pigs, while her average annual exports are about 15,000 cattle, 319,000 sheep, and 12,000 pigs. This shows that she requires, say, 236,000 cattle and 898,000 pigs in addition to those which she breeds, but that she has a surplus of more than 311,000 sheep.

Germany has been receiving her outside supplies of cattle (alive and dead) principally from Denmark, Austria, Holland, Switzerland, and the United States, but the American importations have recently been stopped, on the ground that some of the cattle were affected with Texas fever. The pigs introduced into Germany have been principally from Holland, Austria, Denmark, and Belgium. Naturally Berlin and the other large cities in eastern and central Germany should draw their supplies of foreign meat from the south of Russia, where live stock are comparatively cheap; and there is no doubt she would do so were it not that Rinderpest and other infectious and contagious diseases in stock are almost continually prevalent in Russia and Germany, and the other European States are obliged to maintain a constant prohibition against the introduction of Russian cattle and sheep.

The surplus sheep of Germany are taken principally by Belgium, the United Kingdom, and France.

The consumption of meat per head of the population in Germany is low, only 64 lb. per annum. This is no doubt largely attributable to the high prices going there for meat.

The following were the wholesale and retail prices for German meat in Berlin in May last :—

<i>Wholesale.</i>			
Beef—1st quality	... 6½d. per lb.	Mutton—1st quality	... 7d. per lb.
2nd "	... 5½d. "	2nd "	... 5½d. "
3rd "	... 4¾d. "	3rd "	... 4d. "
<i>Retail.</i>			
Beef—1st quality	... 10½d. per lb.	Mutton—1st quality	... 9½d. per lb.
2nd "	... 8½d. "	2nd "	... 7½d. "
3rd "	... 6½d. "	3rd "	... 5½d. "

This, I think, shows that there is a fair prospect of doing a trade with Germany, more especially in Berlin, in Australian meat, even with the rather heavy duty of 1d. per pound, including the fee for inspection, if the restrictions at present in force to which I afterwards refer as existing in Berlin were modified or withdrawn and that they would not be again arbitrarily imposed.

It will have been noticed that Mr. W. Weddel, of Messrs. W. Weddel & Co., St. Helen's-place, London, as agents for several of the New Zealand and Australian meat export companies, has been doing his best—by visiting the Continent and forwarding direct shipments to Hamburg—to obtain a footing there for frozen meat in the face of considerable difficulty and discouragement. Mr. J. H. Geddes also, while connected with the late firm of J. H. Geddes & Co., and latterly since the formation of the new company of Messrs. Geddes, Birt, & Co., has done and is still doing excellent work in the same direction. As regards the duty with which I was charged, it is only right that I should here acknowledge that in prosecuting my inquiries in Great Britain both Mr. Geddes and Mr. Weddel afforded me every assistance in their power. Before I left for the Continent they very kindly furnished me with letters of introduction to their correspondents in the different countries I intended to visit, which enabled me to gather a great deal of information which I could not otherwise have obtained. I also, through the kindness of Sir Saul Samuel, C.B., the Agent-General for the Colony, received from the Foreign Office letters accrediting me to the Ambassadors at Brussels, Copenhagen, Berlin, Paris, and Rome, and left London on the 27th April for Cologne, where I arrived on the 28th, and there met Mr. Oebel, merchant in that city, to whom Mr. J. H. Geddes had given me a letter of introduction. Cologne is an important town on the Rhine, with some 200,000 inhabitants, and being only a short distance from the large manufacturing cities of Elberfeld, Bremen, Eachen, Essen, and Dusseldorf, Cologne is very well situated for, and should, I think, be chosen as a distributing centre for the sale of Australian meat, should the trade be established. As it is hoped it will yet be, in the south of Germany. I found Mr. Oebel was prepared to take up the business in Cologne, if regular supplies of meat could be sent him, and cold storage procured, but as these requirements could not then be met, and as the distance by rail from either Antwerp, Rotterdam, or Amsterdam, the nearest seaports to Cologne, was considerable, and no refrigerating cars procurable, it was seen that it would not be possible to do any business, except, perhaps, for a short time in mid-winter, and then only after a central cold-store had been provided at one or other of the ports mentioned, to which the meat in the first instance could be forwarded from London on its way to Cologne.

If, however, a better footing were obtained in Germany for Australian meat, and the supplies, instead of coming as they now do, through London, were to arrive direct, there is no doubt a satisfactory trade will be done at Cologne.

BREEMEN.

I left Cologne next day for Bremen, a town with a population of 166,000, where I saw Mr. G. H. Specht, ship-broker, to whom I had an introduction from Messrs. W. Weddel & Co., London; but from what Mr. Specht said, the prospects of business being done in our meat there are comparatively poor. Considerable quantities of American beef, and shipments of live cattle, too, from the United States, were at that time landed at Bremen. I also saw the British Consul, who held similar views as Mr. Specht with regard to frozen meat, but thought business might be done in tinned meat if our companies were to push the business and bring samples of the meat, and perhaps of other products. I then called at the office of the German-Lloyds Steam Navigation Company, and saw the managing director as to the prospect there was of their vessels being fitted up for carrying frozen meat from Australia to (say) Antwerp, Rotterdam, Amsterdam, and Hamburg; but I found that nothing would be done, at any rate in the meantime, but that he expected the company would have another large new steamer on the Australian line, when they would consider the matter.

HAMBURG.

I left the same afternoon for Hamburg, the principal seaport town in Germany. The population of Hamburg, with Altona, which adjoins Hamburg, is about 800,000. A very large and growing trade is done in Hamburg, and from the highly advantageous position which it occupies, it is bound to continue to increase.

It was at Hamburg that the first successful attempt was made to introduce Australian frozen meat into Germany. Messrs. Hirsch Bros., general merchants of Melbourne and Hamburg, some five or six months previous to my visiting Hamburg, opened a retail shop for the sale of Australian and New Zealand beef and mutton. At first they did a large business, principally in beef, and although it had fallen off to some extent when I met Mr. Albert Hirsch, they were still doing a considerable trade. All over the Continent, except in France, and perhaps also in Belgium, the sale of beef is very much greater than that of mutton.

Messrs. Hirsch purchased their meat in London, through Mr. J. H. Geddes, and the steamer by which it was forwarded to Hamburg had a roughly insulated compartment to protect the meat on transit from the effects of the heat, but the arrangement was not by any means an absolute protection in hot weather; and very naturally Mr. Hirsch was looking anxiously for properly refrigerated chambers on board some of the steamers plying between London and Hamburg, or direct shipments from Australia, to which it must ultimately come if a trade in Australian meat is to be established on the Continent. Coming by way of London, not only is there additional expense of about ½d. per lb., but there is a certain amount of risk of taint which would not occur in the case of direct shipments.

The other firm in the frozen meat trade in Hamburg is the Austral Fleisch Import Company, managed by Von P. H. Andresen. This company has five shops, and they had a large stock of Queensland beef on hand in the cold store attached to the city meat market. This beef was the balance of a cargo sent to Hamburg by Messrs. W. Weddel & Co., who disposed of a portion of it and then stored but afterwards sold the rest to the Austral Fleisch Import Co. Both

Both Mr. Andresen and Mr. Hirsch gave me to understand that they meant to carry on the trade, even though they should have to go to London for supplies. I do not think, however, that it would have been necessary for them to do so, for I understand that more than one direct cargo of Australian meat have, since I was at Hamburg, been taken there.

The following is a statement of the retail prices at which Australian beef in May last (at that season of the year little or no mutton was selling) was being disposed of by Messrs. Hirsch Bros. and the Austral Fleisch Import Company in Hamburg :—

				<i>Hind-quarter.</i>	£	s.	d.
Knuckle-bone, say 10 lb., @ 3d.	...	...	...	...	0	2	6
Leg and buttocks, say 55 lb., @ 6 $\frac{3}{4}$ d.	...	...	...	...	1	10	11 $\frac{1}{2}$
Rump, say 35 lb., @ 6 $\frac{3}{4}$ d.	...	...	...	...	0	19	8 $\frac{1}{2}$
Rump steak, say 20 lb., @ 7 $\frac{1}{2}$ d.	...	...	...	...	0	12	6
Flank, say 16 lb., @ 4 $\frac{1}{2}$ d.	...	...	...	...	0	6	0
Tallow, say 14 lb., @ 2 $\frac{1}{2}$ d.	...	...	...	...	0	2	7 $\frac{1}{2}$
					<hr/>		
					£3 14 3		
				<i>Fore-quarter.</i>	£	s.	d.
Knuckle-bone, say 7 $\frac{1}{2}$ lb., @ 3d.	...	...	...	...	0	1	10 $\frac{1}{2}$
Flat rib, say 50 lb., @ 4 $\frac{1}{2}$ d.	...	...	...	...	0	17	8 $\frac{1}{2}$
Shoulder, say 28 lb., @ 6d.	...	...	...	...	0	14	0
First ribs, say 15 $\frac{1}{2}$ lb., @ 6 $\frac{3}{4}$ d.	...	...	...	...	0	8	8 $\frac{1}{2}$
Covered ribs, say 12 lb., at 6d.	...	...	...	...	0	6	0
Neck, say 10 lb., @ 4 $\frac{1}{2}$ d.	...	...	...	...	0	3	9
					<hr/>		
					£2 12 0 $\frac{1}{2}$		
Hind-quarter...	...	...	...	£3 14 3			
Fore-quarter...	...	...	...	2 12 0 $\frac{1}{2}$			
					<hr/>		
Total				...	£6	6	6 $\frac{1}{2}$

While in Hamburg I called also on the manager of the German-Australian Steamship Company with regard to the prospect of their fitting up some of their steamers to carry meat, and take direct cargoes from Sydney to Hamburg. He said they would require a guarantee as to the quantity of freight before they could incur the heavy expense which the fitting out of any of their boats for the frozen meat trade would entail. I suggested that for a time they might deliver a portion of the meat at London, and take on the balance to, say, Rotterdam, Amsterdam, or Hamburg, when he seemed to think that a commencement of direct shipments might be got in that way if cold storage were provided, and arrangements made for doing a fair amount of business at each of the cities mentioned.

THE MEAT TRADE IN DENMARK.

The area of Denmark is less than one-third that of Scotland, and the population in 1890 was 2,170,000. The principal industries of Denmark are farming, dairying, and fish-curing, and she carries on a considerable maritime trade. Her exports in dairy and farm produce, bacon, and fish, are large for the size of the country. In 1893 she sent butter valued at more than £5,278,000, and bacon and hams at more than £2,178,000 to England alone.

The only country from which Denmark imports any live stock is Sweden, to the extent of 20,000 cattle a year, and nearly the same amount of sheep, with, say, 2,000 or 3,000 pigs.

Her exports in live stock again are almost entirely confined to Germany and the United Kingdom, and they average, say, 90,000 cattle, 4,000 sheep, and 150,000 pigs to Germany, and 40,000 cattle, 40,000 sheep, and 1,000 pigs to the United Kingdom, showing that the exports exceed the imports, 110,000 cattle, 24,000 sheep, and 148,000 pigs.

The following are the wholesale prices obtained for meat in the Copenhagen market in October last :—

Ox beef, 1st quality, from 55s. to 60s. per cwt. (say 6 $\frac{1}{4}$ d. per lb.	
" 2nd " 32s. to 41s. " 4d. "	
Cow beef, 1st " 41s. to 47s. " 4 $\frac{3}{4}$ d. "	
" 2nd " 27s. to 30s. " 3d. "	
Veal, 1st " 25s. to 27s. 6d. " 2 $\frac{3}{4}$ d. "	
Pork, extra quality, weighing from 132 lb. to 154 lb. (say 5 $\frac{1}{2}$ d. per lb.	
" 1st " " 126 lb. to 165 lb., " 5d. "	
" 2nd " " 126 lb. to 165 lb., " 4 $\frac{3}{4}$ d. "	
" 3rd " " 126 lb. to 165 lb., " 4 $\frac{1}{2}$ d. "	

There is no duty on the importation of beef, veal, mutton, lamb, or pork, nor of sausages, hams, or tongues into Denmark. The annual consumption of meat in Denmark is rather low, only 64 lb. per head of the population, and I think that there are fair grounds for supposing that, with the introduction of good frozen meat at a less price than that at which the home-bred meat is now sold, there would be a considerable increase in the consumption per head, and a fair opening to a moderate extent for our meat, even although, as I have shown, Denmark has a surplus of live stock, because it will pay her to sell her own stock and purchase frozen beef and mutton.

Copenhagen, the capital of Denmark, is situated on the northern portion of the peninsula of Jutland, and has a population of between 380,000 and 400,000. Its position is favourable as regards facilities for trade with Prussia, Russia, Finland, and Sweden. Some 30,000 vessels pass the sound every year, and a good many of them touch at Copenhagen.

In order to maintain the footing she has obtained in the countries named, and counteract the effect which the opening of the canal which Germany has constructed from the North Sea through Holstein to the Baltic, the merchants in Copenhagen have just completed an extensive free port, the area of which is over 50 acres, surrounded by over 10,000 feet of wharves, with very commodious stores supplied with all the newest appliances for loading and discharging vessels at a cost of, it is said, about £1,000,000 sterling.

From

From this it will be gathered that there is a good prospect that the trade now being done at Copenhagen will increase, and, if so, there is every reason to believe that a fair amount of trade in Australian meat will be done when proper arrangements have been made for carrying it on, as it is believed they will be when direct shipments have been obtained to Hamburg and the business there put on a proper footing.

I reached Copenhagen on the 3rd May, and called at the British Embassy. I afterwards delivered a letter of introduction I had received from Mr. J. H. Geddes to the manager of the Den danske Landmans Bank (one of the leading banks in Copenhagen), by whom and Mr. Salomon, the secretary of the bank, I was well received. I was introduced by Mr. Salomon to Messrs. Max Levig & Co., merchants, Copenhagen, who are prepared to take charge of any consignments of meat or other produce which may be put in their charge.

On visiting the meat market I found that the butchers were divided into two classes, and occupied stalls in two different portions of the market, the one class selling only Danish meat and the other only foreign. Some of the butchers in the foreign portion expressed themselves willing to purchase Australian beef and mutton at the market price in London, and pay carriage from London to Copenhagen. I gave Messrs. Geddes, Birt, & Co., Messrs. Max Levig & Co.'s, the name and address of one of the principal butchers who offered to buy the Australian meat, and they intend to see what can be done in opening a trade in Copenhagen, but as no cold storage is as yet provided there, and as for a time the demand will be small, business can only be done by forwarding supplies by ordinary steamers from London to Copenhagen in the winter time. If, however, a beginning were made at that season, and the trade grows, as I believe it will, cold storage will be provided and a constant supply of beef and mutton kept up, and when this takes place, as there is a large population in Copenhagen and the suburbs, and the Australian beef and mutton, while it is of quite as good quality, can be sold at less money than the Danish, while that on the other hand being offered in the shape of live stock can find a market in Germany and England at considerably higher prices than what would be paid for the Australian meat.

When the trade is fairly established at Copenhagen, a good quantity of frozen meat would be sold to the shipping, and it is thought that a market would also be found for some of it in Sweden at certain seasons of the year.

THE MEAT TRADE IN BERLIN.

Berlin is now one of the largest and finest capitals in Europe. She has numerous public parks, gardens, and recreation grounds, while the streets in the new portion of the city are well laid out and wide, and the buildings, both public and private, are large and handsome. The population of Berlin, with that of Potsdam, and the other suburbs, is said to be more than 2,000,000. She has extensive manufactures in iron, porcelain, furniture, and other lines, which employ great numbers of workmen, and her trade and commerce are large and increasing.

THE MEAT SUPPLY OF BERLIN.

Live Stock.

It is estimated that there are sold weekly in the city of Berlin :—

Fat cattle	3,000
Fat calves	2,600
Sheep and lambs	5,000

Fresh Meat.

Beef	40,000 cwt.
Veal	28,000 "
Mutton and lamb	30,000 "

Berlin's supply of meat from outside comes principally from Denmark, Austria, and Sweden.

It will be gathered from this estimate that the demand for beef is much greater than for mutton in Berlin, and indeed, all over Germany; and it is only in winter that mutton is much used, while beef is eaten all the year round.

THE PRICE OF MEAT IN BERLIN.

Prices during the second week in May last for German-bred beef were :—

Beef.

Wholesale, per 112 lb.

	Marks.	s.	s.
1st quality	54 to 60	=	54 to 60
2nd "	48 to 52	=	48 to 52
3rd "	41 to 45	=	41 to 45
4th "	35 to 38	=	35 to 38

Mutton.

Per 112 lb.

	Marks.	s.	s.
1st quality	58 to 63	=	58 to 63
2nd "	41 to 51	=	41 to 51
3rd "	36 to 40	=	36 to 40

Prices of meat in Berlin in the second week of June last, for German-bred beef were :—

Beef.

Wholesale, per 112 lb.

	Marks.	s.	s.
1st quality	55 to 62	=	55 to 62
2nd "	50 to 54	=	50 to 54
3rd "	44 to 48	=	44 to 48
4th "	36 to 42	=	36 to 42

Retail, per lb.

Steaks	90 pfennige	=	11d. per lb.
Roast	80 "	=	9½d. "
Boiling	60 to 80 "	=	7½ to 9½d. per lb.
Soup	50 "	=	6d. per lb.

Veal.

<i>Veal.</i>						
Wholesale, per 112 lb.						
					Marks.	s. s.
1st quality	...	...	...	...	50 to 63	= 50 to 63
2nd "	...	...	...	...	35 to 48	= 35 to 48
Retail, per lb.						
Leg	...	...	...	...	75 pfennige	= 9d. per lb.
Chest	...	...	...	...	60 "	= 7½d. "
<i>Mutton.</i>						
Wholesale, per 112 lb.						
					Marks.	s. s.
1st quality	...	...	...	...	52 to 58	= 52 to 58
2nd "	...	...	...	...	45 to 50	= 45 to 50
Retail, per lb.						
From	...	...	...	...	60 to 75 pfennige	= 7½d. to 9d. per lb.

Cost at which Australian meat might be laid down in Berlin.

In May last Australian beef and mutton was being supplied to those in the trade in Hamburg, at (say)...	...	...	...	...	...	...	3d. per lb.
Freight from London (say)	...	...	...	...	...	...	0½d. "
Duty and inspection fee at Hamburg	...	...	...	...	...	...	1d. "
Costing in Hamburg (say)	...	...	...	...	...	...	4½d. "
Cartage from steamer to train, and from train to store, and railway freight to Berlin (say)	...	...	...	...	...	...	0½d. "
Costing there	...	...	...	...	...	...	4½d. per lb.

I reached Berlin on the 8th May, and next day I called upon Mr. Schlochauer, of Messrs. Schlochauer & Levy (Asiatische Handels Gesellschaft), general importers, of 1, Monbijou Platz, of that city, whom I met at Chicago, and who had expressed himself as anxious to take up the frozen meat trade, to the introduction of which, as well as that of other Australian produce, he said his firm had been devoting considerable attention; and since I returned I have received a letter from the firm offering to undertake any commissions with which they might be favoured from this Colony.

Mr. Schlochauer took considerable pains to assist me in my inquiries, and among others he introduced me to a produce broker doing a large business in Berlin, who is of opinion that a good trade could be done if a steady supply of meat were received. Mr. Schlochauer also took me to the meat market, where I obtained information in regard to the inspection of Australian meat. Each piece has to be marked as inspected, and a fee of 4d. per quarter for beef and 3d. per sheep is charged.

The meat market is very large and well arranged, and has an excellent cold store apportioned off in compartments with wire netting, which are let to the butchers, each butcher having a lock on his compartment. There are two more markets in other parts of the city on the same principle.

The live-stock market (which, although on the outskirts of the city, is surrounded with buildings), covers a large area of ground, is conveniently situated as regards the railways, is laid out on an excellent plan, and has substantial lofty sheds, with long rows of roomy well paved stalls, while immediately adjoining are the slaughter-houses, which are everything that could be wished for as regards arrangements, convenience, and cleanliness.

I was fortunate in seeing the annual metropolitan exhibition of fat stock, which was then being held in the market. There was a large number of fat cattle, a very large show of fat calves, a poor lot of fat sheep, and a fair show of fat pigs.

The cattle were exhibited in sections according to the part of Germany from which they came, and in each section the type of animal was different, while, as a whole, they were evidently more adapted for the dairy than for beef, but even as milkers—judging them while shown as fat—they seemed, with the exception of the Dutch, the Holstein, and the Shorthorn cross stock, inferior to the British milking breeds. There were a good many which showed the Shorthorn blood, and it was cattle of this cross which were the principal prize-takers as fat stock.

The fat sheep, with the exception of those got by rams of the English breeds, more particularly the Downs out of Merino ewes, which were of fairly good sizes and shapes, were inferior both as regards shape and quality.

The pigs shown were almost entirely of the English breeds, principally the Berkshire and large white Yorkshire, and made a very good show.

I also saw Mr. Silberg, of Messrs. Silberg and Shulter, general merchants, Berlin, to whom I had a letter of introduction from Mr. J. H. Geddes. He had seen this gentleman when he visited Berlin some six months previously, and I found that he had been giving the subject of the introduction of Australian meat a great deal of attention, and had been in constant communication with Mr. Geddes. He told me that his firm had friends in Berlin who were prepared, if a steady supply were sent at a reasonable price, to take up and push the frozen meat trade, and that he would, as soon as he was satisfied on these points, visit London, and make final arrangements with Mr. Geddes. He, however, was of opinion that a very profitable business could not be done until direct shipments to Hamburg were obtained, but he thought that might be secured, as I suggested, by arranging to taking a portion of the cargo to London, and bringing the balance on to Hamburg.

I also called on Mr. Siegfried Wiesenthal, agent for Messrs. W. Weddel & Co., London, who were endeavouring to introduce Australian and New Zealand meat into Berlin, and had requested him to ascertain from the German Government what the regulations were under which the meat could be introduced. As Mr. Wiesenthal's application for this information had been made some weeks previously without his receiving any answer—which, it will be seen, was very essential should be obtained—and as I thought I might be able to expedite the matter through my being in a position to speak to the health of the stock in Australia and the qualifications of the veterinary surgeons who might be called upon to certify to the freedom of the meat from disease, I called at the British Embassy and saw Mr. M. Gosselin, C.B., who

who kindly offered to assist me, and gave me a letter to the British Consul requesting him to put me in the way of obtaining the required information with regard to the introduction of meat into Berlin, and to help me in any other way he could. The Consul, however, was unable to do anything for me with respect to the regulations, but he introduced me to Messrs. G. Dietrich and Son, commission and forwarding agents, Berlin, from whom I received every attention and assistance during my stay in Berlin.

On letting Mr. Gosselin know that I had not succeeded in obtaining information relating to the admission of Australian meat, he kindly sent one of his staff with me to the German Foreign Office, where we were still unsuccessful, but the gentleman whom we saw promised to send copies of the regulations later in the day to the British Embassy. Instead of this, however, a letter was received by Mr. Gosselin stating that there were no regulations so far as the Imperial Government were concerned, and that as each State in the Empire made its own regulations there might be some State, or even municipal regulations affecting the question; they, however, added that they would make the necessary inquiry, and it was arranged that we should call next day and learn the result. On calling, however, we could get no definite information. I then, with Mr. G. Dietrich's assistance, made inquiry at the Police Department where we learned that the police to whom Mr. Weisenthal's application for the admission of the meat, and for information with respect to the regulations had been made in the first instance, had, on account of the large quantity of meat proposed to be introduced, referred the application to the Minister of Cultus (Education), but had up to that time received no instructions with regard to it.

The fact I believe, was, that not long before this application was made on behalf of Mr. Weisenthal, a new tariff was arranged with Russia, under which the duties on Russian produce had been very greatly reduced contrary to the wishes and interests of the Agrarian Party in Germany who bitterly resented the change, and as the admission of Australian meat would have increased the resentment of this party against the Government, they delayed for some weeks giving any answer in regard to the regulations, and at last, after I had left Germany, informed Mr. Weisenthal that the Australian meat could not be admitted at all into Berlin.

This is very unfortunate, for Berlin would be an excellent market notwithstanding the comparatively high duty, nearly 1d. per lb., for meat, as a rule, brings somewhat higher prices in Berlin than in London. I would, therefore, submit for consideration, whether a joint effort should not be made by the Agents General for the Colonies through the British Foreign Office to induce the Prussian Government (with whom I understand the matter rests) to allow the Australian meat to be introduced into Berlin; and if this suggestion be acted upon, it might be pointed out that the introduction of the Australian meat would not come into competition with the German meat, but with other imported or introduced meat for which higher prices are now given than would have to be paid for Australian meat of superior quality, duly certified if necessary by a properly qualified veterinary surgeon, to be free from disease.

I think it only right to state that in the endeavour which I have made to assist Messrs. Weddel & Co., to obtain admission for the Australian meat into Berlin, I had on several occasions to visit the British Embassy, and when I did I always received prompt attention and every assistance from Mr. M. Gosselin, C.B., and his staff; and I may add that this remark applies also to the representatives of the Imperial Government in Denmark, Holland, Belgium, France, and Italy, to whom I was accredited by the Foreign Office, London.

THE MEAT TRADE IN HOLLAND.

THE area of Holland is about one-fourth that of England and Wales, and the population is upwards of 4,500,000. The principal industries are agriculture, fisheries, manufactures, and commerce. The trade with the United Kingdom is extensive, say, £18,000,000 imports and £28,000,000 exports.

The number of cattle in Holland may be put at, say, 1,528,000, the sheep at 752,200, and the pigs at 543,900, while the consumption of animal food (a large proportion of which is smoked meat), is only 57 lb. per head of the population.

Holland imports no cattle, sheep, nor pigs for food, but annually exports some 120,000 cattle, 180,000 sheep, and 270,000 pigs. Of these again, say, 55,000 cattle, 70,000 sheep, and 4,000 pigs go to Belgium; 23,000 cattle, 107,000 sheep, and 200 pigs are exported to Great Britain; and Germany receives from Holland some 3,560 cattle, a very few sheep, and say, 260,000 pigs.

Mutton, either fresh or frozen, may be imported into Holland, free of duty, provided it be accompanied by a certificate of health, and that concession for admission (which is readily granted) has been obtained from the Dutch Government. This concession refers to large packages only, as crates, barrels or loose.

In salted condition mutton may be imported without certificate of health or concession for admission, but it pays a duty of 1 florin = 10d. per cwt., say, ½d. per lb. The same applies to beef, fresh or salted, with the exception of the duty, which is 6 florins per cwt. = 5s. per cwt., say, ½d. per lb. For beef smoked or dried the duty is, say, ½d. per lb. The duty on canned mutton and beef is—

1 lb. }	25 florins per 100 Kilo = £1 0s. 10d. per cwt., or, say, 2½d. per lb.
2 lb. }	
4 lb. }	6 florins per 100 Kilo = 5s. per cwt., or, say, ½d. per lb.
6 lb. }	
14 lb. }	

The prices fat stock were bringing in the Amsterdam market in January last were the following:—

Cattle	from 11d. to 14d. per Kilogram of 2.2	= 5½d. to 6½d. per lb.
Calves	„ 17d. to 19d. „	2.2 = 8d. to 8½d. per lb.
Sheep	„ 10d. to 11d. „	2.2 = 4½d. to 5½d. per lb.
Pigs	„ 7d. to 8d. „	2.2 = 3½d. to 3¾d. per lb.

It will be gathered from what has been stated that there is no great prospect of a market for Australian meat in Holland; but while this is the case, I believe, as the duty is light on beef and nil on mutton, a fair quantity of frozen beef and mutton might be sold if regular direct shipments were obtained to the Continent from Australia and one or more centres of distribution with the necessary cold stores, established at Amsterdam, The Hague, or Rotterdam. A trade could, too, I believe, be done at either of these ports in tinned meat, and perhaps also in salt beef, as considerable quantities of these articles are required for the shipping; and salt beef is also purchased by farmers and other country residents, who retail portions of it to their employees.

THE

THE MEAT TRADE IN BELGIUM.

BELGIUM, with a population of 6,000,000, has not sufficient animal food to supply their requirements. According to the latest available returns, her cattle number 1,382,815 and the sheep 365,400. Her average annual imports are about 99,408 cattle and 284,319 sheep, and the exports (say) 12,900 cattle and 88,404 sheep. This shows that even with her present comparatively low rate of consumption of meat—only about 65 lb. per head of the population—Belgium is some 86,508 cattle and 195,915 sheep short of her requirements. This shortage in cattle is made up principally from the Netherlands, and that in sheep mainly from Germany, but a good many sheep are also received from the Netherlands.

The duty on foreign fresh beef and mutton entering Belgium is five-eighths of a penny; and while the regulations still require that the lungs shall accompany and be attached to the fore-quarter of beef, that portion of the regulation which made the lungs of sheep be also attached to and imported with the sheep has been abrogated, and frozen sheep are admitted on inspection without that needless and harassing regulation.

The wholesale prices of home-bred beef in Belgium are, as a rule, about as high as in England, and the retail price of the best portions of the carcass is, I believe, higher than in England, *i.e.*, 6d. to 7d. per lb. wholesale, and 8d. to 10d. per lb. retail. Mutton, again, sells at a less figure both wholesale and retail than it does in England—say, 5½d. to 6¼d. per lb. wholesale and 7½d. to 9d. per lb. retail.

Considering the price of meat in Holland and also in Germany, from which almost all the stock imported into Belgium come, it will, I think, be seen that if direct shipments could be obtained to Antwerp there is a good opening for Australian meat in Belgium, notwithstanding the duty of five-eighths of a penny per lb., and another one-eighth for inspection fee; that even Australian beef and mutton, purchased in London at (say) 3d. to 3¼d., and landed in Antwerp at (say) 3½d. to 3¾d., would, with (say) five-eighths duty, leave a fair margin for expenses and profit if retailed at something less than the prices now obtained for Belgian, Netherland, or German beef or mutton; and that if direct shipments are obtained, and portions of the cargo left at Antwerp, Amsterdam, and Hamburg, not only will expenses be considerably reduced, but, with the steady supply which will then be maintained at these ports, fresh distributing companies will be formed, and the trade must steadily increase, for, with the low consumption of meat per head of the population in Belgium, there is ample room for a great deal more meat to be sold than is now consumed, and the increase will come with reduced prices.

As to cold storage:—There is now at Antwerp—which would be the port in Belgium to which shipments should, in the first instance be confined—a cold store, with accommodation for 12,000 sheep; and, if the trade required it, this could easily be enlarged to hold 20,000.

In June last I was introduced, through Messrs. W. Weddel & Co., of London, to M. L. Jardine, one of the partners of Messrs. Jules Renand & Co., of that city, Brisbane, Sydney, Melbourne, and Adelaide, at Antwerp, where the International Exhibition had shortly before been opened, and I found that Mr. Jardine, who had been for some time in Australia, was acting as honorary Commissioner at the Exposition for the colonies of South Australia and Queensland, and was taking an active practical interest in the introduction into Belgium of colonial products, more particularly frozen meat. He had, in fact, gone so far as to assist in forming a syndicate, with a capital of £20,000, for the purpose of importing and selling Australian beef and mutton; and it was the intention of the syndicate to commence operations by opening a number of retail shops in Antwerp and some of the other principal towns in Belgium, and when the trade was established they meant to confine themselves to the importing and wholesale branches of the business.

I found also that Mr. Jardine had, on behalf of his firm, made an offer to the Agents-General of the Australian Colonies, to take charge of a joint exhibit of their principal products at the Exposition, but the offer was not entertained; and I think it was unfortunate that something of the kind was not done on an inexpensive scale, either through Messrs. Renand & Co., or in some other way; as this would have been an excellent mode of making our leading Australian products widely known throughout Europe; for almost every country on the Continent was represented at the Exposition. I was so impressed with this fact that I addressed a communication to Sir Saul Samuel, suggesting that a joint exhibit, so far as regards beef, mutton, butter, and colonial wine should still be made in an effective and economical manner. He kindly brought the suggestion under the notice of the Agents-General for the other colonies, but they considered it was too late to take any action in the matter, and allowed the proposal to drop.

THE MEAT TRADE IN FRANCE.

France, with a population of (say) 40,000,000 has not sufficient live stock to supply her people with the meat they require. No census of live stock in France has been published since 1889; but looking back at the returns for previous years they vary very little, and the numbers given for 1889 may be fairly accepted for 1894; they are,—cattle, 13,518,000, and sheep, 21,996,000. Taking an average of years, France imports annually (say) 70,000 cattle and about 1,200,000 sheep, while she exports about 55,000 cattle, and say, 20,000 sheep, showing that she is about 15,000 cattle and 1,189,000 sheep short of her annual requirements.

From the shortage of sheep, however, there falls to be deducted the annual importation from Algiers, which continues for about four months in the year, and amounts to about 900,000; but these Algerian sheep are very light, the best of them not weighing over 30 lb., and, so far as the calculation here attempted is concerned, the 900,000 cannot be put equal to more than (say), 550,000 Australian or New Zealand sheep. Taking, then, the Algerian sheep on that basis, the number of sheep which on an average she is annually short would be say, 580,000.

France receives her principal supply of foreign cattle from Italy, Algeria, and Holland, and her exports of cattle are principally to Switzerland, Germany, and Belgium.

Her shortage of sheep, again, is chiefly supplied by Russia, Germany, and Holland, and the Argentine Republic, and the sheep she exports are principally sent to Switzerland.

At one time a considerable quantity of frozen meat, chiefly mutton, was brought from the Argentine to France by Messrs. Sansinena & Co. and one or two other importers, but the trade has fallen off, mainly through the heavy duty and town dues payable on foreign meat and the stringent veterinary regulations to which allusion is afterwards made; and although frozen mutton is still imported from the Argentine it is so in a comparatively small way.

The annual consumption of meat in France is given at 77 lb. per head of the population. This is considerably more than that of Germany and Belgium, but much less than the consumption per head in the

the United Kingdom, which is 109 lb. There is therefore plenty of room for an increase in the rate per head of consumption, and there is no doubt, but with cheaper meat—which the importation of Australian would give—there would be a considerable increase in the rate of consumption, and a corresponding increase, of course, in the quantity required.

From what has been said, and from the fact also that the French are accustomed to and like merino mutton, it will be gathered that if the frozen mutton could be properly thawed and made more presentable when offered for sale there would be a good market in France for New Zealand and Australian mutton if it were not for the heavy duty, the excessive town dues, and the restrictive veterinary regulations, which require the lungs to be attached to the carcass. Why the lungs of sheep, which in Australia at least are notoriously free from disease, should be required is hard to understand, as is also the regulation calling for the quartering of the sheep.

The following are the duty and town dues payable on mutton imported into Paris :—

Customs duty	...	...	...	...	...	...	...	...	1½d. per lb.
Octroi, or municipal dues	...	...	...	...	...	...	...	...	½d. "
Sanitary inspection fee	...	...	...	...	...	...	...	...	⅓d. "

Say, 2d. per lb.

With the high duty, town dues, and other charges, we would naturally suppose that the price of meat would be very high in France. This is the case, as will be seen from the following statement of the wholesale and retail prices which were current in Paris in July last for first-class home-bred beef, mutton, and pork :—

Wholesale prices.

Beef	...	...	...	...	...	...	...	95c.	=	9½d. per lb.
Mutton	...	...	...	...	...	...	...	95c.	=	9½d. "
Pork	...	...	...	...	...	...	...	92c.	=	8½d. "

Beef—Retail prices.

Rosbif (Roast beef).	{ Faux filet (False filet) }	...	...	...	4fr. per kilo	=	1s. 5¾d. per lb.
	{ Filet (Filet) }	..	...	...	5fr. "	=	1s. 9¼d. "
Pot-au-feu (Boiling beef).	{ Gete (Quarter, Kernel) }	...	...	...	2fr. 20c. "	=	9½d. "
	{ Paleros (Shoulder) }	...	...	...	2fr. "	=	8¼d. "
	{ Cotes de bœuf (Ribs of beef) }	...	...	...	2fr. 80c. "	=	1s. 0¼d. "
	{ Entre cotes (Middle rib) }	...	...	...	3fr. 40c. "	=	1s. 2¼d. "
	{ Romsteck (Rump steak) }	...	...	...	3fr. 60c. "	=	1s. 3½d. "

Mutton—Retail prices.

Gigot (Leg of mutton)	} ...	...	...	...	2fr. 80c. per kilo	=	1s. 0¼d. per lb.
Selle (Saddle)	} ..	...	...	...	2fr. 60c. "	=	11½d. "
Epaule (Shoulder)	}	2fr. "	=	8¾d. "
Cotes (Ribs, &c.)	{	90c.
	{	70c.
	{	60c.

Pork—Retail price.

Average	1fr. 40c.	=	1s. 1½d. per lb.
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Even with the high duty, town dues, and other expenses, there would apparently be a sufficient margin of profit to lead to the opening of a trade with France in frozen mutton; but when we come to consider the way in which the trade in meat and other produce brought from places outside of France is done and the difficulties foreigners meet with in carrying on business of that nature there, it is questionable if the margin of profit be sufficiently wide to admit of a successful trade being done in Australian meat. If, however, the regulations in regard to foreign meat, to which allusion has been made, were such as would allow the best portions of first-class beef and mutton to be introduced, then perhaps a limited business might be done, and I understand that some shippers mean to make an attempt in that way if the necessary alterations in the regulations could be brought about.

I would, therefore, suggest that the Agents-General for the Colonies should, as I recommended in regard to an alteration in the regulations now in force in Germany, communicate with the French Government through the Foreign Office, London, and ascertain whether, if the stock, from which meat intended to be imported into France was to be taken, were, immediately before and after they were slaughtered, examined by a veterinary surgeon holding the diploma of the Royal College of Veterinary Surgeons, London, and certified by him to be free from disease, the French Government would dispense with the regulation which requires that the lungs of the cattle and sheep should come attached to the carcass, and allow the meat to be landed on the production of the inspecting veterinary surgeon's certificate to the above effect, if it be found by the officer examining it at the port of arrival to be sound; and failing this inspection and certificate by a British veterinary surgeon being considered sufficient, whether those of a duly qualified French veterinary surgeon employed by the Government of the Colony would be satisfactory and received in lieu of the regulation referred to. The meat would, of course, bear an indelible brand or mark to be referred to in either certificate.

ALEX. BRUCE,

Chief Inspector Stock.

Sydney, 8th March, 1895.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

THE FROZEN MEAT TRADE IN THE COLONIES AND
IN GREAT BRITAIN.

(REPORT OF THE CHIEF INSPECTOR OF STOCK ON.)

Ordered by the Legislative Assembly to be printed, 6 December, 1894.

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THE FROZEN MEAT TRADE, AS CONDUCTED IN THE COLONIES AND IN GREAT BRITAIN.

I.—The loss to the Colony through not breeding Cross-breds.

ALTHOUGH it may not perhaps be the order in which it was expected that the information I obtained while in Great Britain and on the Continent with regard to the meat trade would be given, I think it is best to state what I have to report in the order in which the different stages of the trade actually occur. That, after all, is the most natural course to take, for if a mistake be committed at the commencement of an undertaking, or if the grounds on which it rests are not sound, the undertaking may thereby be completely ruined, or, if the effect be not so very disastrous, it may still be very seriously crippled.

Now this is what has taken place through our not being in a position to export the right sort of mutton. If we had been so, instead of the poor prices we have as a rule been receiving, and the losses we have been sustaining by exporting merino mutton, our shippers would have been receiving good prices and making fair profits. To carry out the trade in this way successfully, two things are essentially necessary, and these are within our reach, *i.e.*, country suitable as regards the climate and soil, and first-class cross-bred sheep.

I have already, in my report of 1st February, 1893, on stock breeding and fattening in New Zealand, described the class of country suitable for that purpose as well as the crops which should be grown to supplement the pasture; and I also, in that report, indicated some of the portions of this Colony in which I considered the New Zealand system should be adopted. But as further information has been obtained with regard to the capability of some of the land in New South Wales for growing crops, which can be turned to account in the breeding and fattening sheep of the English mutton breeds and crosses of these breeds and the merino, and as I have, while in America and Great Britain, obtained additional information with respect to the different sorts of English sheep and their suitability for crossing with our merinos, I will here deal, and I will do so as shortly as possible, with these two subjects.

II.—The portions of the Colony suitable for Cross-bred Sheep.

When the report referred to was written there was no certainty that turnips could be grown, as has been demonstrated by the Department, in country where the climate was even much more temperate than that of Wagga Wagga. This has now been done by the experiment so successfully carried out by Mr. Superintendent Coleman at the Experimental Farm there, which proves that this, the most valuable of all the green crops, can be grown in a very much wider area of country than was at all supposed, thereby demonstrating to pastoralists and farmers that in at least one-fourth of the Colony they can if they choose—like the farmers in New Zealand—adopt a rotation of crops, under which they can not only breed and fatten at very early ages prime fat cross-breds and first-class lambs suitable for freezing and export, but they will be able also to keep their land in heart and save ruining it by overcropping without manuring, as the sheep in eating off the turnips will manure the land. The fact here demonstrated by the Department is of the very highest importance to our pastoralists and farmers in the eastern and more temperate portions of the Colony, and especially to those whose holdings are comparatively small, who are now keeping sheep and are combining sheep-farming with tillage. They have in most cases a good deal of land under cultivation, and they have now only to obtain the right class of English sheep and adopt the system so successfully carried out by the New Zealand farmers in breeding cross-breds for export. Like them, too, our selectors and farmers, as they are in an excellent position to supply the ewes and lambs with cultivated food, should devote their attention to breeding and fattening lambs for the London and other home markets, as this, when properly attended to, is one of the best paying branches of the business. Of course turnips may not be such a success on some holdings as at Wagga Wagga, but there are other green crops which can be grown, such as dunn oats, rape, mangolds, &c.; and as wheat, oats, and maize are now very cheap, it will pay the grower better to consume them on the farm in feeding pigs and sheep than to dispose of them in the market.

Even although none of the crops mentioned might be adapted for some holdings, there is no question but their owners, if they made up their minds to adopt the system here suggested, would be able to find some description of crop which, with grain of either of the sorts mentioned, would supplement the pasture and enable them to finish off their cross-breds in prime condition; and as there is, as I afterwards show, a difference of about 1d. per lb. between the price of cross-breds and merinos in the London and other home markets, which amounts to some 8s. per sheep, there is surely sufficient inducement for our pastoralists, selectors, and farmers, but especially for our selectors and farmers to breed and fatten cross-breds, seeing that course enables them, while obtaining high prices for their sheep, to adopt and follow a systematic rotation and maintain the fertility of their land.

III.—The best Breeds of Sheep for Export.

1. DESCRIPTION OF CROSS-BRED AND MERINO AS THEY APPEAR IN THE SMITHFIELD MARKET.

A perfect frozen sheep for the Smithfield market should weigh from 55 to 60 lb. It should be round on the shoulder, rather short and broad in the back and loin, with both fore and back ribs well sprung, and little or no hollow between the last rib and the hip.

hip. It should be short on the leg, and the jigget or hind leg should be plump and full right down nearly to the hock. Its outward appearance should be bright and full of bloom, and along the back and loin should have but a thin coating of fat, and the saddle, when cut off and turned up, should show a large share of red mutton and comparatively little fat.

The merino wether sheep again, of (say) 50 lb., an average weight, is, as compared with the cross-bred, long in the body, sharp on the shoulder, and looks narrow on the back and loin, and is not well ribbed home, and, as a consequence, falls in between the back ribs and the hip. It is long on the leg and wanting in fullness in the jigget. When over the weight mentioned, the merino has usually too much fat and too little red meat, and not unfrequently the carcass, especially on the thighs and legs, is dark in colour.

2. INSTEAD OF MERINOS NOW EXPORTED, CROSS-BREDS OUGHT TO BE BRED AND SHIPPED.

If we are to study, as we ought to do, the taste of the people in the countries to which we ship our frozen mutton, there is no question but the cross-bred sheep are much better for export than the merino. No doubt the merino mutton, when obtained in prime condition, and not wasted nor deteriorated, is very sweet and nice; but it is comparatively delicate, and its appearance and flavour are easily spoiled. This is what has, in most cases, been done through the cruel and wasteful way in which the sheep at any great distance from market have been treated, and the mutton has not sold at such good prices as it might otherwise have brought. The result has been that our merino mutton has been generally sold at about 1d. per lb. less than the New Zealand cross-breeds. Besides this its lightness and thinness, as compared with English and Scotch mutton and New Zealand cross-breeds, is much against it when put on the table, and especially when it comes up in the shape of cold mutton, and it is spoken of as anything but economical. This is very unfair, for taking into account the price paid for Australian and for English and Scotch mutton, the Australian is much more economical. But that is forgotten, and those who are continually running down our mutton take every care that any objections which may have been taken to it are not forgotten, while its cheapness is allowed to be overlooked.

Our sheep breeders, therefore, should as speedily as possible breed at least as many cross-breeds as are required for exportation. This, again, should not take very long, as the production of (say) a million and a half would—for a year or two, until more provision is made for freezing—meet our requirements, and by the end of the third year from now the whole of the four millions surplus of fat sheep which we have for export could be cross-breeds, and might be frozen and exported, while the balance of our cast of fat sheep, which would consist of merinos, could be partly consumed in this and the neighbouring colonies, where, if the merino mutton is not preferred to cross-bred, it is at least as well liked, and partly tinned and boiled down.

3. HOW FAR OWNERS OUGHT TO GO IN PRODUCING CROSS-BREDS.

While, however, it is evident that the sheep which are frozen and exported ought to be cross-breeds, it will be for our sheep breeders in the country adapted for cross-breeding to consider whether they should go beyond the number required for export, and if so, to what extent; for while it is comparatively easy to change from merinos to cross-breeds, it would be a tedious and difficult matter, unless the whole of the sheep are cleared off the run, to bring them back—after having used the English rams freely among the flocks—to the true merino type.

To arrive at a sound conclusion on this point, several important questions will have to be considered, and amongst others:—

- (1.) How far are other wool-growing countries and colonies going, and likely to go, into cross-breeding?
- (2.) What the prospects are of merino wool, more especially of the finer descriptions, advancing in price.

(1.) *What description of Sheep are the wool-growing countries which send Wool and Mutton to the British and Continental Markets breeding and likely to breed.*

While I am not in a position to say with any degree of certainty that the answers I give to this question are even approximately correct, I have been able to glean such information with regard to the countries from which it is likely that either mutton or wool of either merinos or cross-breeds will be sent to the British and Continental markets as will, I think, put our sheep breeders, whose country is at all adapted for cross-breeds, in a position to form a much better idea than they can now do on the question, and will assist them in making up their minds whether or not they will introduce rams of any of the British breeds into their merino flocks, and, if so, how far it will be safe for them to go in that direction.

In the United States of America, with some 45,000,000 sheep, the farmers and pastoralists have, as I have shown in the portion of my report which relates more particularly to that country, gone very largely into cross-breeding; and I have there estimated that, say, 40 per cent. of the entire number are either sheep of one or other of the English mutton breeds or crosses with more or less of the blood of these English sheep; and it is my opinion that in the course of a few years the English and cross-breeds will outnumber the merinos and merino grades which now form the majority of the sheep in the States.

In Canada, with 3,000,000 sheep, there are few or no merinos, and the cross-breds to be met with there are in no great numbers, and what there are have been principally bred in and brought from the United States.

In the Argentine Republic again, Mr. Herbert Gibson, in his history and present state of the sheep industry in that country, of 1893, says that it owns from 78,000,000 to 85,000,000 sheep and has room for as many more. Of the sheep now in that country he says that one-half of the whole number are crosses with the English Lincoln and Leicester breeds, and that, judging from the continued and still increasing demand for Lincoln rams, it may be presaged that in another four or five years the pure merino sheep left in the Argentine will be a very small fraction of the whole; while, he adds, the years 1888 and 1893 are witnessing the conversions of 50,000,000 sheep from the one type to another, a conversion perhaps without a parallel in the annals of sheep-breeding. According to him the Lincoln is unquestionably the most popular of all the English breeds in Argentine; and the reasons he assigns for the extraordinary conversions alluded to are (1) that the Lincoln crosses are hardier and less liable to diseases, such as foot-rot and worms, than the merino; (2) that the Lincoln crosses bring very much better prices as freezers than the merino; and that the price of fine merino wool fell heavily, while the Lincoln and cross-breds maintained their value, or very nearly did so.

In Uruguay, which adjoins Argentine and owns some 15,000,000 sheep—which are almost wholly merinos—there are few or no English sheep. There is, however, little doubt but that when the breeders in Uruguay come to know that cross-breds are doing so well in Argentine, they will also introduce the English mutton sheep.

In the Falkland Islands there are some 800,000 sheep, all, or nearly all, of which are said to be Cheviots or Cheviot crosses. Their cast, which is a comparatively large one, is frozen and exported to London. It is said that the Islands are nearly fully stocked.

In South Africa, where there are some 25,000,000 sheep, there are very few of the English mutton type, and it is not likely that cross-breeding will be followed in that Colony to any great extent.

In Western Australia, where there are some 2,000,000 sheep, few or no English sheep or their crosses are kept.

In South Australia, with say 7,000,000 sheep, the portion of which can be classed as English and sheep with English blood is comparatively small—say one-thirtieth part of the whole. Crossing is increasing, but it is not likely that for some considerable time at least there will be many cross-breds to export from that Colony.

In Victoria, where there are some 14,000,000 sheep, there are considerable numbers of the English breeds (principally the Lincoln and their crosses)—say one-third of the whole—and the number is steadily increasing.

In New South Wales, where there are say 57,000,000 sheep, the returns show that there are 2,436,429 sheep of the English mutton breeds or their crosses. Our owners are in numerous cases introducing English rams; and the latest returns show that while there was a decrease of over a million in the total number of sheep in the Colony in 1893, the English breeds and cross increased by 726,000.

In Queensland, with some 22,000,000 sheep, there are very few English sheep or their crosses, perhaps not more than one-seventieth of the whole; but it is to be expected that crossing will be adopted in that Colony wherever the country is suitable, and that the export of frozen cross-breds will, in course of time, be a considerable one.

In New Zealand, where the sheep number (say) 20,000,000, two-thirds of them at least are of some of the English breeds or crosses of these breeds; and I believe the change to cross-breds will continue, although to a less extent than heretofore.

On the understanding already stated that my estimates are to be considered as of doubtful accuracy, I will now set out in figures what I have just stated with regard to the relative numbers of the two sorts of sheep in those countries in which there have been, or likely to be, sheep of any of the English breeds or their crosses, and from which mutton or wool from such sheep is likely to be exported to London or to the Continent of Europe.

(2.) *Estimated Increase of Cross-breds in all parts of the World.*

Country.	Total No. of Sheep.	Estimated No. of English and Crosses.	Will crossing increase during next 5 years?		Estimated No. 5 years hence of Crosses, &c.
			Yes or No.	Extent of Increase.	
The United States	45,000,000	20,000,000	Yes ...	5,000,000	25,000,000
Mexico	2,000,000	Nil.	No .....	.....	Nil.
Canada	3,000,000	3,000,000	Yes ...	500,000	3,500,000
Argentina	81,500,000	40,750,000	Yes ...	20,000,000	60,000,000
Uruguay	15,000,000	Nil.	Yes ...	300,000	300,000
Chili	2,500,000	Nil.	No .....	.....	Nil.
Falkland Islands	800,000	800,000	Yes ...	100,000	900,000
Cape Colony, &c.	25,050,000	200,000	Yes ...	300,000	500,000
Western Australia	2,000,000	Nil.	No .....	.....	.....
South Australia	7,000,000	230,000	Yes ...	600,000	830,000
Victoria	14,000,000	4,660,000	Yes ...	2,340,000	7,100,000
New South Wales	57,000,000	2,500,000	Yes ...	5,500,000	8,000,000
Queensland	22,000,000	500,000	Yes ...	800,000	1,300,000
Tasmania	2,000,000	200,000	Yes ...	200,000	400,000
New Zealand	20,000,000	12,500,000	Yes ...	2,000,000	14,500,000
	298,800,000	85,340,000		37,640,000	122,030,000

I have had but few thoroughly reliable data to compile the foregoing statement from, but if the matter is looked into and the information available duly considered the conclusion arrived at will, I think, be that my estimate of the probable increase of cross-bred sheep which is likely to affect the British and Continental markets during the next five years is rather under than over the mark; for the difference in the return from the cross-bred compared with the merino, where the country, climate, and circumstances are suitable for the cross-bred, is simply enormous; about twice as much as from the merino—nor could it be otherwise, considering the early maturity of the cross-breds, their heavier weights, more saleable mutton, higher prices, and the telling superiority of the cross-bred lambs.

All these facts are, of course, well known to the majority of our sheep-owners. But in order that they may be still more deeply impressed with the advantages of the cross-breds, and be able also to form clear ideas with respect to the relative value of the different kinds of British sheep for breeding cross-breds—a subject which I afterwards touch upon—I give the following comparative statement of what I believe to be the present average London prices of the wool and mutton of the different cross-breds there mentioned, and of the merino.

(3.) *Statement of the average prices made in London by the wool and mutton of prime fat wethers twenty to twenty-two months old, got by English rams of the breeds mentioned and out of merino ewes, compared with those of merino wethers:—*

	lb.	d.	£	s.	d.	£	s.	d.
1. Lincoln Cross—								
Wool	9	@ 8	=	0	6	0		
Mutton	63	@ 3 $\frac{3}{4}$	=	0	19	8 $\frac{1}{2}$		
							1	5 8 $\frac{1}{2}$
4. English Leicester Ewes—								
Wool	8	@ 8	=	0	5	4		
Mutton	58	@ 3 $\frac{3}{4}$	=	0	18	1 $\frac{1}{2}$		
							1	3 5 $\frac{1}{2}$
5. Border Leicester Cross—								
Wool	7 $\frac{1}{2}$	@ 7 $\frac{3}{4}$	=	0	4	10		
Mutton	60	@ 4	=	1	0	0		
							1	4 10
6. Romney Marsh Cross—								
Wool	7	@ 8	=	0	4	8		
Mutton	60	@ 3 $\frac{3}{4}$	=	0	18	9		
							1	3 5
2. Shropshire Cross—								
Wool	7 $\frac{1}{2}$	@ 9	=	0	5	7 $\frac{1}{2}$		
Mutton	57	@ 4 $\frac{1}{4}$	=	1	0	2 $\frac{1}{4}$		
							1	5 9 $\frac{3}{4}$
3. South Down Cross—								
Wool	5	@ 9	=	0	3	9		
Mutton	55	@ 4 $\frac{3}{4}$	=	1	0	0 $\frac{1}{2}$		
							1	3 9 $\frac{1}{2}$
7. Merino—								
Wool	6	@ 7 $\frac{1}{2}$	=	0	3	9		
Mutton	50	@ 2 $\frac{3}{4}$	=	0	11	5 $\frac{1}{2}$		
							0	15 2 $\frac{1}{2}$

The above tabulated estimate shows a difference in the returns from the cross-breds and merinos of more than 9s. 3 $\frac{1}{2}$ d. per sheep in favour of the cross-breds. Nor is this all. When there is anything like a heavy fall in the price of frozen mutton it is as a rule, the second class and inferior descriptions which suffer most; and we find that, while in the recent glutted state of the frozen meat market in England prime New South Wales merino mutton was selling at 2 $\frac{3}{4}$ d., ordinary Queensland was only bringing 1 $\frac{3}{4}$ d., and inferior, of course, less, neither of the latter paying the expense of preparing, sending home, and getting returns (say, 2d. per lb.), to say nothing of giving the breeder of the sheep any return.

Of course where cultivated food is required for the cross-bred sheep the additional expense has to be kept in view in comparing the returns from the two classes of sheep; but I do not think that the whole, or even the greater, of this should be debited against the cross-breds, for they consume this food principally, if not wholly, on the land on which the crops are grown, and its fertility is thus renewed, while a rotation is secured which could not otherwise have been obtained.

It would not pay to adopt the same mode of management with merinos, as they are wanting both in early maturity and outcome.

IV.—What the Prospects are of Higher Prices for Merino Wool and Mutton.

1. AS TO IMPROVED RETURNS FROM THE MERINO WOOL.

There is a prospect that the fashions will change before long, that large supplies of the better sorts of merino wool will be required in the United States now that the tariff is settled and the duty on wool removed, and that the price will rise. It is to be expected that when the woollen manufacturers in the States, who now make the finer fabrics, get their arrangements completed for dealing with an enlarged supply, and the new mills which are certain to be established there to take up that branch of the woollen trade are

are erected and at work, there will be a large increase in the demand for the finer merino wools for America, which it is hoped will lead to a substantial rise in the price of these wools; for with the sheep-breeders in so many parts of the world taking to the breeding of cross-bred sheep, there ought to be a further advance, even supposing the expected change in the fashions does not for some time take place. When, however, it does the rise in the price of the better sorts, should the fashion run as it not unfrequently does from one extreme to another, will be large. But after all the rise in wool must be a very large one to go any great length in making up the difference in the return made by the cross-bred compared with that from the merino. A rise of even 3d. per lb. in the price of the best merino wools (which is not very likely to occur) would only come to, say, 1s. 6d., while the amount by which the return of the cross-bred would exceed that of the merino would be at least 8s. 4½d., made up of 8 lb. 5 oz. more mutton at 3½d. per lb., and 1½d. per lb. more on 58 lb. of mutton, which still leaves the cross-bred 6s. 10½d. better than the merino.

2. AS TO IMPROVED RETURNS FROM THE MERINO FROZEN MUTTON.

These, I think, may fairly be expected on the following grounds:—

- (a) Now that so many of the old ewes and other inferior sheep have been boiled down, and ample room made for fattening the wethers, maiden ewes, and other marketable sheep, there will be a full supply of prime sheep, and prime sheep will, as a rule, pay if properly prepared for shipment.
- (b) The number of up country killing and chilling places is extending, and under that system both the appearance and quality of the mutton is improved, which must bring it into greater favour at home.
- (c) Now that exporters have learnt by dearly bought experience, that it is courting trouble and loss to ship anything but first quality, greater care will be taken in the selection of sheep for freezing and export.
- (d) Freight and expenses will be lowered.
- (e) It is believed that under a proper system (which I will afterwards explain at length under the heading of freezing and export) of turning each portion of the sheep (within certain limits) to the best and most profitable use, *i.e.*, freezing one portion, tinning another, boiling down another, and utilising every bit of the offal, a much better net return will be obtained for the whole sheep, and especially that the heavy expense of freezing, freight, storage, and commission, &c., at home (now amounting to 2d. per lb.) will not be incurred on portions of the sheep which do not pay even these expenses, much less give any return to the shipper.
- (f) While a steady supply of frozen mutton will be despatched, very heavy shipments will only be made at the right season of the year—(say) between October and March.
- (g) Better arrangements will be made for its distribution and sale, and the appearance of the mutton will be greatly improved by the new system of thawing, and better prices will be obtained.

I would, therefore, advise those owners whose sheep are merinos, and who are in doubt whether they should introduce British rams into their flocks, especially if there is any question as to whether their country and climate are adapted for cross-breds, to consider what has been here said in regard to the expected improvement in the returns from merino sheep before making up their minds; and if, after giving the matter full consideration, they should still have doubts on the subject, they might, as I understand some breeders intend doing, put British rams to their old ewes for the last crop of lambs, and fatten off the greater part of the "drop," ewes as well as wethers, but reserving a few of the best of the cross-bred ewes for breeding, and follow this course until they see how the introduction of the British rams answers. In this way their merino flocks would be maintained until the owners are satisfied or otherwise with the result of the experiment.

In the selection of mutton, buyers in the Smithfield and other Home markets have a good deal to say about the shapes of the sheep; and, as I have already explained, they raise great objection to the comparatively high, thin shoulder, narrow frame, and light leg of the merino; and although there has as yet been no move in that direction, I think an effort should be made, now that mutton has to be so much depended upon, as well as wool, in obtaining a paying return from sheep, to alter the shape of the sheep so that the mutton will bring better prices and be also more saleable. This can be done to a considerable extent by selecting sheep for breeding short on the leg, comparatively round on the top of the shoulder, with well-sprung ribs, broad backs and loins, and as large and robust as is compatible with their carrying good heavy fleeces of high-priced wool. With these improvements in the shape of the merino, coupled with a better mode of placing the merino mutton on the market and disposing of it, a considerable portion of the difference in price between that of the cross-bred will, it is believed, be got rid of.

V.—The best British Sheep for crossing with the Merino.

While at home I took every opportunity of making myself acquainted with the characteristics and qualities of the different breeds of British sheep and the suitability for crossing with the merino, with the view to ascertain how far the conclusions arrived at in my report of 1st March, 1893, on the New Zealand system of breeding and fattening sheep for export, was correct; and I found they were so in the main. Still, there are several cases in which I am now led, from the information I have since obtained, to alter my views as regards the relative position of some of the breeds; and I will state very briefly how I now think they stand in this respect. 1.

1. THE LINCOLN CROSS.

If the land on a holding is very good and well watered (sufficient water is an essential requisite where cross-breeds are to be kept) and the pasture rich, or where the pasture is fairly good and the owner can supplement it with cultivated food, he might begin by putting well-bred Lincoln rams with good frames and fleeces to his merino ewes. Acting in this way, his young sheep would clip fleeces of first-class wool, heavier by $1\frac{1}{2}$ lb. than any other cross-breeds; and they would at eighteen or twenty months, if well cared for, give a dressed carcass of 60 lb. to 63 lb. of good saleable mutton, though not, perhaps, of the same high quality as that of the Shropshire cross. Then, again, by using the Lincoln ram for the first cross; the ewe portion of the "drop" would, through being comparatively large and roomy, make excellent mothers for the next cross, which should, I think, be got by putting Shropshire rams to these Lincoln cross ewes, and the result would be first-class cross-breeds for export, which the owner could dispose of either as lambs or as fat sheep, according as he considered best, while the ewe, so long as she was breeding, would give a good return also in wool,—clipping, as she would a heavy, saleable fleece. In short, although in the export trade the quality of the mutton may be said to be the most important consideration, still it would be advantageous to overlook quality of mutton to some slight extent in order to have a ewe to breed from with a good paying fleece, the difficulty being to find a sheep which is very good in respect to both mutton and fleece.

If, again, the land is not of the best description, or the grass not very fattening, or if a sufficient supply of cultivated food cannot be obtained for the sheep, then the owner instead of using Lincoln rams for his merino ewes could try the Shropshire or English Leicester or even the Border Leicester, taking them as to preference in the order in which they here stand, as the crosses of either of these breeds with the merino would thrive well, not only on the best land and with cultivated food, but would do so also on second or third rate land and a moderate supply of cultivated food, which the well-bred Lincoln would not do.

2. THE SHROPSHIRE CROSS.

For the production of prime fat lambs from merino ewes there is no better ram, if there be as good, as the Shropshire, and the result is equally favourable where that ram is put to cross-bred ewes. In fact, it is hard to say which of these two sets of lambs show the better returns, for while the quality of the merino and Shropshire lambs may be rather better than the others, they again would have the advantage in weight and early maturity—the quality in both cases being excellent.

The weak point in the Shropshire as compared with the Lincoln or English Leicester, so far as our experience of the breed in the Colonies has gone, is the lightness of the fleece, which of course does not to any great extent, if at all, affect the lambs, but it does affect the mature sheep. We have, however, as yet scarcely had sufficient experience of the Shropshire sheep in crossing, and from the information I obtained while in England, and the sheep I saw there, I am led to believe that the breeders of Shropshire stud sheep have, during the last ten or fifteen years, been giving very much more attention to the weight and quality of the fleece than they formerly did; and the Shropshire sheep, which are now taking first places at the principal Agricultural Shows in England, are remarkably well clad for mutton sheep, and the wool is bright, comparatively soft, and of fair length. And while the Shropshires, which were introduced into the Colonies some twenty years back, may be largely defective as regards quantity and quality of wool, these defects do not now exist in the best flocks of the breed to anything like the same extent as they once did. We may, therefore, expect from the value the judges at the leading shows in England now set on these points, that still farther improvement will be made in the same direction.

Then as regards wethers of this cross, they may be somewhat longer than those of the other crosses, such as the Lincoln and English Leicester, in reaching the best selling weight, and if sold within the same time would be lighter, but this cross, the Shropshire, would be superior in shape and quality and would bring proportionately higher prices, while they would, notwithstanding that their wool brought less money, give quite as good a return for the food they consumed as any of the other crosses. The Shropshire and merino cross is by far the most popular in the United States, and I believe it bids fair to be so also in these Colonies where cross-breeding on good sound land is taken up.

3. THE SOUTH DOWN AND MERINO CROSS.

With respect to this cross again, from what I saw in England, and from the extreme value set on prime quality of mutton like the South Down, and the consequent great difference there is in the price of the mutton, through only a slight difference in the quality, I now think that, in my previous report on the breeding of sheep in New Zealand, I underrated the advantages of this breed to a considerable extent; for the South Down is a perfect mutton sheep, and notwithstanding the poor return it gives in the shape of wool, its qualities as a mutton producer are so very high as to make up to a very large extent for the lightness of its fleece. Although, therefore, the Shropshire, through being almost as strong in quality of mutton and much better as regards wool, is now considered the preferable breed for using with the greater part of the ewes of the first cross, I believe South Down rams would, in the case of the Lincoln and Romney Marsh first cross ewes, not unfrequently prove as successful, more particularly for the production of fat lambs for export, inasmuch as the South Down has, like the Shropshire of recent years, been greatly improved as regards weight of fleece; and owners should, before making up their minds in regard to this cross, not do so without seeing some of the recently imported South Down sheep.

4. THE ENGLISH LEICESTER AND MERINO CROSS.

Although the mutton of this cross is, perhaps, not quite equal to that of the Border Leicester and merino in appearance and quality, and is still farther from being as good in these respects as the Shropshire cross, it makes a very compact, round-shouldered, broad-backed, well-shaped carcass of saleable mutton, which, when in prime condition, commands a ready sale at a fair price, notwithstanding that it has rather too much fat and too little red meat. This cross has also the recommendation that it carries for its size a heavy fleece of very saleable wool, and the ewes of the cross, like the Lincoln for that reason, make excellent breeders for the next cross, say with a Shropshire ram. As already noticed, it is of considerable importance that the breeding ewes should be "well clad," not only on account of the good return they would in that case themselves give in the shape of wool, but also to ensure a good clip from their progeny.

5. THE BORDER LEICESTER AND MERINO CROSS.

From what I have learned while in England, I now consider that in my report (already alluded to) on the breeding of stock in New Zealand I placed this cross in a higher relative position than that to which it is entitled. It was there placed at the head of the British sheep for crossing purposes; and I would now, where the country and circumstances are favourable, put the Lincoln and Shropshire crosses ahead of the Border Leicester, as the quality of the mutton of that cross is not so good as I then thought, and the loss of weight of wool with repeated use of Border Leicester rams is greater than I calculated upon. At the same time, from what I heard of the breed, I believe that this cross will make fair saleable mutton, and that the sheep will be hardy, and are excellent foragers. Their length of leg, breadth of chest, broad loins, and general appearance confirm this; and the fact should be a good recommendation for their use where the country for which British rams are required is rough or the grass comparatively thin.

6. THE ROMNEY MARSH AND MERINO CROSS.

Notwithstanding that the Romney Marsh sheep clip good fleeces, make very fair mutton, and the ewes are excellent mothers, while the breed is noted for freedom from fluke and foot-rot, I do not now, from what I saw of it in England, hold quite such a good opinion of the breed for general use as I did when I saw these sheep in New Zealand; and I am inclined to think, after seeing them in their native county and at the Canterbury and Royal English shows, that some of the progenitors of those to which my attention was called in New Zealand had been improved by the introduction of English Leicester blood—a system of breeding which the owners of Romney Marsh stud flocks in England acknowledge was at one time not unfrequently resorted to. My reason for taking this view is that the rams which took the highest positions at the Canterbury and Royal English shows were high on the leg, very coarse in the bone, rather loosely built, and flat in the ribs. I would not, therefore, recommend the use of this breed for crossing where the country is sound and the risk of fluke or foot-rot small. But where the land is unsound, and there is such a risk, the rams of the Romney Marsh breed should be freely used, and the stronger and more robust sheep of the breed could be selected for the worst description of country.

7. THE HAMPSHIRE AND OXFORD DOWNS.

These are excellent sheep; but, like the Cotswold and Wonsleydale, they are too large to mate safely with a sheep so small as the merino; and this objection as to size applies also in regard to the comparatively poor provision we could make for their food. We could not always obtain rich succulent pasture or a full supply of cultivated food for such sheep.

THE EXPORT MEAT TRADE IN AUSTRALIA.

Having dealt with that portion of my report which relates to the most suitable country for breeding and fattening sheep for export, and the best breed of sheep for that purpose, as well as the crops which sheep-owners should grow for supplementing the natural pastures, I will now consider the steps necessary to be taken in order to prepare the meat for export and to place it in first-class condition on the markets of the world; and in doing so I believe the best course for me to take will be to set out in detail what action I think should be taken for the establishment of the meat export trade on a satisfactory basis, from the time that the first step is taken in the initiation of the trade until the meat finds its way to the consumer. To that end, therefore, I would make the following recommendations:—

I.—Joint Stock Meat Export Companies.

1. THE REASONS WHY THEY SHOULD BE FORMED.

To prepare our meat for export and place it in the best possible condition on the market, it is necessary that strong joint stock companies should be formed with ample capital, with the view to the erection of extensive and thoroughly efficient chilling, freezing, tinning, and boiling-down works, the favourable arrangement with the owners of ocean-going steamers with respect to freight, the providing of the necessary cold storage in the countries to which the meat is sent, the proper arrangements for the distribution and sale of the meat there, and the appointment of reliable and capable agents to carry out these arrangements, to keep the management in the Colonies thoroughly apprised of the state of the trade, and to find fresh markets; and I would recommend

that our graziers and farmers, as well as those who are at all closely connected in business with them, join some of the existing meat companies, or take a substantial interest in any which may be in the course of formation, for there cannot be any question, considering the circumstances in which our graziers and farmers are now placed, and the importance and urgency of the matter, but that they should at once act on this recommendation.

2. THE CAPITAL REQUIRED FOR THE BUSINESS WOULD BE LARGE.

If we are to compete successfully with the live-stock and meat trade of North and South America, but more especially with those in the trade of the United States, it is absolutely necessary that our chilling, freezing, tinning, salting, and boiling works should be amply sufficient to do the work—that they should be provided with all the most approved machinery and appliances, and that they should be conducted with the greatest efficiency and energy,—while the companies doing the trade should not only have sufficient capital to carry it on in the Colonies, but also to follow and protect the meat placed in their charge in the countries to which it is exported till it can be disposed of to best advantage.

All this will entail a large outlay, and that again calls for a large amount of capital. And it is here that the United States have had so great advantage over the Colonies. There, if an undertaking connected with stock has a fair prospect of paying, a speculative company can very quickly be formed, and the required capital subscribed. Hitherto it has been different in this Colony. Since the formation of the Sydney Meat Preserving Company,—which is allowed on all hands to have prevented our live stock sales from collapsing, and which took place some twenty-four years ago,—enterprise among our stock-owners as a class has been all but dead. Effort after effort was made by a few graziers and others connected with the pastoral interests to form meat export companies without success, until comparatively lately, when a few up-country killing and chilling places were established, and the freezing and export works of Messrs. J. H. Geddes & Co., the Pastoral Finance Association, were erected. But now things have arrived at that pitch that a change in this respect must take place; and if the present excessively low prices of stock are not to be allowed to continue proper works will have to be constructed, and an export trade established on a sufficiently large scale to give our owners full relief. To bring this about the required capital must be subscribed, and to do that again, stock-owners will have to form themselves into joint stock meat companies to raise it, and they should do so without delay, and as far as possible manage their own business themselves.

II.—The different Classes of Meat Companies.

There are at least four different principles upon which companies may be formed to conduct the meat export trade; and as it is very important that in the formation of companies for that purpose the main object should be the promotion of the interests of our stock-owners, I will shortly notice the principles on which each class of company is formed, and endeavour to show how far in each case that object would be likely to be attained, by stating as briefly as I can the arguments brought forward in favour of and against the several classes of company.

1. ARGUMENTS IN FAVOUR OF GRAZIER'S MEAT COMPANIES.

These companies are formed largely on the co-operative principle, and are intended to be worked wholly in the interests of stock-owners and those connected with them in business. They are, of course, agency companies which take charge of the owners' stock, and deal with them from the time they are placed in the yards at the company's works until they are sold in the London or other markets, the company making net returns to the owners. The following are some of the arguments which have been adduced in favour of this form of company:—

- (1.) *A steady supply of Meat will not be maintained unless Graziers' Companies are formed.*

It is argued that unless there is a constant full supply of first-class meat in the countries to which it is exported the trade in Australian meat will not be readily taken up, nor pushed with the necessary energy and success; and that such a supply can only be maintained by the formation of joint stock graziers' meat companies; because it is only through their formation that it is possible to secure that co-operation, which it is essential should exist, between meat export companies, not only in their own Colonies, but also between the companies in the several Colonies, more especially between those in New South Wales and Queensland, so that the effects of the uncertain seasons in Australia, and consequent droughts, may as far as possible be obviated, and a constant supply of first-class meat steadily maintained in the countries to which it is exported.

- (2.) *The profit on our Meat is too small to both pay Trading Companies and give Graziers fair returns.*

The advocates of this form of company say that even supposing there were no risk of trusts or monopolies being formed, it is almost, if not altogether, a matter of necessity that the chilling, freezing, and other export works should be owned and worked by the graziers themselves, for with the low prices usually realised in London for merino sheep and the doubt there is as to a constant, steady supply, any company entering on the business of purchasing stock and exporting meat must at times either buy at a price which would give little or no profit in London, or which would leave our graziers without any return for breeding, rearing, and fattening the sheep; and that there is no doubt but the loss would fall on our stock-owners. They

They say that if our sheep were cross-breeds, as they for the most part are in New Zealand, the result would be different, and the course followed there of selling to trading companies might also be adopted here; but that that was only brought about in New Zealand, and fair prices obtained, through there being a large number of graziers' companies also at work, and regularly receiving direct orders from distributing firms in England.

(3.) *It was the formation of Graziers and Farmers' Companies that established and extended the New Zealand Meat Trade.*

In support of this assertion, the advocates for graziers' companies bring forward Mr. John Cook, the manager of the Australian Loan Mortgage and Land Company, Melbourne, who was intimately connected with the meat export business in New Zealand for years, and recently had the principal hand in floating the Denilquin Freezing Company, as a leading authority on this question. He strongly recommends our graziers and farmers to take the meat export business up themselves, and very pointedly remarks that "if they allow it to fall into the hands of trading companies they will go on hobbles all the rest of their days."

They call attention, also, to the statement made by Mr. Cook that if the trade in New Zealand had not been originally designed and worked to yield the utmost possible return to breeders and graziers the enterprise would never have grown to such large dimensions, nor would the colony generally have so largely participated in the marvellous benefits which have ensued, in the shape of a vast addition to the steam tonnage, largely-extended railway traffic, and a remarkable increase of employment, together with the doubling of the number of sheep in the colony, and the cultivation of tens of thousands of additional acres of land; and all this, Mr. Cook says, has been brought about by the graziers' companies—(1) by freezing nothing but prime meat; (2) by constantly working for and giving the grazier the benefit of the reductions in all the charges for freezing, freight, insurance, storage, selling, &c.; and (3) by encouraging the breeding of early-maturing sheep. And he concludes by asserting that this can only be attained by the shareholders being virtually all producers, and that, while a fair dividend was regularly paid, the shareholders all acknowledge that the indirect advantages of reduced expenses and the consequent development of the industry make the rate of dividend a secondary matter.

(4.) *The Distribution and Sale of Australian Meat in England and elsewhere can only be satisfactorily carried out by Graziers' Meat Companies, or by Companies acting solely for Graziers.*

Those in favour of the graziers class of company point out that this is one of the most important, as it is the most difficult portion of the meat export trade,—the placing on a proper footing the distribution and sale of the meat in the countries to which it is sent; and they assert it is only to be so by the formation of companies such as they here advocate, and the united efforts of the graziers in this and to a large extent also in the neighbouring colonies; for they say that the meat companies, in the first instance, in the colonies and afterwards in London, through their agents, must act fairly to each other, and heartily co-operate in the shipping, distribution, and sale of the meat; and they argue that this co-operation will never take place except on the part of graziers' companies, or of companies working mainly in the interests of stock-owners.

To prove that such a system of co-operation is urgently required, they point to what has recently been doing in the Australian meat trade in England, where for several months past the prices of Australian beef and mutton have been exceedingly low, and very severe losses have been sustained by the shippers, arising, as they say, through a heavy over-supply at a season of the year when the demand for frozen meat is comparatively slack—through a scarcity of cold storage, and the want of the same extensive accommodation of that description which trading companies, such as Messrs. Nelson Bros., Eastman & Co., James Nelson & Sons, and the other firms engaged in the Australian and North and South American trade, possess,—and above all through the want of mutual co-operation amongst the companies which have been doing the Australian business, and which would be secured were they to form companies and carry on the business on the basis which they advocate. They further affirm that had the Australian trade, during the period alluded to, been mainly in the hands of graziers' companies they would have been working together; and as each of them would have known what the other intended to do, they would have curtailed their shipments, and the excessive glut of Australian meat which has taken place would not have occurred, especially in the face of the fact that there was not sufficient cold storage to keep the meat until the market was relieved; while they would have assisted each other in different ways; but, instead of this, they say that the companies in the colonies as well as through their representative in London have to a large extent been acting independently of each other, and thus placed themselves in the position of being dealt with in detail by those in the trade in London, who know but too well how to take advantage of producers in an over-stocked, unprotected market.

2. OBJECTIONS TO GRAZIER'S MEAT COMPANIES.

Those, again, who are against the formation of graziers' meat companies argue that they are in many cases unsuccessful, and that they are so partly because they say that the business of meat companies formed on the co-operative principle are not as a rule managed with the same economy nor with the same care or energy as trading companies, and partly because it has not infrequently happened that the interests of individual shareholders have been allowed too much sway in the management.

They

They are also doubtful how far even graziers' companies could be brought to co-operate with one another in the shipping of the meat from the colonies, and in its storage, distribution, and sale in the countries to which it is sent—a point on which the advocates for the formation of graziers' companies so strongly dwell.

3. ARGUMENTS IN FAVOUR OF AGENCY MEAT EXPORT COMPANIES.

The business carried on by these companies is a purely agency one. They have no dealings on their own account in stock either alive or dead. Their business may be confined to either chilling or freezing, or both may be done, and such a company as this may also act as agent for the transport of the meat to market in this Colony and for its disposal there, or it may undertake to see to the shipping and sale in the countries to which the meat is exported.

These companies are to a large extent identical with those formed by graziers, and so far as they are in operation they have been doing good work for our stock owners. The arguments adduced in favour of agency companies are:—

- (1.) That owners can, by placing their stock in the company's hands, get them prepared for transport, and also, if necessary, for shipment without incurring the responsibility of becoming shareholders in joint stock companies, and of paying away money which they cannot very well spare, to meet calls to raise the large capital which is required by such undertakings as graziers' export companies for the erection of extensive works and the conduct of their business.
- (2.) That as a rule agency meat export companies manage their business better than co-operative, and that the agency companies can afford on that account to do the stock owners' work at as low a rate as graziers' companies.
- (3.) That even if the charges were higher, this is more than compensated for by the absence of the risk which would follow their becoming shareholders in a graziers' company.

4. OBJECTIONS TO AGENCY MEAT EXPORT COMPANIES.

The arguments used against the formation of agency meat export companies are of course chiefly brought forward by those who prefer the graziers' companies, and they are to the following effect:—

- (1.) There would not be a sufficient number of companies on that footing, as they would not be formed unless it was quite evident that they would pay well.
- (2.) The charges made by these companies would be likely to be higher than owners could afford to pay, considering the poor price stock are bringing.
- (3.) These companies would not, so far as experience goes, be in a position to take the same trouble as graziers' companies, to tin, salt, or deal in other ways than freezing, with certain classes of stock, and the portions of the stock, so as to make the most of them for the owner.
- (4.) The bi-products would not, so far as the owner is concerned, be turned to nearly so good account.
- (5.) Supposing the meat was exported to England or elsewhere, for sale by these companies, it is doubtful if the same interest would be taken in the meat as if it were in the charge of employees of a graziers' company, of which the owner was a shareholder.
- (6.) Although the representatives of agency companies would no doubt push the sale of the meat in London, they would not be likely to take the same interest as the employees of the graziers' companies, in the extension of the business, nor would they be in the same position to work for the opening of fresh markets as the graziers' companies acting together, as it is proposed they should do, for the distribution and sale of the meat in England and elsewhere.
- (7.) The chances of co-operation to which reference has been made, and which is absolutely essential, would be much less in the case of agency than of graziers companies.

It will be gathered from what has been said that the objections raised to what are here termed agency meat export companies, are of a comparative character, and, as between them and graziers' companies, for the formation of agency meat companies, such as the Fresh Food and Ice Co., the Metropolitan Ice and Cold Storage Co., the South Coast and West Camden Co-operative Co., and Messrs. Geddes, Birt, and Co., are considered by our graziers and farmers to be of the greatest benefit to them. It is hoped therefore that the Graziers' Meat Companies and the Agency Meat companies, which are already in existence, or which may hereafter be formed, will work cordially together for the common good. There is ample scope for both classes of companies.

5. TRADING MEAT COMPANIES.

What are here termed trading meat companies are those which purchase and sell stock, both alive and dead, solely on their own account, and neither do work, such as chilling or freezing, nor act as agents for other companies or owners. Such companies have of course an established business in England, where they both sell the meat they import and, when the state of the trade suits, purchase in the home market.

These trading companies have done good service in the colonies, by erecting works and purchasing stock, more especially in New Zealand, where the effect of their operations has been—in competing with graziers companies for the sheep for freezing—to keep

keep the price of sheep at a paying figure. The same thing has also to some extent occurred in this Colony, where the firm which first began to export, and which ultimately merged into the Aberdeen Company, has done a good deal of useful work, and been of great service to our stock-owners. In fact, it is largely through the energy and enterprise of the trading meat companies that the Australian and New Zealand meat is so widely known and in such general use as it now is in England and elsewhere.

While, however, this is the case, the interests of these trading companies and our pastoralists do not run altogether in the same groove; for, of course, the cheaper the company can purchase the stock, the more profit it will make, and it will be seen that if the chilling and freezing works are wholly or even chiefly in the hands of trading companies there is very great risk—considering the extensive power the possession of such works gives—that trusts or rings would be formed, and, having thus obtained the control of the trade, they would get the stock pretty well at their own price.

This is said to be the case at Chicago, where it is broadly stated that four of the leading packing houses control the meat trade not only there, but in a large measure, throughout the United States; and it would be a matter of very great regret if anything of that kind were to occur in this or in any of the neighbouring colonies, for it would be an exceedingly hard and tedious work to bring about a change for the better.

The principal trading meat companies in England doing business on the above lines are James Nelson and Sons, 57, Charterhouse-street, London, and 41, North John-street, Liverpool; Nelson Bros., 14, Dowgate Hill, London; Eastman & Co., Charterhouse-street, London; J. C. Hammond & Co., Charterhouse-street, London; and Sansinena & Co., of Liverpool, London, and Paris.

Nelson Bros.—Besides the cold stores at their head quarters in Dowgate Hill, this firm has very extensive and conveniently arranged cold stores on the river at Lambeth, with all the newest labour-saving appliances for receiving, classing, weighing, and delivering, and lately for thawing the meat. Their stores in London are capable of keeping over a quarter of a million of sheep frozen. They have also branch depôts at Birmingham, Manchester, Liverpool, Leeds, and Newcastle, at all of which centres there is cold storage to protect the meat, capable as a whole, with the London stores, of accommodating 300,000 sheep. In conducting their business Messrs. Nelson Brothers employ a great number of hands and a large staff of travellers, who push the trade in all directions.

James Nelson and Sons.—By far the largest portion of this firm's purchasing business is done with the stock-owners in the Argentine Republic, where they have very extensive slaughtering and freezing works on the River Plate, from which they imported, in 1893, 435,000 sheep. They have also an interest in the North British and Hawkesbury Freezing Company (Limited) in New Zealand. Their wholesale distributing branches are at Bristol, Birmingham, Manchester, Sheffield, Huddersfield, and Newcastle, and their cold storage accommodation is at Liverpool, London, and Bristol, with a capacity of a quarter of a million of sheep. Their cold store in London is situated within 50 yards of the Smithfield Central Meat Market, where they have stalls for the wholesale business. Besides an extensive wholesale trade, which is energetically pushed by their travellers and agents, the company has over 400 retail shops in various parts of England.

Eastman & Co.—This company makes heavy purchases of stock, chiefly cattle, in the United States, and slaughters them there, principally at New York, where they have an extensive retail meat trade; but they are also large shippers of chilled beef to Great Britain, which is disposed of, to some extent wholesale, but mainly in the retail shops they have opened in almost all the large towns in the United Kingdom; and they state that, although they have tried the Australian and New Zealand frozen beef and offered it at a lower price than the chilled, their customers preferred the chilled, and that they do not now keep frozen beef. The company also sell in their retail shops large quantities of frozen mutton, professedly New Zealand and Australian; but from what I saw of it, and could learn, I believe a good deal more of it was South American than either New Zealand or Australian. This concealment of the true home of the mutton is practised on account of the bad name which the South American mutton at one time had; and although of late years, through the introduction of Lincoln rams, there is a great improvement in the quality of the mutton from that part of the world, its previous character still sticks to it, and interferes to such an extent with even the best they can send as to lead those who retail it to palm it off as Australian. This company disposes of about 500,000 frozen sheep a year. They also purchase and slaughter English and Scotch sheep and sell the mutton where they see that there is a margin of profit. They have over 600 retail shops.

G. H. Hammond & Co.—Like Eastman & Co. this firm are large purchasers of American cattle and shippers of chilled beef to England and Scotland, and they also, I believe, ship considerable numbers of live cattle. Their business is entirely a wholesale one, but it is not wholly confined to the meat they import from America. They are also purchasers, as I understand, on their constituent's account, of New Zealand mutton, and they informed me they were prepared to buy Australian, if the quality and price were right.

Sansinena & Co. (Ltd.), Smithfield, London, have extensive works on the River Plate, and ship considerable numbers of sheep to both Liverpool and London. They have also a house in Paris, and at one time imported and sold a considerable number of River Plate sheep there; but the restrictions, duty, and towns dues have led almost to the extinguishment of the trade.

6. TRADING AND AGENCY MEAT COMPANIES.

These again are meat companies, which, while they carry on their own business of buying and selling stock both alive and dead, also act as agents for such companies and stock owners as may entrust them with their stock.

Anything that can be said in favour of this form of company is, that as they are usually in a large way of business on their own account, they would have a thorough acquaintance with the trade, and be able to do any work which other companies or stock owners might entrust them with in a prompt and efficient manner. But against that again is the fact that they might at times have their own meat to dispose of, or they might themselves be in the same market for meat to supply their own customers, as they were disposing of that sent by their consignors from the colonies; and the impression naturally is that they would not neglect their own or their customers' interest, however that of their consignees might fare.

Besides this there is the objection that in thus acting as agent for other companies or owners, these trading and agency companies would, in the event of an effort being successful to bring about co-operation and the formation of an association in London for the management of the Colonial meat trade, be entitled to a say in its conduct, although their interest, and those of the companies and stockowners, which the association was formed to conserve, were quite divergent, seeing that these trading companies would be frequently in the meat market as purchasers.

7. THE APATHY OF OUR STOCK-OWNERS WITH RESPECT TO MEAT COMPANIES.

A very little consideration ought, I think, to lead our farmers and graziers to see that before the unfortunate state of things which now exist with respect to the meat trade of the Colony can be remedied, they must take far greater personal interest in the trade, and become shareholders in some of the existing or proposed meat companies, and thus assist in providing the necessary funds for carrying on the trade in a thoroughly efficient manner, while they should do all in their power to induce the management of the company they join to co-operate in the first instance with the directors of other companies in their own, and afterwards with those in the other colonies, in the shipment, distribution, and sale of the meat in the countries to which it is exported.

The necessity for all this has been very forcibly pointed out by Mr. Cuthbert Fetherstonhaugh, in his very able correspondence in the daily papers and in the addresses which he has delivered to owners in different parts of the Colony, while advocating the formation of "The Graziers' Meat Export Company." But I am sorry to see that his efforts have not met with the entire success which they deserved, and that there are still some 30,000 shares of that company to be allotted out of 100,000. From the latest statement made by him at a meeting which he held at Wagga Wagga, on the 18th September last, it would appear that a very large majority of our graziers and farmers who own more than 2,000 sheep, and represent in the aggregate considerably more than half of the sheep in the Colony, have not taken any shares in the proposed company, nor are they shareholders in any other meat company.

The following statement shows how this matter stands:—

	Number of Owners.	Number of Sheep they represent.
Number of sheep-owners and of sheep in the Colony	14,000	57,000,000
<i>Deduct—</i>		
Owners with fewer than 2,000	10,500	6,000,000
	3,500	51,000,000
<i>Deduct also—</i>		
Owners who have taken shares in the Graziers Meat Export	450	13,000,000
	3,050	38,000,000
<i>And deduct also—</i>		
Shareholders in other meat companies	350	7,000,000
	2,700	31,000,000

That is to say, if this statement and estimate be correct, that 2,700 owners, with more than 2,000 and representing some 31,000,000 sheep, have taken no shares in the proposed Graziers' Meat Export Company, neither are they interested in any other meat company.

When we see the markets in this and the neighbouring colonies, more especially in Queensland, over stocked, the return from cattle and sheep excessively low, and that there is no relief possible except by the establishment of an extensive export trade in meat, we are greatly astonished at the comparatively unsuccessful result of Mr. Fetherstonhaugh's arduous efforts, by word and pen, to float the graziers' company.

The apathy and short-sightedness on the part of stock-owners is simply unaccountable, and discloses a lack of interest on the part of large numbers of them, which is most disheartening to those who have taken shares and are anxiously looking for the company being started.

If the owners who are hanging back had not had the whole matter so fully explained to them and been furnished with ample particulars with respect to what has been done in New Zealand; and if the urgent necessity for the proposed Graziers Meat Export

Export Company had not been, as it really is, far greater in this Colony than in New Zealand, the conduct of these owners would not have appeared so very strange. But they have been repeatedly made acquainted with all these particulars and everybody knows that the formation of similar companies and the establishment in that way of the vast trade in frozen mutton, has been the salvation of New Zealand; while the slightest consideration must convince any unprejudiced person, that while trading companies might answer in New Zealand in which two years ago there were twenty-one freezing and export establishments all at work, except one or two,—very few companies of the trading class will ever be established in this Colony on account of the little prospect there is of dividends from the treatment and export of merino mutton, unless the company dealing in it secured a monopoly and got it at its own price. But this does not affect the question of our stock-owners forming such companies, inasmuch as it is the indirect advantage which they principally look for; and if the export trade was conducted without any loss (which there is no doubt it can certainly be) they would be quite satisfied.

I would therefore once more urge our owners, who have not yet taken shares in any meat company, to become shareholders in the Graziers, or some other meat company, and to give the undertaking their cordial support; for surely there is no grazier or farmer who would not trust himself far more readily in the hands of the directors of a company of which he is a shareholder, than in those of some trading company.

8. THE SYDNEY MEAT PRESERVING COMPANY AND THE GRAZIER'S MEAT EXPORT COMPANY SHOULD AMALGAMATE.

As I have been dwelling so much in this report on the subject of co-operation, and have, I think, conclusively shown the incalculable benefit which it would confer if generally adopted and faithfully carried out by the companies which have been formed in the interest of stock-owners,—I will here take it upon me to offer the suggestion to the Directors of the Sydney Meat Preserving Company (which they are aware I had a share in forming) and of the Graziers' Meat Export Company, that they should amalgamate on terms that would be thoroughly fair to both companies,—keeping, of course, in view, the comparatively favorable position which the Sydney Meat Preserving Company now occupies, and the excellent work it has done for stock-owners for twenty-four years, without the shareholders having received any dividends,—and that a powerful freezing plant be erected at their works at Rookwood with the Graziers' Company's funds. The fact is, the Sydney Meat Preserving Company's works are incomplete without the freezing plant, and those of the Graziers' Company, if constructed as proposed, would be incomplete without a tinning and boiling plant and appliances. Both companies have been formed with the same object,—the promotion of the interests of our stock-owners,—and I submit there is no way in which this could be so effectually done as by acting on the suggestion here made for the following among other reasons:—

- (1.) The freezing works which do not also tin and make every possible use of the bi-products and offal will not be a success; and the Sydney Meat Preserving Company has in its works and manager, Mr. Gee, a guarantee that this—which is really the most particular and difficult part of the process of turning the stock to the best possible account,—would in his hands be a decided success. The Sydney Meat Preserving Company's goods are favourably known in all parts of the world.
- (2.) If this suggestion were acted on the amalgamated company would not only freeze the sheep which would pay best to freeze, and tin or boil the others as suited best, but it would be prepared to freeze the portions of the sheep that would in that way give the best return, and tin and boil the whole or the balance or portions of the balance, as the case required. Sheep sent down from up-country chilling depôts could be either frozen whole, or portions of them could be so and portions tinned or boiled, while sheep bought in the saleyard could be dealt with in the same way; and so also perhaps might sheep sent alive to the works to be dealt with on owner's account on terms favourable alike to him and the company.
- (3.) If refrigerating cars were used, as they would be (and as they would have in any case to be even from the Darling Harbour market) the additional distance from Rookwood to the ship's side would not entail any risk to the frozen meat, and the additional expense (if any) compared with loading from any other freezing works would be exceedingly small. Of course this arrangement would not be so convenient and complete as erecting freezing works on the harbour; but under the existing circumstances it would I think be decidedly more advantageous for stock-owners.
- (4.) One of the chief essentials in the establishment of a successful meat export trade is the formation of a financially strong company, and the proposed amalgamation would secure that; for the amount of capital already raised by the Graziers' Company and that possessed by the Sydney Meat Preserving Company would form a strong company, while there is no doubt but if the amalgamation were to take place the unallotted shares of the Graziers' Company would be speedily taken up.

Should the proposed amalgamation not take place the Sydney Meat Preserving Company should I think itself erect freezing works; for the freezing companies in this and the other Colonies are adding tinning appliances to theirs, so that they can work in either way and turn the stock to best possible account; and there is no doubt but the Sydney Meat Preserving Company could at times make a better return from freezing than tinning certain portions, if not the whole, of the sheep.

III.—The Site for Freezing and Export Central Works.

SUCH a site as that proposed for the Graziers' Meat Export Freezing Works in Sydney would be a very suitable one for a company doing a purely export business, for not only would the labour of putting the frozen beef and mutton on board the ocean-going steamers from the store rooms attached to the works be reduced to a minimum both as to time and expense, and this would apply equally to the tinned and other cooked meats of which there will be very large quantities, but also to the coals, timber, machinery, and other plant which will from time to time be required for the central works and for the killing and chilling depôts affiliated with the central works. But for a general business, including slaughtering, tinning, and boiling down, it will be seen that a site such as the Sydney Meat Preserving Company's would be preferable.

IV.—Necessity for commodious and thoroughly well-built, well-planned Premises, and the best and most approved Machinery and labour-saving appliances.

IT is absolutely necessary that our works should, in the buildings themselves, their size, the plant and arrangement, and the whole of the machinery and appliances, be of the most suitable description for such a business, both as regards efficiency and durability, and that they should contain all the most modern and most effective labour-saving appliances to be met with in America or elsewhere for turning the meat, and every particle of the bi-products to the most profitable account possible. In fact the works should be so complete that not only every description of stock can be dealt with in the way that would be most profitable to the owner, but that each portion of each head of stock could be treated in that way—the carcass or any portion of it being boiled down, frozen, tinned, or salted as considered best.

V.—Up Country Killing and Chilling Depôts.

IF the sweetness and delicacy of our mutton are not to be destroyed, and the low prices now obtained in the English markets, more especially for our merino mutton, are not to continue, we must do away with the present cruel and wasteful live stock business so far at least as concerns the export trade, and establish up country killing and chilling depôts at the principal centres of the stock traffic—care being exercised to ascertain before deciding on the erection of these depôts that stock in sufficient numbers can be supplied to support them. From there the stock, when chilled, can be brought more economically as well as more safely than alive to the central works at the seaboard, to be frozen, tinned, or otherwise disposed of, as it is most to the owners interest.

1.—THE SITE OF KILLING AND CHILLING DEPÔTS.

Great care will have to be exercised in the selection of sites for killing and chilling works. There must be an ample and permanent supply of good water, a good fall for the drainage from the slaughter-houses and the "soup" from the digestors, and the works must be as close as possible to the railway line, with the necessary convenience for a siding. Then there must be no risk of the stock being obstructed in coming to the works, nor of actions being brought for nuisances on account of boiling down, or of any other of the work going on at the establishment.

2.—THE BUILDINGS, SLAUGHTER-HOUSES, YARDS FOR KILLING AND CHILLING DEPÔTS.

These should be erected on rising ground, not only for the sake of drainage, but also to admit of the stock, when killed, being carried by gravitation from one point to another, while they are being dealt with. The material used in the buildings should be of the description best adapted for the purpose, keeping in view that thorough cleanliness and disinfection is essential, and that in those portions of the works where the chilling and the freezing is done, the insulation should be as perfect as possible. There should be ample room to do the work, and utilize the bi-products; and the fittings, vessels, and appliances of every description should be of the newest and most approved description, while labour saving arrangements should be introduced wherever possible. We should take the American works as a model, and improve upon them, if we can, making certain that any alteration we may intend to make really is an improvement.

If the sites, buildings, sheds, and surroundings are not what they ought to be, and the work not conducted in thoroughly efficient and expeditious manner, we will not be able, in the face of the competition of both North and South America, to secure and keep our due share of the British and Continental meat trade.

VI.—Preparation of Meat for Export.

THERE are four modes in which meat is now prepared for export, (1) freezing, (2) tinning, or (3) salting, and (4) boiling down, and I will now, very briefly, refer to those four different modes, and the manner in and extent to which each mode of preparing the meat should be adopted.

1. FREEZING, MACHINERY, AND PLANT.

The ammonia system of freezing and chilling in some form or other is now that generally worked; for while it is highly efficient, and easily mastered and managed, it is by far the most economical. Among the ammonia freezing and chilling machines, now in use, may be mentioned, "The Linde," "The de la Vergne," and "The Hercules," all of

of which I met with in Chicago, and several others, like "The Hercules" of an American make. In some parts of New Zealand where the temperature is comparatively low Hall's patent carbonic anhydride machine is also used, and is there both effective and economical, but where the temperature of the water is over 87 these advantages cannot be claimed for it.

(1.) *Thawing Frozen Meat.*

Even frozen mutton, which is not so much affected by the moisture from the freezing as beef, does not look well when allowed to thaw in the ordinary way with the natural temperature; and the appearance of frozen beef, when thawing in this way, more especially the thicker portions which have been cut through, is very much worse. These cut portions look moist, soft, and uninviting, and begin to "weep" and drip. The juices of the meat escape with the moisture from the thawing, and care (which is not always given) is necessary in cooking meat in this state lest the greater part of the juices should run out, and the meat, when cooked, be insipid and flavourless. The same objections apply in a less degree to frozen mutton; but while mutton does not "weep" to anything like the same extent as beef, the appearance, when allowed to thaw in the ordinary way is, except in cold, dry weather, moist and dull in color compared with the home article.

Early in the present year, Mr. Litchenberg, one of the managing partners of Messrs. Wills & Co., storekeepers, Port Said, the proprietors of the refrigerating stores which supply the shipping there—with Australian and New Zealand beef and mutton—applied for a patent for thawing frozen meat, and when I met him in the month of April, he informed me that he had heard that his application had been approved, but that the official intimation would not reach him for another month. He stated also that he did not intend to put the patent into operation until he received this intimation. He was then busily engaged in making arrangements for a large refrigerating store, which his company were about to erect at Malta at a cost of £40,000, to keep meat for the supply of the British troops on that island. I have since obtained a copy of the specification of his patent, particulars of which appeared in some of the Australian agricultural papers.

When I saw Mr. Litchenberg, he informed me that he had brought the patent under the notice of Messrs. Nelson Brothers, and had shown them how his process was worked, with the view to the sale of the right of patent to them, but he gave me to understand that they did not consider it a practical one. It would now, however, seem, from accounts recently received from London, that the Messrs. Nelson Brothers had improved upon Mr. Litchenberg's process, and hit upon a thoroughly efficient system of thawing.

After seeing the state of the frozen meat in the Smithfield market, as the warm weather came round with the spring, and more especially with the summer, I was convinced that some process of artificial thawing was absolutely necessary, even if it should not, as Mr. Litchenberg and the owners of the other patents claim it will do, completely restore the frozen meat to the state it was in originally when sent to the chilling-room preparatory to freezing as regards both appearance and quality—that is to say, they claim (1) the objectionable moisture on the outside of the frozen meat, caused by the ordinary thawing, will be absorbed by this process; (2) the superabundance of moisture through the freezing in the inside of the meat will also be absorbed, and the "weeping" and "drip" of the juices will be stopped; (3) the natural colour of the meat will be retained; and (4) the juices will be thoroughly re-set, and the meat will cook and eat as well in every respect as if it had never been frozen.

By recent accounts it would seem that as regards advantages 1, 2, and 3, at least they had been actually secured, and the natural appearance of the meat restored. There are good hopes too that advantage No. 4 will also accrue, and that the thawed meat when cooked will retain all its juices and flavour. But even supposing this should not be the case as regards the last advantage, the benefits from the improvement in the appearance of the meat and the prevention of the "weeping," as well as from its being in a fit state to cut up at once, which frozen meat is not, will be immense, especially in the case of the owners of cattle.

As to the expense entailed by this process, the patentees propose to charge $\frac{1}{4}$ d. per lb. for thawing. This would be a very high rate, amounting as it would on a bullock dressing 800 lb. to 16s. 8d., and on a wether weighing 50 lb. to 1s. 0 $\frac{1}{2}$ d. each. But I believe that if a reduction cannot be obtained from the patentees, means other than those protected by the existing patents can be found to do the work. The principal expense would be in the additional space which would be required for keeping the meat till it is thawed, as the process of thawing itself would seem from the description in Mr. Litchenberg's specifications for the patent, and from what he stated to me, to be a very inexpensive one, and to be carried out by adding, according to the requirements of the case, three or more separate chambers, into which the meat is carried with little or no handling, on overhead trollies from the large Central Frozen Meat Store to each of these chambers as required, where it would remain till thawed by the introduction of warm, dry air, at a gradually rising temperature,—beef, it is said, taking five days to be properly thawed, and mutton two to three days. It is then passed on into a fourth or outer chamber, maintained at a safe temperature, in which a supply of thawed meat sufficient for the daily trade is kept, and sent away as ordered. By having the different thawing chambers, in which of course the heat can be maintained at any temperature which may be required, the quantity of meat required day by day can be put through, and not much more need be thawed than can be despatched.

2. *Establishment of a School of Refrigeration, and Experiments in Chilling, Freezing, Thawing, &c.*

Before leaving Australia there was of course a great deal of information relating to the meat export trade which I might have obtained in the Colony, and which would have been of great assistance to me in the course of my inquiry; and there were no subjects of greater importance in regard to which information was required than those set out in the heading under which I now write. I did make a recommendation before I visited New Zealand in the end of 1892 that an unofficial commission might be appointed to make inquiry with regard to the effect of freezing on the quality and flavour of the frozen meat, but the matter fell through, and while I was in England I had in a large measure to take for granted a great deal of what was told me with respect to these and other matters relating to our meat, which I believe could be definitely settled in the Colony by actual experiment, and in many cases defects in our products could be remedied and prejudices removed.

Considering, therefore, the vast importance of refrigeration to this, as well as to the other Australasian Colonies; that in point of fact very few of our products can be placed on outside or even inside markets without it, and the incalculable advantages which would accrue by our obtaining a better knowledge of how cold can be most simply and economically obtained and most efficiently applied, and the uses to which it can be turned, and the effect of its application—I would recommend the establishment of a School of Refrigeration, and the appointment of a qualified teacher who would, besides imparting the necessary instruction to his pupils, carry out such experiments as were required in the chilling, freezing, keeping, and transport of meat, poultry, game, fish, and other animal products, and in the keeping and transport of dairy produce, eggs, fruit, and vegetables, as well as of any other Colonial products to which refrigeration can be applied.

Some of the experiments which I think are most urgently called for in connection with the meat export trade are those which would go a long way to settle several very important questions, such as,—

- (1.) Is it the case that a rupture of the cells in which the juices of the meat are held takes place through its being frozen?
- (2.) If so, would this occur where the meat has been previously chilled, even if the freezing were carried out slowly and gradually, and the temperature were not taken lower than (say) 24° Fahr., *i.e.*, by beginning at freezing point, 32° Fahr., and going slowly and gradually down to and not lower than 24° Fahr.?
- (3.) If a rupture does not take place when the meat is frozen, as in No. 2, slowly and gradually, would it do so if it were subjected to hurried and hard freezing as low as (say) 10° Fahr.?
- (4.) If the meat were first frozen, as mentioned in No. 2, would it have any prejudicial effect if it were afterwards subjected to such a temperature (10° Fahr.), and frozen in the manner mentioned in No. 3?
- (5.) Supposing that no damage is done to the meat when frozen, as described in No. 2, would it be safe to send it to England at or about 24° Fahr. (say not higher than 26° and not lower than 22°), and if so, can the engineers be depended upon to keep the temperature within those limits during the voyage?

If, as is generally supposed, a mechanical operation is set up by the freezing of meat, which bursts the cells that hold the juice—in the same way as the frost breaks bottles in which there are liquids,—there are reasonable grounds for believing that this rupture—if it really takes place—may to a large extent, if not altogether, be prevented by freezing slowly and gradually, and not lowering the temperature much below freezing point; and that, on the other hand, when the temperature is allowed to drop as low as (say) 8° or 10° Fahr., and this is done hurriedly, it is believed that the tissue of the meat is needlessly injured, “weeping” is caused, and its value greatly reduced. Any one will, I think, therefore see that the questions here proposed to be settled by actual experiment and careful inquiry are most important, and they are only a very small portion of those which could be settled, if the necessary accommodation, machinery, and teacher were provided.

In support of this statement I would point to the fact that there are a great many other experiments to be carried out in connection with the freezing of meat, as also with regard to the thawing and cooking of meat, the freezing and transport of fish, fowls, and game, the keeping and carrying of dairy produce, fruit, and vegetables, and many other questions relating to refrigeration which will be certain to occur as the products of the Colony increase, and the necessity arises for conveying them in good condition to other parts of the world.

This proposal would, of course, entail the necessity for providing accommodation for the classes and experiments, and the purchase of machinery and plant.

It is calculated that some 840 square feet of floor space, to be divided as shown on the accompanying plan, would be required to carry out the proposed experiments and afford the necessary accommodation for the pupils to attend and make themselves properly acquainted with the experiments which are going on. Separate chambers will also be required in carrying out the inquiries and making the tests, as it may occur that experiments with respect to meat, fruit, and dairy produce have all to be gone on with at the same time, and this would entail the use of three separate chambers. Then a small space would have to be partitioned off as an office. In addition to this space for the engine and freezing machinery and boiler would have to be provided.

A plan and estimate of the necessary building are appended to this Report, showing the position of the different rooms and of the machinery and plant, which has
been

been kindly furnished to me unofficially by Messrs. Wildridge and Sinclair, consulting engineers, and agents for the Linde Refrigerating Company, Pitt-street. The cost of the boiler, engine, machinery, and plant they estimate at £1,112; the erection of the buildings and insulation, £475; making a total cost of £1,587.

2. TINNING.

Tinning is an essential adjunct to either boiling-down or freezing works, and, of course, to works at which both operations are carried on; and tinning machinery and plant will be still more essential if the suggestion which I afterwards made at some length be acted on, as I believe it will to a considerable extent,—that not only should our exporters refrain from freezing the lighter and less prime stock, and tin, salt, or boil them down, as the circumstances suited, but that they should also, as regards very considerable numbers of the prime stock, keep back the inferior portions of the carcass, and treat them in the same way as the second rate stock; for it is only a waste of time, freight, and money to incur an expense of (say) 2d. per lb. (the all round consolidated charge for freezing and shipping stock to London and getting net returns) on portions of the meat which do not relatively realise sufficient to pay this expense, to say nothing of giving the owner no return, or, at least, a return which is less than he would have netted for the meat by dealing with it as here suggested.

The work of tinning, or as it is termed in Chicago "canning," is brought to very great perfection in the packing houses there, especially as regards the innumerable labour-saving appliances in the making of the tins—their conveyance from one part of the establishment to another while being formed, soldered, filled, and labelled,—the cooking of the meat in the tins and the closing of them, the printing of the labels, the manufacture of the packing-boxes, the packing of the tins, and their transport from the works to Boston or New York for despatch to all parts of the world.

Any company intending to erect tinning works in the Colony should, before doing so, obtain full particulars with respect to the tinning machinery and plant now in use in such packing houses as those of Messrs. Armour & Co., Messrs. Libby, M'Neill, and Libby, and Nelson Morris, Chicago; for there is no doubt but they are the most efficient and complete to be found in any part of the world. But, while this is the case, and while the American tinned meats have a wider and more general sale than those put up in this and the other Australian Colonies, there can be no question but that the Australian tinned meat is superior in quality and nutriment to the American. This has been proved by actual analysis, and the fact is well known to ship-owners and the heads of the army and navy commissariat departments throughout Europe and other parts of the world, and, as a rule, it is acted on by them. It is different, however, in the case of grocers and other retailers who sell tinned meats to the working classes, and who purchase the American tinned meat, although the quality is low as the price is also low, but it is nicely pressed, and got up in a very taking fashion, with handsome label, and, when turned out of the tin to be retailed, as it generally is to the working people, by the pound, it cuts and looks well and has a good colour; while all the time the cattle from which the meat was taken may have been old poor cows, stags, bulls, or rough Texas steers, hundreds of thousands of which are worked up annually in Chicago for tinned meat and sausages, and the tinned meat is made to look well by having some small pieces of fat mixed with it, and little bits of cow heel to do duty for dripping.

I believe that if our meat preserving companies, who put up nothing but good meat, would lay themselves out more than they have been doing to secure the retail trade in England and on the Continent, by putting the meat up in such a way as to suit those engaged in that branch of the business—especially as regards the pressing, the size and shape of tins, and their "get up" and labelling—they would do a more extensive business.

I think, too, it would help the sale to publish a comparative analysis of the New South Wales and American tinned meat.

3. SALTING.

As I have already in that portion of my report which relates to the American trade touched upon this mode of dealing with meat, it is not necessary to say anything further than that with the increase that is now going on in the number of refrigerating depôts and cold stores we will soon be in a position to carry out the process of salting meat in the most approved manner, especially when the system here recommended of dealing with the different portions of the carcass in the way in which the best return will be made to the owner, is adopted. If sufficient care is exercised in the selection of the meat for salting and in carrying out the process, there is not the slightest reason seeing that meat in Australia is only about one half the price it is in America, why the Colonies should not, in the course of a few years, secure the greater part of the salt beef and pickled pork trade, which the United States is now doing, amounting to nearly two millions sterling a year.

4. BOILING DOWN.

The boiling-down of cattle and sheep for the tallow is not in general use anywhere except in South America and Australia, and is by no means a profitable mode of disposing of stock. But although this is the case boiling is at times the best way of utilising them when they must be got rid of, and they cannot be turned to better account. Boiling is also used more or less by Packing Companies and butchers in the course of their business, and to a very much greater extent at the tinning factories, where, it is said, as much within a pound and a half or two pounds is boiled from a sheep which is preserved as from one simply melted for the tallow.

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As regards either the system of boiling, or the plant and appliances used, or the manner in which the work is done so far as regards the preparation of the ordinary tallow for market, I do not think we have anything to learn, for our tallow has a high position in the London and Continental markets and meets ready sale.

Recently, however, it has been found that oleo, *i.e.* edible fat, which is worth about £40 per ton, can be obtained from inside mutton tallow, as it has for some time been from beef, if it is properly prepared for melting which it is by subjecting the fat as soon as it is taken from the sheep to repeated washings in pure water, reduced to a temperature not exceeding 40° Fahr. To carry this out artificial cold will be required, and proper presses and other appliances, which can all be readily fitted up at a comparatively small cost at any of the chilling or freezing works, but the process will, of course, have to be carried out under the direction of some one who has a practical knowledge of all its details.

The oleo forms the basis of butterine, or margarine, which is principally made in Holland, the manufacturers there obtaining supplies from many parts of the world, but chiefly, as yet, from the United States. The consumption of margarine is very much greater on the continent of Europe than anywhere else. It is said that in some portions of Germany, and in Denmark and Sweden, the greater part of the butter is sent to England, and margarine used. At the same time, very large quantities of it are used in the United States, where it is regularly quoted in the agricultural papers under the heading of butter, at from 2½d. to 3½d. per lb. less than real butter, according to quality. A good deal of margarine is also used in England, and some, too, in Scotland. The best sorts of margarine are made by churning milk or butter with the oleo, and when carefully prepared in this way it takes an expert to distinguish it from real butter; and when made from perfectly sweet and clean fat, margarine is a thoroughly safe and fairly nutritious article of food.

Sheep owners will be glad to learn that the extraction of the oleo, which, as I have said, sells at very nearly double the price of ordinary tallow, instead of lowering the value of the residue, which is used for the manufacture of the better class of candles, actually adds to it to the extent of from 4s. 2d. to 5s. per 100 lb., as the extraction of the oleo largely increases the proportion of stearine, the principal ingredient in the manufacture of what are termed wax candles and matches. This process, when brought into use in the Colony, ought to make a good addition to the return per sheep over and above the expense of extracting the oleo.

It is, too, I think, worth considering whether, with such large quantities of beef and mutton fat as there are in this Colony and Queensland, we should not only prepare the oleo, but also make margarine. America, as I said, does so in large quantities; and Holland, while she imports nearly the whole of the oleo she uses in making margarine, exported in 1892 to Great Britain alone margarine to the value of more than £3,360,000, and in 1893 to the value of more than £3,650,000. There is no reason, therefore, why Australia ought not, like the United States, carry out the whole process, and supply England with a considerable portion of the quantity represented by the large sums I have quoted; and our meat companies ought to give this matter their serious consideration, for if the larger portion of the tallow which is suitable for margarine were worked up by them in that way, it would largely increase their returns and add a very considerable sum to our exports.

5. SELECTION OF CERTAIN PORTIONS OF SHEEP AND CATTLE FOR FREEZING AND EXPORT.

There are very few now who will advocate the freezing and export of inferior or third-class beef and mutton, while those whose opinion carries the greatest weight are opposed to anything but first-class meat being shipped in that way. If this is a fact, then it ought to be equally true that it is as far wrong to freeze and ship the portions of first-class meat which, taken by themselves, really rank no higher than inferior or third-class, and a good many more which can only be termed low second. Indeed we are regularly incurring—and I think I can show needlessly incurring—heavy expense in freezing large quantities of what is little else than bones let alone inferior beef and mutton.

To show that this is the case, I will here submit a comparative statement showing the portions and weights of the portions into which a merino wether of (say) 50 lb. is usually cut up for sale by the retail butchers, and give the average wholesale and retail prices, which I believe, the separate portions were bringing while I was in London. The wholesale prices are calculated on a basis of 1s. 10d. per stone, or 2½d. per lb.; and the retail prices are taken from the tickets on the portions of the meat exposed for sale in the butchers' shops.

STATEMENT referred to.

Portions.	Wholesale average price, @ 2½d. per lb.			Retail average price, @ 4½d. per lb.		
	Weight of portion.	Price per lb.	Amount.	Weight of portion.	Price per lb.	Amount.
	lb.	d.	s. d.	lb.	lb.	s. d.
Legs	16	3½	4 10½	16	6	8 0
Chops	12	3¼	3 0½	12	5	5 0
Shoulders	12	2½	2 5½	12	4	4 0
Breast and flanks	5	1½	0 9½	5	3	1 3
Necks	5	1½	0 9½	5	3	1 3
	50	.....	11 11	50	.....	19 6

Showing a profit on the sheep of 7s. 7d.

It will be seen by this statement, when the relative values of the different portions of the Merino sheep which have been sold in London are worked out that the "neck," and the "breast" and "flank" portions not only return nothing to the owner or shipper of the sheep, but actually do not pay the consolidated charge of 2d. per pound for freezing, shipping, freight, and storage and sale in London; and that all that the shoulder returns is somewhat less than ($\frac{1}{2}$ d.) one halfpenny per lb., or less than half of what is considered the lowest price (1d. per lb.) at which it will pay to ship mutton.

It is quite evident, therefore, that so far as regards the two last portions,—the breast and brisket, and the neck,—they do not pay to freeze and ship, and should either be disposed of in the Colony, or tinned or boiled down, as paid best; and with regard to the shoulders, again, which it will be seen give a return of less than $\frac{1}{2}$ d. per lb. over and above the consolidated charge of 2d. per lb. for freezing, shipping, and selling in England, it is very questionable whether a better return could not be made by selling in the Colony, or tinning or boiling them down. Should it, however, pay better to freeze and ship the shoulders, then the flanks, briskets, and neck could be cut off, and the shoulders, saddles, and hind legs in one piece, could be frozen and shipped,—the bones of the fore and hind legs being lopped off as short as is compatible with the appearance of the meat; and if the sheep were cut through at the fork, where the hind legs join, the carcass would open flat out and save space, now lost in the hollow of the sheep on board ship. If, however, it be found that more than $\frac{1}{2}$ d. per lb. can be made of the shoulders by disposing of them in the Colony, or by tinning or boiling down,—then they could be cut off as well as the flanks, brisket, and neck, and only the legs and chop pieces, or saddles, which are all paying mutton, frozen and shipped.

As those engaged in the trade in London are very conservative, I would expect that objections would at first, at least, be raised to dealing with the sheep in the way here suggested to any great extent, and I am afraid that for some time proportionately high returns will be hard to obtain for the valuable portions of the mutton thus sent by themselves; but I do not think these objections will continue. Inasmuch as we have a great deal more mutton than can be frozen and exported, there is no fear that a less quantity would be shipped through the adoption of my proposal,—for what was sent, if fairly treated, in the English markets, would pay better than it now does, and heavier shipments would be made. In this way a great deal more money would be made all round by the owner, or shipper, the salesman, and also by the retail butcher. Even now, too, some single haunches or legs—principally of over-heavy sheep—are frozen and shipped, and the mode here suggested by me of sending the hind legs and saddles in one piece ought to be much less objectionable from the retail butchers' point of view than shipping single legs, for legs cut from the portion I propose to ship by the retail butcher in England would look very much fresher and less liable to be put out of shape in transit from the freezing works to London than single legs.

Of course shippers must study the requirements of the markets to which they send their produce, and attend to the wishes of those who are in the trade, so far as they are reasonable; but it cannot be deemed reasonable that shippers should be forced to keep on sending produce which, in some cases, does not even pay the expense of preparing it for market and cost of transit. This is what is actually taking place with respect to the portions of the sheep to which allusion has been made, and as well might the exporters be called on to ship inferior sheep which do not pay to export as to ask them to keep sending the inferior portions of first-class meat which are sold at a loss, while, as a rule, these portions are not sold by the retail butchers with the best portions, but singly by themselves, and need not therefore be sent with the other portions. While, therefore, it may for some reasons suit the retail butcher better to purchase the whole sheep, there is no absolute necessity for the mutton being offered to him in that way, and there is no real reason why he should object to our shippers putting the meat on the market in such a manner as they can obtain fair prices for it.

It may again be said that if the whole sheep is not put on the market the retail butcher will be unable to supply all the joints which his customers require. That may be; but that state of things need not last, for as soon as the price of the portions now proposed to be dealt with in the Colony rises in the London and other markets to a rate that will make it pay our shippers to export these portions—and it would not require a very large advance to bring this about so far as shoulders are concerned—they will only be too glad to freeze and ship them, and as I have already said it would be very unreasonable to ask them to ship at a loss.

What I have said on this subject has reference only to sheep, in which the Colony is mainly interested, but my suggestion would, if acted on, operate to even greater advantage in the case of cattle, for the proportion of second-class and inferior meat is greater in the carcass of beef than in that of mutton; and as there is every probability of beef being eventually exported from this Colony, as well as mutton, I will here state very briefly how the suggestion should be made to apply also to cattle.

Instead of dividing the side of beef, as is usually done, into quarters, I would suggest that the hind leg should be cut off at the point where the meat will pay to freeze and ship, that the flank be stripped off until the back of the shoulder is reached, and that the side be then cut through. This would leave all the most valuable parts of the meat in one piece, which will pay well to freeze and export. The portion of the hind leg, again—consisting principally of bone—that cut off the flanks, and the portion of the fore-quarter containing the heavy bones of the shoulders and neck, while they, as a rule, would not pay to freeze, can be turned to fairly good account in tinning, salting, boiling down, and extract making.

Although I make these suggestions under the impression that they would, if acted on, tend in a very important degree to improve the prospects of the frozen meat trade in several directions. I think it would be inadvisable, even if they did meet with general

general approval, to act upon them at once to any very great extent, and that the change from the present mode of conducting the trade to the course which I recommend of selecting certain portions of the sheep and cattle for freezing and export should be a gradual one.

By way of contrast I give here statements prepared on the same principle as that for merino mutton, for English, and New Zealand cross-bred mutton.

Best Southdown Wether, weighing (say) 70 lb.

Portions.	Wholesale average price, 7½d. per lb.			Retail average price, 8½d. per lb.		
	Weight of portion.	Price per lb.	Amount.	Weight of portion.	Price per lb.	Amount.
	lb.	d.	£ s. d.	lb.	d.	£ s. d.
Legs	19	9	0 14 3	19	10½	0 16 7½
Chops or loins.....	16	8½	0 11 0	16	9½	0 12 8
Shoulders	14	7	0 8 2	14	8	0 9 4
Breast and flanks	9	4½	0 3 2½	9	5	0 3 9
Necks... ..	12	6	0 6 0	12	7	0 7 0
			2 2 7½			2 9 4½

Showing a profit on sheep of 6s. 9½d.

Best New Zealand Cross-bred, weighing 60 lb.

Portions.	Wholesale average price, 3½d. per lb.			Retail average price, 5½d. per lb.		
	Weight of portion.	Price per lb.	Amount.	Weight of portion.	Price per lb.	Amount.
	lb.	d.	£ s. d.	lb.	d.	£ s. d.
Legs	16	4½	0 5 5½	16	6½	0 8 8
Chops and loins	14	3½	0 4 6	14	6	0 7 0
Shoulders.....	12	3½	0 3 6½	12	5½	0 5 6
Breast and flanks	8	1½	0 1 3½	8	3	0 2 0
Necks	10	2½	0 2 3½	10	4½	0 3 9
			0 17 1			1 6 11

Showing a profit on the sheep of 9s. 10d.

VII.—Shipping and Freights.

As it not only costs large sums, say from £15,000 to £20,000, to fit up a steamer to carry frozen meat, but also entails considerable loss of stowage room, and consequent loss of freight when ordinary cargo has to be carried, through the space taken up by the insulation, shipowners have naturally been backward in altering their vessels for that purpose, and putting in the necessary machinery.

For some time, therefore, after the initiation of the frozen meat trade there was a great deal of trouble in obtaining freight; and at first the shipping companies insisted upon receiving a guarantee that a certain amount of meat would be provided for their vessels at stated periods before they would agree to fit them up, and send them to the ports at which it was desired to load the meat for London. This, of course, had the effect of retarding the development of the trade; and it was not until within the last few years that a change began to take place in this respect, partly through the increase of the meat export trade, partly through the depression in the shipping business and a scarcity of ordinary freight, partly through the freezing companies and ship-owners coming to a better understanding, and partly also through the development of a trade in other produce, such as butter, cheese, fruit, &c. The result of this has been that within the last three or four years considerable additions have been made to the fleet of steamers carrying frozen meat, and the cost of freight has been lowered very considerably.

The charge for freight, which, at the commencement of the trade, was as high as 2½d. per lb., is now 1d., which, it is said, pays ship-owners well even if they obtain little or no outloading; and if the vessels could only obtain a fair amount of that, it would pay shipowners very well. Recently, I believe, offers have been made of freight at ¾d. per lb. if a steady supply of meat for shipment were guaranteed; and it has been stated that that rate of freight would pay shipowners as well as ½d. per lb. does for wool. If that is the case then there are fair hopes that ¾d. will become the established rate, and, if so, that will mean a saving of more than 1s. per sheep in the expense of sending a 50 lb. merino wether to London, and 1s. 3d. in sending a 60 lb. cross-bred; and with the saving which we expect to make on this side in the preparation and conveyance of the sheep from their runs to the steamer by which they are despatched, more particularly in the cost of carriage by the railway, and also in the reduction of the charges in England, there are better prospects for our sheep breeders, especially those who cannot breed cross breeds.

VIII.—Cold Storage for the Export Trade in Australian Produce.

Situated as the Australian Colonies are as regards climate and distance from the principal markets of the world, it is absolutely necessary that there should be ample cold storage accommodation both in the Colonies and in the countries to which our meat and other produce are exported for the use of those engaged in the trade.

1. COLD STORAGE IN THE COLONIES.

There should in any case be sufficient accommodation of this nature at the ports where the steamers call to load our produce, whether it be meat, dairy produce, or fruit and where it can be kept in sufficient quantities to make it well worth the steamers while to call, and there would then be no unnecessary delay in loading. It is a question too, whether, supposing that sufficient cold storage accommodation could be provided at comparatively small expense in the Colonies, a good deal might not be done by storing in the Colonies towards preventing the ruinous glutting of the London market for our meat, which has recently occurred, without taking the extreme step of closing the meat works in Australia, to give time for the English markets to clear off the over supply.

To settle this question, however, the cost of cold storage in the Colonies and in England will have to be carefully compared, and if there is not a decided advantage in keeping the meat in the Colonies, it would be best to ship it as it is prepared, and let it be kept in England—as it can in that case be supplied as required—and provide no more cold storage accommodation on this side than the requirements and convenience of the shipping calls for.

2. COLD STORAGE IN COUNTRIES TO WHICH MEAT IS SENT.

Every year more cold storage is being provided, not only in Great Britain and Ireland, but also on the Continent, and the indications are that the demand for this description of accommodation will continue to increase, especially as the cost of cold is diminishing, while the uses to which it can be turned are multiplying and its benefits being more widely acknowledged.

The following is a list of the principal refrigerating companies in Great Britain which take in produce for cold storage (the usual charge being one-eighth of a penny for twenty-eight days, including receiving and delivering), and the capacity of their stores calculated as for keeping frozen sheep:—

(1.) *In and near London.*

The Victoria Dock Company, at the docks ...	200,000
Addition to be erected at dock, say... ..	100,000
	300,000
In course of construction near Smithfield	
Central Market, say	70,000
	370,000
Nelson Bros., at Dowgate Hill and at Lambeth, on the	
River Thames	250,000
James Nelson and Sons, at Smithfield	20,000
The Central Market Stores, Smithfield	75,000
Eastman & Co., Charter House Street	20,000
Cold Storage Company, Blackfriars... ..	60,000
Linde Company, Shadwell	50,000
Sansinena and Co. (Limited), Smithfield	50,000
Leadenhall Market	10,000
West India Docks	15,000
	920,000

(2.) *Cold storage in the towns other than London.*

Manchester Corporation	120,000
Cardiff Pure Ice and Cold Storage Co.	60,000
Leeds Ice and Refrigeration Co.	5,000
Northern Counties Cold Storage Co., Newcastle	15,000
Eastman's Cold Storage Co., Glasgow	20,000
James Nelson and Sons, Liverpool	200,000
Liverpool Cold Storage Co., Liverpool	100,000
Bristol Cold Storage Co., Bristol	10,000
James Nelson and Sons, Bristol	10,000
Linde Cold Store, Birmingham	10,000
	550,000

The practical question however, is—How are we to obtain sufficient cold storage accommodation in Great Britain, and in other parts of the world, to enable us to offer our products in such good condition as that they can compete successfully with those from other parts of the world? With that view the meat companies might adopt either of the following courses:—

1. They may obtain, as they now are generally doing so far as London is concerned, the necessary accommodation at some of the many cold stores which are offering accommodation at fixed charges for storage and freezing, and for receiving and delivery; or
2. The companies, if they could procure the funds, might build their own stores, and fit up the necessary machinery and appliances; or
3. They might rent suitable buildings, and fit up machinery and appliances, with the right of removing them at the end of the lease, or with an obligation on the part of the landlord, when the lease expired, to purchase the machinery and appliances at a valuation.

3. THE COST OF COLD STORAGE.

The cost of cold storage in London runs about one-eighth of a penny for four weeks, including receiving and delivering. When I visited Cardiff in April last, where there is a large cold store capable of accommodating 60,000 sheep, the company was offering

offering to take frozen mutton at very much less than the London charge, *i.e.*, at one-seventh of a penny for three months, receiving and delivering included. Coals are very cheap at Cardiff, which perhaps accounts for the low rate at which accommodation was offered. Still there is no doubt but with properly constructed stores, and the right sort of machinery, the necessary cold can be obtained at a very low rate, and this will be of very great advantage in the conduct of the trade, for it will allow the meat to be kept at a small cost to wait when necessary for a better market.

THE CONDUCT OF THE MEAT TRADE IN GREAT BRITAIN.

IX.—Complaints and Grievances brought by Shippers of Meat against those in the Trade in London.

There have been numerous complaints in regard to the manner in which the trade in Australian meat has been conducted in England, some of which were well founded and some not, while a good many of the wrongs, which at one time were to be met with in the wholesale trade, have been righted.

The principal complaints to which allusion has been made are:—

Full commissions have been charged both by the merchants to whom the meat was consigned and by the salesman.

An unfair advantage is given to the purchaser of the meat; 1 lb. being deducted from the weight of each sheep, and the portions of the pound, whatever they may be, even up to (say) 13 oz.

It is said that weights have been returned as short where there was no shortage.

It has been said that fraudulent rebates have been obtained.

The selling of the meat direct to the retail butcher has been greatly obstructed, the salesmen selling to middlemen, who again sell to the retail butchers.

Agents are blamed for not keeping, but selling meat, in the face of an expected rise of price.

The prices to be charged by the salesmen for the different descriptions of meat are said to be fixed arbitrarily by themselves, instead of after consultation with a properly constituted body chosen by the agents of the importers.

Some firms, while dealing in and importing meat, act also as agents for other shippers, which is not only likely to operate injuriously so far as their constituents are concerned, but may also prejudicially affect other shippers, inasmuch as that when the prices of the meat for the day or week have to be settled—as it is understood they are largely at the instance of the leading firms in the trade—those who are themselves dealing in meat might find it to their interest at times to get the prices settled below the real value, in order that they might, through some friend, purchase what was to be offered, and make a good deal more by the lowering of the price than by maintaining or raising it.

It is said that in the case against salesman "Hicks," which was brought into Court in 1892, for keeping back a large part of the proceeds of the sale of the meat, he pleaded that he had sold the meat to himself at market rates, and afterwards cut it up and sold it; and he pleaded, further, he was only doing what others did, as he said it was the custom of the trade if a salesman cut up meat that the profit made on it went to him, and not the original owner.

It is reported that in other cases salesmen have taken the mutton put into their hands for sale at their own price, but have not neglected to charge commission.

There are said to be rings and combinations formed for the purpose of cornering the Australian meat trade, and preventing the meat from bringing a fair price, like the notorious fruit and fish rings.

It is said too that some of these rings start salesmen, who, of course, sell only to their patrons.

These rings and middlemen are said to be now doing their best to crush those who act independently, or attempt to expose their methods of working.

X.—Remedies for the complaints of Australian Shippers in regard to the conduct of the London Meat Trade.

It will, I think, on consideration, be seen that if the co-operation to which allusion is here made between the Graziers and Agency Meat Export Companies in each Colony, and between these companies again and those of the same class in all the other Colonies, were to become an accomplished fact, the complaints and grievances I have mentioned as having been made by the shippers of our meat, as well as others which I may have omitted to notice, would be almost entirely removed; for then there would be ample funds for the construction of chilling, freezing, and tinning works—favourable terms would be made with the shipping companies—numerous fresh centres of distribution and sale, with the necessary cold storage, would be formed. The establishment of these centres would prevent the accumulation and glut of meat, which is now constantly occurring in London, and would prevent the formation of rings, and help to get rid of the middlemen, for it was largely through this accumulation of shipments and business in London that the opportunities occurred which has enabled those who have been concerned in the practices complained of to carry them out; and with these improvements and better supervision complaints would cease. The question, however, is whether this co-operation, which is so very essential, is or is not practicable; and I will now briefly discuss that question, and in doing so I will notice the necessity for co-operation and some of the conditions under which it would have to be carried out.

1. THE NECESSITY FOR CO-OPERATION.

The frozen meat trade in England is now in a very depressed state, and the immediate cause, of course, is over-supply, coupled with the scarcity of cold storage and the want of a better system of distribution and sale.

This being the case, the question arises how a change for the better is to be brought about, and I think the answer clearly is, by co-operation among stock-owners, not only in their respective Colonies, but in all the Australian Colonies, more particularly in this Colony and Queensland; for with the very heavy surplus of stock in the Colonies, and the constant glutting of the markets in England, it is utter folly for one company to hope to improve its position by underselling the others, or for the companies in one Colony to attempt to gain an advantage by lowering prices beyond what will pay. Such methods only bring prices permanently down, and give middlemen and speculators the opportunity they want of getting the meat at their own price, and making money out of the losses of our graziers and farmers. In ordinary times it is a hard matter for our producers to protect themselves from the middleman and the monopolist; and with glutted markets, such as there have lately been in London, and a scarcity of storage, a great deal of our meat has not only returned nothing to the stock-owner, but has in some cases not paid the expense of preparing and sending it to the London and other markets, where it was sold.

It is high time, therefore, that the representatives of the companies in the Colonies which are managing their own business, and those which are doing a purely agency work, should come together and discuss the present position and future prospects of the meat-export trade, with the view, if possible, of arriving at a mutual understanding under which they would put only sufficient quantities of meat on the English and other markets as will admit of prices being obtained which will give our stockowners returns they can live by, and under which they would also agree not to sell, unless under special circumstances to be specified in the agreement, at prices lower than those to be fixed from time to time by the representatives of the companies in London—the general conditions of the agreement being subject, of course, to the approval of the Boards of Directors in the Colonies.

It would be very satisfactory if this were really practicable (if even only in some respects), and I think the best way to ascertain that is to make an attempt to set out the conditions under which such an arrangement, if it really is a workable one, would be likely to be carried out, and see how far they could be so. With that view, therefore, I now submit the heads of an agreement, some of the principal conditions of which I consider would, in such a case, require to be accepted and acted on by the companies interested. And while these conditions may not be practicable, and not in all respects answer the purpose, they will, I venture to hope, at least serve to call attention to the urgent necessity there is for immediate co-operation on the part of those connected with the export trade in meat, and may, perhaps, also serve as a basis upon which this most important subject can be discussed; for there is no question but in some way or other co-operation between companies and colonies must take place if ever the export trade in Australian meat is to be in any degree what can be termed a success.

2. CONDITIONS OF CO-OPERATION SUGGESTED.

1. The graziers' meat-export companies in each of the Colonies should agree to co-operate in the conduct of the meat-export trade, and to that end bind themselves, as a preliminary step, to grade their meat and other animal products closely and fairly, to ask for and accept only such share of freight, cold storage, and sales as they are entitled to on the basis of the relative number of stock which their shareholders own, and to faithfully co-operate with the other companies in the shipping, storage, distribution, and sale of the meat in the countries to which it is exported.

(1.) *Boards of Advice.*

2. With these objects in view, a Board of Advice should be formed in each Colony, to consist of the managing directors of the several companies.

3. This Board should meet regularly every month, and oftener when required, to consider the reports received with respect to the state of the trade and the prospects of the markets, the supply of stock, the available freight, the quantity of meat on hand, &c.

4. In order, as far as possible, to prevent over-supplies of meat being sent to the London or other markets, the Boards of Advice should decide as to the quantity of meat which should be shipped, and also by what particular vessels it should be so. The Boards should also determine the quantity to be despatched belonging to each individual owner on the basis mentioned, and the ports at which the vessels should call and discharge; and generally the Boards would, subject to the confirmation of the Inter-colonial Council, settle the course to pursue in the conduct of the meat-export trade in the Colonies, and also in London, so far as can be done by such a body resident in the Colonies.

(2.) *The Intercolonial Council.*

5. In order again to secure intercolonial co-operation on the part of the graziers' companies in the Colonies joining in this arrangement, there should be appointed an Intercolonial Council of one member from each Colony, who would be chosen from their own number by the members of the Board of Advice in the several Colonies.

6. The business of the Boards of Advice, so far as it had an intercolonial bearing, would come before the Council for confirmation, and the decisions of the Council would be binding on the Boards of Advice and the companies they represent.

(3.) *Colonial Meat Importation Association.*

7. The agents of the several graziers' meat-export companies in London should form themselves into a Colonial meat importation association, and should at the first general meeting appoint from their own number a committee of seven, who would retain office for twelve months, and manage the affairs of the association; and this committee would, under the control of the Boards of Advice and the Intercolonial Council, carry out among others the following special duties:—

- (1) They would meet regularly every week, and oftener when necessary.
- (2) They would decide what quantity of meat of the several kinds and grades should be put on the London and other markets during the following week.
- (3) They would settle, on the basis of number of stock which the shareholders of each company owned, the share of the offerings for sale which the several companies were entitled to put on the market, unless where the market is under-supplied, when it might be offered under the same rule by those who had the meat on hand.
- (4) They would consider and decide as to the minimum prices at which the different sorts and grades of meat would be sold during the following week.
- (5) They would keep the Boards of Advice and the Intercolonial Council fully advised as to the state and prospects of the trade.
- (6) They would advise as to the ports and refrigerating stores to which the shipments should be sent.
- (7) They would, where necessary, recommend the establishment of fresh distributing centres for the sale of meat and other produce.
- (8) They would see that sufficient cold storage was provided, and where it could not be obtained recommend the leasing of the necessary buildings and the erection of machinery.
- (9) They would recommend the engagement by the Intercolonial Council of some one who had a thorough practical knowledge of the Colonial meat trade, to inspect and report to the association on the state of the trade at the different distributing centres, to recommend fresh centres where necessary, and to maintain and extend the trade in Australian produce.
- (10) They would advise also as to the best breeds of stock for shipment, the modes of preparing the meat, the seasons to ship, and in regard to all other matters which would tend to the extension of the trade in Great Britain and on the Continent, and the opening up of fresh markets.

It will of course be seen that, even if all the meat companies in the Australian Colonies were to agree to co-operate as here suggested, and entered into an arrangement to curtail their shipments on some such basis as that of the number of stock owned by their shareholders, that might not have the effect desired of reducing the supply offered in the London and other markets, for not only might advantage be taken by the Australian trading meat companies, and by the companies generally in New Zealand, to send on more mutton, but it is very probable that the shippers in South America would do so; and that although those entering into the arrangement might lessen their supplies, the shipments from the directions mentioned would be increased, and the expected improvement of prices would not take place.

There would, no doubt, be considerable risk of this taking place—so far as the countries mentioned have the additional sheep to send—but it is questionable if they have. But the matter mentioned is only one of the many means, though a very important one, which it would be advantageous to take to put the meat trade in London on a satisfactory footing; and there are so very many other ways in which co-operation would be of solid benefit to stock-owners that the doubt which exists with respect to the effect of a combined and systematic curtailment of shipments of Australian meat, ought not to prevent the realisation of the co-operation suggested. Instead of that, the fact that this doubt exists clearly shows the utter folly of meat companies, not to speak of stock-owners, attempting single-handed to put the meat-export trade on a satisfactory footing or imagining that they will get relief until this is done.

3. THE FROZEN MEAT IMPORTATION ASSOCIATION.

I believe an arrangement has more than once been made, and for a time acted upon, by at least some of those engaged in the frozen-meat trade in London for the conduct of that trade; and in the month of June last a set of rules for an association with the above designation was framed and printed with the view to putting the arrangement on a right footing and forming the association in a regular manner; but I understand that the arrangement has since fallen through, and the association will not now be formed.

It will, however, be gathered that the association here alluded to differs from that suggested by me in the foregoing conditions in two very important respects:—

- (1.) The members of the proposed association were not all members of graziers' or agency companies, some of them being actually dealers in meat, and, at times, purchasers of meat in London.
- (2.) The association was wholly a London association, and was not binding on the companies in the Colonies.

As regards the first difference, it was not to be expected, with the divergent interests of some of the members of the proposed association, that it would last. It is, however, different with respect to the association suggested by me. The interests of all the companies which the members of that association would represent would be identical, and there would be every inducement for them to pull together.

Then,

Then, under the proposal I make, the members of the association are not like those of the association which has fallen through—entirely independent—but they would be under the control of the Boards of Advice and Intercolonial Council, to the extent that although they would have the power to fix and alter prices, that would be subject to confirmation as regards subsequent markets by the Intercolonial Council.

4. THE RESULT OF CO-OPERATION IN DENMARK.

I have been the more induced to deal with the question of co-operation at the length I have gone through the remarkable success which has attended its adoption by the farmers in Denmark in the making and marketing their butter. Very little more than twenty years ago the butter made in Denmark was described in a British Consular report as execrable, and the return from it must have been exceedingly small, while for the last six or eight years at least Denmark has been supplying England with about £5,000,000 worth of butter a year, and the greater part of first quality. All this has been brought about by co-operation, in the first instance, among the dairymen in Denmark in the interchange of information in dairying and the introduction of machinery and improved appliances for the work—in the making of the butter and its preparation for market—the practical grading of the butter previous to shipment—the enforcement of a thoroughly honest trade—and afterwards in the shipment of the butter to England and its distribution and sale there; and so efficiently and honestly has the trade been conducted under this system of co-operation that numbers of the retail grocers and provision dealers in England and Scotland now send their orders direct to the dairymen in Denmark, and not only are these grocers and dealers better served, but the dairymen are considerable sums in pocket which they used to pay away in commissions; for when they began to ship butter to England, the dairymen were charged commission by the merchant in Denmark, who consigned to another merchant in England, who also charged commission; and he again put the butter into the hands of a salesman, who, too, had to be paid. Now this, through co-operation, is all changed: first, by dropping off the Danish merchant; then the English merchant was dispensed with; and lastly, the salesman. I do not say that the Australian meat trade can be conducted in this economical way; but the Danish experience goes to show what can be done when any class of producers work heartily together for the common good.

Good results would have, likewise, followed co-operation among the exporters of butter in our own Colony under the New South Wales Dairy Farmers' Association if it had been confined to farmers and dairymen; and although our meat companies might not be able to go to the same length in co-operation and its objects in several respects as the exporters of butter, still it is believed that they would, if an earnest effort were made, be able to work together to such an extent as would put the trade upon a satisfactory footing—which, I am afraid, it will never be unless practical co-operation among our meat export companies is secured.

XI.—The advantages of Direct Shipments and fresh centres for Distribution and Sale.

It has been frequently suggested that distributing centres for the sale of meat and other Australian produce, besides London, should be established in Great Britain and Ireland, and direct shipments where practicable be made to these centres; and where they cannot be so by steamer they be sent to the nearest ports to the centres, and forwarded from there direct by rail to these centres; and I cannot too strongly support such a suggestion, nor can it be too quickly acted on. But, of course, at every centre there must be sufficient cold storage. The advantages of such a system are, among others:—

1. There would in many cases be a saving of expense, as Australian meat and other produce has now to be forwarded long distances from London by rail at a considerable cost for carriage.
2. Long journeys by rail in ordinary trucks in hot or even mild weather, more or less detract from the appearance of the meat or produce, and tend to curtail the keeping margin for distribution and sale, while this deterioration and risk of loss would, with fresh centres and direct shipments, be largely, if not wholly, avoided.
3. There would then be no room for the complaints which are now frequently made—and, it is believed, with good reason—that the consignees and agents in London keep the best of the produce for disposal there, and send on the stale, the inferior, and what they cannot sell in London, to the provinces for disposal, thereby keeping in touch with their own purchasers, and making it appear that higher prices are obtained in London than elsewhere, but very seriously damaging the character of Australian produce in the other parts of the Kingdom.
4. With additional distributing centres, cold stores, and direct shipments, there would be a constant, steady supply of our produce on hand in these centres, and that would enable not only the existing trade to be well maintained, but fresh business would be secured, and the trade in Australian produce would steadily extend and increase.
5. The advantage of saving the heavy accumulation of Australian produce in London, thereby curtailing the scope of the operations of rings and monopolies, lessening the number and influence of middlemen, and, it is hoped, eventually leading to their disappearance, even, perhaps, in London.

6. Direct shipments would be a great assistance in fighting the American competition, and with proper management would lead to the displacement to a large extent of American meat and other produce by Australia.
7. The encouragement which the establishment of distributing centres would give to the formation of Retail Distributing Companies. Except, perhaps, in London, where meat is constantly coming from all parts of the world, and perhaps also Liverpool, which is so very frequently and fully supplied by both North and South America, it would not now be possible to form Retail Distributing Companies such as that at present being floated by Mr. C. R. Valentine in London. But with the establishment of these centres, which would always have a full supply of meat, these Retail Distributing Companies might confidently be formed; and if they were, it is more than probable that they would before long purchase their supplies in the Colonies, at prices free on board, and get their meat and other produce direct from the Colony where the company with which they dealt had their works.

It will be gathered from what has been said that the formation of fresh centres of distribution and direct shipments would be of the highest possible benefit to the frozen meat trade; that, in fact, these changes, if systematically adopted and properly carried out, would not only place the business in the existing centres of distribution on a satisfactory footing, especially in London, by relieving the glutted markets, but would tend very largely to the extension of the business and the displacement by Australian of American meat to a considerable extent in the larger manufacturing towns in the Midland and Northern Counties of England, and in the South of Scotland. But while this is the case, and however desirable and practicable these changes might be, it will take some time to bring them about; for in order to get steamers to carry loading to a port other than that to which they have been accustomed to trade it would, as a rule, be necessary to guarantee "out loading" from the port as well as "in," unless it is arranged, as it has been in some instances, that the owners of the vessels receive such a rate of freight for carrying the frozen meat to England as induced them to come out for the meat in ballast. Generally speaking, therefore, this question of "out loading" is one of the difficulties which will have to be settled before direct shipments can be secured to ports other than London and Liverpool, and, perhaps, Glasgow and Manchester. Even as regards Manchester, notwithstanding the great inducement there is to make the canal pay, and the fact that so many of those connected with the trade there are interested in the canal, it will take a little time before a direct trade can be established, and the full amount of business done in that way; for, while all the cotton and woollen goods and a great deal also of the iron, as well as other articles, would have considerably less railway freight to pay from the works to the port if they were shipped from Manchester than from London, almost all the larger cotton and woollen manufacturers, and in the other trades, have houses in London as well as in the towns in which their works are situated, and London, of course, is the centre of all financial transactions. Although, therefore, direct shipments are most essential, so far as we are concerned, and would be very advantageous also to manufacturers and others in England and Scotland, saving as they would considerable sums on the carriage of the raw material, as well as tending to an increase of trade, and although direct shipments are bound to come, it will take some time before they can be obtained so widely at any rate as they are required. This, however, as I have already pointed out, need not stop the establishment of fresh distributing centres, for arrangements can be made with the railways to carry our produce from the port nearest to the centre at special rates until direct shipments are obtained.

Beyond all question the greatest and most effectual alteration which can be made in the frozen meat trade as now conducted in England and Scotland is the establishment of these fresh centres and cold stores, with a constant steady supply of meat, which is really first class.

XII.—Fresh Distributing Centres Recommended.

The fresh centres for distribution which I would suggest are:—

- | | |
|----------------|----------------|
| (1) Manchester | (6) Hull |
| (2) Birmingham | (7) Liverpool |
| (3) Newcastle | (8) Glasgow |
| (4) Cardiff | (9) Nottingham |
| (5) Bradford | |

and I think they stand in order of their importance so far as the distribution of meat is concerned.

As to the order again in which they should be established, the question of how far they are now provided with cold storage has to be borne in mind; and looking at the question from that point of view, I would recommend that a commencement be made in the following order:—(1) Manchester, (2) Birmingham, (3) Cardiff, (4) Glasgow, and (5) Liverpool, at all of which towns there are cold stores at which accommodation is ordinarily to be obtained; but with the heavy shipments and slow sale of Australian meat recently sent to England, some of these stores may now be full.

With respect to the other cities mentioned, cold storage would have to be provided, and it would be in such cases as these, and where the stores already erected are full, that the possession by the companies of ample capital would be of great advantage.

XIII.—Deception practised in the Frozen Meat Trade.

1. NEW ZEALAND AND AUSTRALIAN CROSS-BREDS SOLD FOR SCOTCH AND ENGLISH.

There is no question but a vast amount of deception has been practised in the frozen meat trade, but it has been principally confined to the retail portion of it. The consignees and importers have, of course, known where the meat they had to offer came from, and so would the salesmen. This would be the case also in almost every instance with the wholesale purchasers and middlemen, and it might really be said to be so also as regards the butchers who buy and retail the meat; for they could not help knowing that the sheep had been frozen, and besides, they know their business too well not to be able to distinguish Australian and New Zealand from Scotch and English mutton. I am, therefore, justified in saying that the principal, if not the sole offenders, with respect to the deception which has been going on for years, have been the retail butchers. To give a clear idea of the profits made by retail butchers who adopt these practices, I will suppose that a butcher who professes to sell only Scotch and English mutton purchases wholesale a first-class New Zealand (Canterbury) cross-bred wether weighing 60 lb. at the present average rate of 3½d. per lb., and retails the sheep at the present price of the best Scotch or English mutton, 8½d. per lb. The case would then stand thus:—

New Zealand cross-bred prime wether, 60 lb., at 3½d.	£0 16 10½
Retailed as Scotch, 60 lb., at 8½d.	2 1 3
	<hr/>
	£1 4 4½

Thus making £1 4s. 4½d. on the sheep, or 4¾d. per lb.

Whereas, if the sheep is sold as New Zealand, the case would stand thus:—

	£	s.	d.
New Zealand cross-bred prime wether, 60 lb., at 3½d.	0	16	10½
Sold at current rates for New Zealand mutton, 60 lb. at 5¾d.	1	6	10½
	<hr/>		
	£0	10	0

Leaving a profit in this way of 10s. on the sheep, or 2d. per lb., and showing that the butcher, by the deception he practised, would make on a single sheep, over and above what may be termed a legitimate profit £0 14 4½

While, again, this statement shows how very strong the inducement is to practise the deception referred to, the fact that it has been so long and so generally practised is conclusive proof that first-class New Zealand and Australian cross-bred mutton has not been bringing anything like its real value in the wholesale market in Sydney, as compared with the best Scotch and English. The latest quotations of the two classes received were—Scotch, 4s. 8d. to 4s. 10d. per stone of 8 lb., or (say) 7½d per lb.; and best New Zealand, 2s. 6d. per stone, or (say) 3½d. per lb. The difference, therefore, in the price of the best frozen mutton and of the best home-bred, (say) 3½d. per lb., is quite an unnatural one. That this is the case is easily proven, for supposing that there was some difference in the real value of the two descriptions of mutton, it is absurd to say that it really amounts to 3½d. per lb., the difference at present existing between the two sorts, in the face of the fact that the one kind of mutton is frequently sold for the other, and so frequently is this the case that it is safe to say many hundreds of tons of New Zealand mutton have been retailed for best Scotch and English without the butchers' customers being able to detect the difference. Besides, when the question has been put to an actual table test, no such difference has been recognised, and New Zealand lamb is frequently preferred to Scotch or English, and asked for in preference at a good many of the clubs, being more tender.

I am aware that those connected with the trade attribute the enormous difference here noticed to the prejudice that exists against frozen mutton, and there is no doubt such prejudice does exist, but it is said, and there appears to be at least some grounds for the assertion, that some time after meat began to be exported from New Zealand to London a combination was formed there for the purpose of controlling the frozen meat trade in the same manner as so many of the trades in London are controlled by rings and middlemen, and that this prejudice was actually created and fostered, and is still maintained by the combination to serve their own purpose, and of course also by all the butchers who sell or pretend to sell home-bred meat, and whether there be any truth in the charge thus brought against the wholesale butchers and middlemen or not, there is no question but they have, assisted by glutted markets (which again have been caused through the exporting of a good deal of second and third class meat, and by the loose and incautious manner many of the Colonial shippers of meat have conducted their business), been enabled through this prejudice to get a very large reduction on the price the meat originally brought, and frequently to purchase it at almost their own price.

Those, again, who make these statements say that they are borne out by the fact that, notwithstanding the frozen sheep which were at first exported from New Zealand to London were over-fat and heavy weights, averaging about 80 lb., they for several years brought prices approximating to those at which the best Scotch and English were sold; and they say it was only after those in the trade had time to study the situation and make their arrangements for obtaining and keeping the control of the market that the price of New Zealand mutton began to fall. That such a fall did take place will be seen by the following statement of the prices the New Zealand mutton brought from 1883 to 1893 inclusive:—In 1883 the average price for the year was 7d.; in 1884 it was 6d.; in 1885 it was 5½d.; in 1886 it was 5¾d.; in 1887 it was 4½d.; in 1888 it was 3¾d.; in 1889 it was 4½d.; in 1890 it was 4¾d.; in 1891 it was 4½d.; in 1892 it was 4½d.; and in 1893 it

was

was 4½d. Now, although the increased supply may have been the direct cause of the fall in the price of New Zealand mutton, still, if an unfounded prejudice had not been aroused against its use, the natural result of the increased supply from New Zealand would have been that not only would the value of that mutton but also of the home-bred declined; for it is only right to suppose, as the New Zealand mutton had for three or four years at least been selling at prices approximating those brought by the best Scotch and English, and evidently taking the place of both these classes of mutton, that the price of both these sorts of mutton would have also declined. But, instead of this, the price of prime Scotch and English, according to the latest quotations, is higher than it was, at any rate, in 1888. There are, therefore, I think, grounds for the complaints which have been made that interested parties are systematically fostering and encouraging a feeling of prejudice against frozen beef and mutton; and it is only natural that those who profit by the existence of this prejudice—the wholesale butchers, middle-men, and retail butchers—should be blamed with respect to it. No wonder that the New Zealand and Australian sheep-owners who send first-class cross-bred mutton to England should be exceedingly sore, when by the latest accounts the best New Zealand was only bringing 3½d. per lb. (and best Australian merino only 2¼d.), thus showing the enormous and unreasonable difference of 3¼d. per lb. between the price of New Zealand and Scotch mutton, notwithstanding the acknowledged excellence of the former; or, in other words, that Scotch mutton was bringing more than double the price of the best New Zealand, and very little less than three times the price of Australian.

2. AUSTRALIAN MEAT SOLD FOR NEW ZEALAND.

While the practice of retailing New Zealand mutton for Scotch and English is prevalent in Great Britain, it is even more common for those who purchase Australian and River Plate meat to pass it off as New Zealand, thereby making an extra profit of at least 1d. per lb. by the deception; and so very general is this practice, that neither Australian nor River Plate meat is ticketed as such in any of the butchers' shops. In a good many cases certainly the word "Colonial" appears in the sign over the shop door, but I do not recollect seeing either Australian or New South Wales. Indeed, people from Australia who have been in England complain on their return that they were unable to find any shops where Australian beef or mutton was sold. The reason is plain—the butchers made a better profit by not declaring where the meat came from, the prejudice created against Australian meat being even greater than against New Zealand.

3. MARKING OF IMPORTED MEAT.

There has been a good deal of agitation in Great Britain for the marking of frozen meat, more particularly mutton, with the view, as those moving in the matter say, to prevent the deception which has so long been rife in the sale of New Zealand and Australian mutton for home-bred; and I believe that such a course would not only have the desired effect, but would in the long run be greatly to the advantage of our sheep-owners, if sufficient care were exercised that we export only prime quality; for, if we were to do so, and the meat was legibly marked, the prejudice which now exists would be removed, the meat would bring a better price, and the English householder would no longer be deceived and robbed to the extent I have shown he now frequently is.

As to the marking, some practical mode of carrying that out in a speedy and economical way could, I believe, be found. It is true that as regards such small pieces as steaks and chops the marking in a thoroughly efficient manner might not be practicable, but it might be so as regards all the joints usually cut either of beef or mutton, either as has been proposed by electricity, or with a tattoo stamp, which could be imprinted, say, two or three times on each joint.

This marking would be doing what is now done with almost every other description of produce, it would be branding it with the producer's brand, thereby in reality protecting the producer as well as the purchaser, and by giving confidence in the quality of the produce, would induce him to give a better price; at the same time the brand would prevent unscrupulous dealers from palming off inferior produce as first quality.

XIV.—Distribution and Sale of Frozen Meat in Great Britain as at present, and prospects of extension of the Trade there.

It is a difficult matter to ascertain how a great deal of the New Zealand and Australian meat which is brought to England is retailed. There are, of course, many shops in England, and some in Scotland, in which frozen meat is openly offered for sale and large quantities of both New Zealand and Australian are sold; but it is believed that the quantity disposed of in that way is not more, if it is not actually less, than what is sold without its origin being disclosed; for while something like 1,893,000 New Zealand, 605,000 Australian, and 1,373,000 River Plate sheep, making together 3,871,000, were imported in 1893, it is questionable if half that number of frozen sheep were exposed for sale in the shops as such.

While London is the great *entré* port for frozen meat, it is in London and its suburbs that the largest quantities of New Zealand and Australian meat are consumed; and the nearer the more important towns are to London, the greater the quantity of frozen meat is used in them. In the south and south-western portions of England, too, a great deal of frozen meat is sold, particularly in and around Bristol, Cardiff, Newport, and Swansea, and it may be said, speaking generally, that a great deal more frozen meat, and principally New Zealand and Australian, is sold in the south of England than in the north, or even in the midland counties. In fact, when a distance of, say, 70 or 80 miles

miles in a western and north-western direction from London, and, say, 100 to 120 miles in a northern and north-eastern is reached, the demand for New Zealand and Australian meat begins to fall off in the larger towns, and farther north in the same directions the sale becomes less, until perhaps some 40 or 50 miles further, the falling off in the sale is still greater through the increased distance from London, and its meeting the River Plate meat landed in Liverpool, the sale of which is pushed with greater energy than the New Zealand and Australian, by firms such as James Nelson and Sons and Eastman and Co., who, as I have already stated, carry on an extensive business, both wholesale and retail, in frozen meat, chiefly River Plate.

North of Huddersfield, Bradford, Leeds and York, which are all largely supplied from Liverpool, if we except Newcastle, which also receives considerable supplies of River Plate, very little frozen meat is sold till Edinburgh and Glasgow are reached, and even in these cities the sale of New Zealand and Australian mutton is by no means large. In Edinburgh, I believe, there is more of New Zealand and Australian sold than in Glasgow, in proportion to the number of the inhabitants, for not only is River Plate meat sent there in considerable quantities, but in the fall of the year, say from October to December, large numbers of inferior highland sheep, which their owners cannot keep to pay them during the winter, are put upon the Glasgow market and sold at prices which enables the butchers to kill and retail them at as low rates as they could sell the frozen mutton, and they say the Scotch mutton, though not so good as the frozen, is preferred by their customers. It could only, therefore, be during the first three months of the year that there would be much sale for our meat in Glasgow. There would, no doubt, be sale for a certain portion all the year round when provision is made for a steady supply, but the demand from April to September is, as a rule, slack for frozen meat, the Home supply being at that time large.

Although the prospects of a trade in frozen meat in Dundee are not very encouraging, still I think a small steady-growing business might be done there as well as in some of the other towns in that part of Scotland, from Edinburgh, when a distributing centre has been formed there, as there are large numbers of mill hands in Dundee.

I do not think there is any opening in Aberdeen for the sale of frozen meat, as there is an extensive business done there in slaughtering for London, and certain classes of meat are cheap.

From what has been said it will be gathered that a great deal more New Zealand and Australian meat, if prime quality, could be sold in the midland, and northern, and north-western, and north-eastern portions of England, provided the necessary fresh centres of distribution with cold stores are established; and as I have already pointed out these distributing centres are necessary, not only in order to enable our meat to maintain its ground against the North American and River Plate, which has already secured a good footing in the districts indicated, through their being more easily served from Liverpool than London, but also to assist it in displacing the American and River Plate meat and recovering lost ground.

While again it is a matter of the highest importance to obtain a good footing on the continent of Europe, and every endeavour should be made to open up markets there for our meat and other produce, we ought not to overlook the necessity for vigorous and combined work in the way of extending the business in Great Britain and Ireland, for not only would the benefit be more immediate, so far as regards the meat, than what may be expected from any endeavour on the continent, but it is to be borne in mind that the frozen-meat trade carries with it the trade in butter, cheese, fruit, game, fish, and poultry, as well as that of other articles which need the help of refrigeration in the course of their transport from Australia to Europe, and protection till they can be sold; and although the necessary refrigeration, freight, and cold storage, might to some extent, be provided for these other products independently of the frozen meat, it has only been through the establishment of the frozen-meat trade that the business in the other products was initiated, and it will only be by the extension of the frozen-meat trade that the trade in the other products will be established and extended; for they could not of themselves to any great extent afford to provide the necessary machinery, appliances and accommodation, to allow of a safe and profitable business being done.

SPECIAL AGENT IN LONDON FOR THE COLONY.

ALTHOUGH I am persuaded that it is only by the combined exertions of the different companies which have been formed for the prosecution of the meat export trade in the interests of our stock-owners, and by their working loyally together, that the trade can be placed on a satisfactory footing, and that the same thing applies to our dairy produce. I believe from what I heard while in England, that the system adopted by Queensland and some of the other colonies, of appointing special agents to make their products known, and assist in extending existing markets, and opening fresh avenues for their disposal, that that system has been of very great advantage to these colonies, not only as regards their meat and other products, but also in another direction, which is very important. I allude to the effective and practical way in which they are making the resources of the colonies they represent known to the people of Great Britain and Ireland; and although just at present, through the depression, which even yet exists in the Colonies, there may not have been the result which we have a right to expect, there is not the least doubt but their labours will bear good fruit, and lead to the introduction of considerable numbers of the most desirable class of immigrants, farmers and farming men.

If

If this be the case with respect to Queensland and some of the other Colonies there is every ground for believing that if a special agent were appointed for this Colony to act under the Agent-General the result would be even better than in that of the Colonies to which allusion has been made, for there are millions of acres of land admirably adapted for tillage in New South Wales which might be turned to more profitable account under cultivation than by depasturing sheep on the native pastures now that wool is low.

If these views are correct then I perhaps might be allowed to make a few remarks as to the class of man who should be appointed special agent.

1. He should be a good business man.
2. He should be well acquainted with the whole of the Colony and its climate, soil, and capabilities.
3. He should have a practical knowledge of the live-stock of the Colony, and how the meat and other products can be turned to best account.
4. He should be fully acquainted with our tillage, crop-growing and dairy-farming, and their prospects.
5. He should know something of our fruit-growing and wine and sugar industries, and be able to show how admirably adapted large portions of our Colony are for these industries.
6. He should be able to find new outlets for our timber.
7. He should have some acquaintance with our mining industry, and be able to speak as to its extent and prospects.
8. He should, as a practical man, be able to talk to practical men in regard to the various industries for which the Colony is adapted.

Holding these qualifications the Special Agent would keep in touch with the consignees and agents to whom our products are consigned for sale and distribution, and by visiting the more important towns in the United Kingdom and some of those on the continent, and interviewing the Chairmen of the Chambers of Commerce and the leading men in the different trades in these towns, the special agent would obtain a very large amount of valuable information which he would convey through the Department to those engaged in the sale of our products. He would also visit the principal agricultural shows, superintend the exhibition there of exhibits from the Colony, lecture on its resources, distribute pamphlets with respect to it, and meet and converse with those looking for information in regard to the Colony.

While again, the time of the Special Agent would be largely occupied in the directions indicated he would have an opportunity of ascertaining, in many cases by personal inspection, the value of any new improvements which were reported in the production, preparation, transport, or marketing of any of our exports, and would report fully through the Agent-General on these matters for the information of our producers and exporters. In fact, moving about as he would do, he would frequently obtain information on a variety of subjects which would be of value to the Colony, and which he would be careful to convey to the Agent-General.

ALEX. BRUCE,
Chief Inspector of Stock.

Sydney, 20th November, 1894.

The Linde British Refrigeration Company, Limited (Australian Agency),
Alliance Chambers, 97, Pitt-street, Sydney, 15 November, 1894.

Dear Sir,

We have the honor to hand you a plan for a refrigerating installation arranged for the purpose of testing.

The plant is to consist of one Linde refrigerating machine with a capacity equal to the melting of 4 tons of ice per day; the ammonia compressor will be combined with a steam engine and with an open-air ammonia condenser. The cooling of the rooms to be controlled by one Linde disc air cooler, with fan for causing a circulation of the air in the rooms and among the meat and produce to be refrigerated. By this system the warm and foul air is drawn from the rooms, passed over the discs of the coolers, where it is purified, and delivered back into the rooms, cold and dry; by this system also there is an entire absence of snow or moisture in the rooms. This is especially suitable for dealing with meat either when chilling or freezing, and a necessity when dealing with cheese in hot weather. For dealing with butter the air circulating is not so important, and we have, therefore, designed the plant with brine pipes in one of the rooms.

The plant would be of great utility for dealing with fresh meat (either for chilling or freezing), butter, fruit, cheese, milk, and all other perishable articles.

We estimate the cost of the whole to be as follows:—

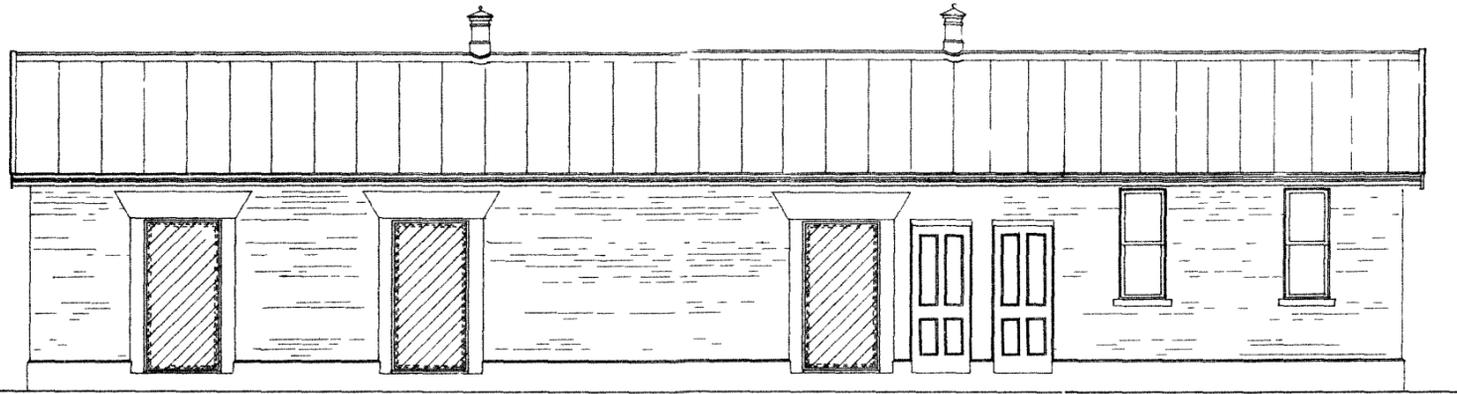
	£	s.	d.
One Linde refrigerating machine, disc cooler, brine pipes, and pump complete, including first charge of anhydrous ammonia and calcium chloride; all delivered in Sydney—eight hundred and twenty-seven pounds sterling	827	0	0
Boiler, water pump, water connections, erection of machinery, &c.—two hundred and eighty-five pounds.....	285	0	0
Construction of insulated rooms—two hundred and fifty pounds	250	0	0
Outer building of brick—two hundred and twenty-five pounds	225	0	0

Yours, &c.,

J. WILDRIDGE AND SINCLAIR.

Alex. Bruce, Esq., Sydney.

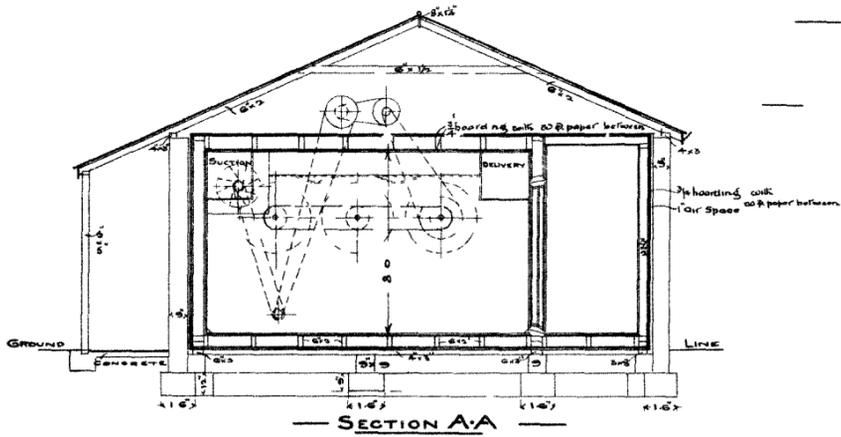
[One plan.]



— FRONT ELEVATION —

— REFRIGERATING TESTING ROOMS —

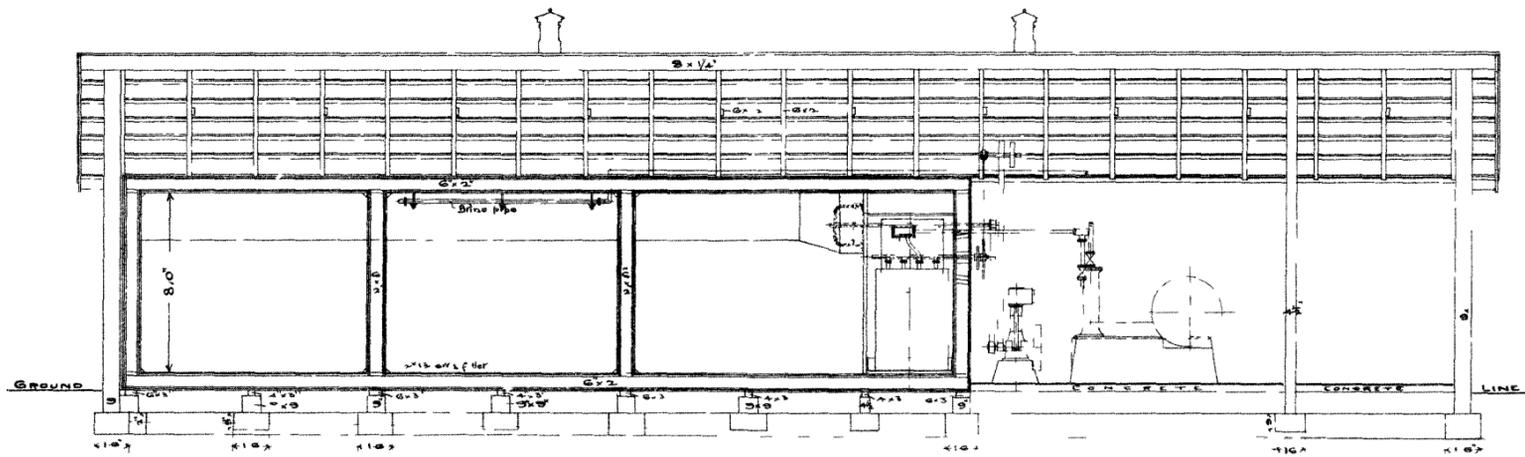
— LINDE SYSTEM —



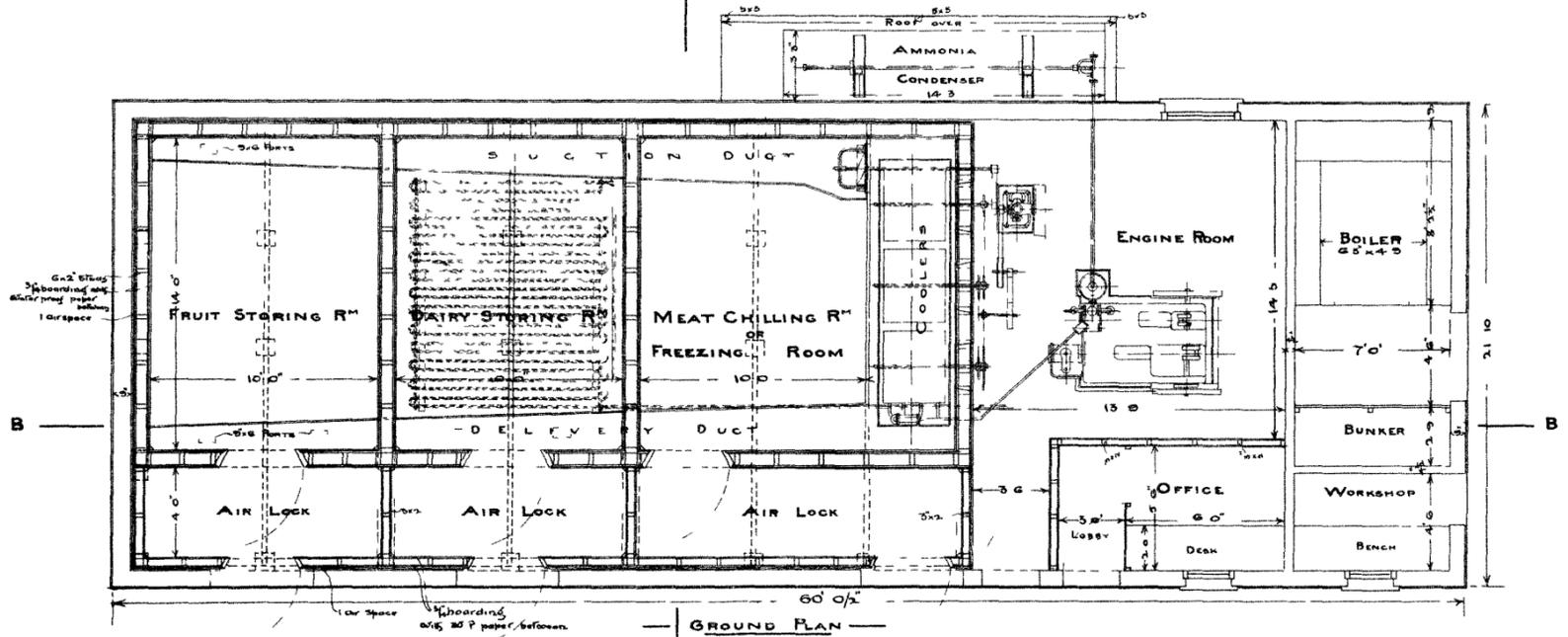
— SECTION A-A —

Scale
0 1 2 3 4 5 6 7 8 9 10 Feet

— J. WILDRIDGE AND SINCLAIR —
— CONSULTING ENGINEERS —
37 PITT STREET SYDNEY



— SECTION B-B —



— GROUND PLAN —

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

LIVE STOCK AND MEAT TRADE OF THE UNITED STATES
OF AMERICA.

(REPORT BY THE CHIEF INSPECTOR OF STOCK ON.)

Ordered by the Legislative Assembly to be printed, 27 September, 1894.

REPORT by The Chief Inspector of Stock on the Live Stock and Meat Trade of the
United States of America.

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THE LIVE STOCK AND MEAT TRADE OF THE UNITED STATES OF AMERICA.

INTRODUCTORY STATEMENT.

WHEN I left the Colony for America it was understood that a considerable portion of my time would be devoted to visiting those parts of the United States where it was likely I would be able to obtain information that would be of service to our pastoralists or farmers, but on arriving at Chicago I had to devote my attention to the arrangement and display of our exhibits of wool, and by the time these were completed, arrangements were made for their examination by the judges.

This occupied fully two months, and it was the beginning of October before I was able to leave the Exhibition. I then made a hurried journey to Los Angeles, in Southern California, to see something of the nature of the country on the route, and attend an Irrigation Conference held in that city, at which delegates from all the Western and some of the Central States of the Union were present, as also representatives of several of the other countries attending the World's Fair. The principal business of the meeting was to ascertain the position of existing water rights in the United States, and collect materials for legislation.

After considerable discussion the resolution arrived at was that all water should be placed under the control of the Government, to be fairly apportioned under Trusts to the individual owners entitled to its use.

Very large tracts of land in Southern California are irrigated, and fresh areas of considerable extent are being constantly laid out, while water is brought very long distances from the mountains at heavy expense, and in every instance, so far as I could learn, it was laid on by gravitation. In several cases the supply was considerably increased by the flow from artesian bores.

The delegates, after the business of the meeting was concluded, were kindly shown over the famous orange and stone-fruit orchards and vineyards at Riverside, San Joseph, Los Angeles, Antonio, San Bernardino, The Perris, Alessandro, San Diego, and Santa Barbarra, which are all admirably laid out as regards levelling, service of water, and convenience for thorough irrigation, and are kept in the highest state of cultivation. As regards the excellent quality of the fruit grown in California, I need here say but little, as that has been fully dealt with in the Executive Commissioner's report on the fruit exhibited at Chicago, and that again has been fully confirmed by the excellent oranges and other fruits grown from Californian seeds, trees, and grafts received in Sydney from Mildura, as well as by the very taking samples of canned and dried fruits sent us from that State.

Along the route by which I returned to Chicago—"The Santa Fe," there is a good deal of mountainous barren country in Southern California, and even where fairly level the land is sandy and dry, and a great deal of the State which adjoins Arizona is arid and valueless, with here and there along the coast tracts of fairly good wheat land.

From Southern California again through Arizona and New Mexico, the country, as seen from the train, is the worst I ever travelled through, being barren and arid, and the vegetation of the scantiest description with exceedingly few creeks or rivers, and what there were apparently sanded up and dry during summer for the greater part of their course.

From New Mexico the country improves as the line approaches the valley of the Missouri where the far-famed corn-growing lands of America are situated, and in that of the Mississippi; and they continue to the vicinity of Chicago. As regards the land east of that city on the line to Boston the soil is comparatively light, and though generally of a kindly description and fair pasture land, it is not at all to be compared in fertility to the soil in the valleys of the Missouri and Mississippi. These remarks apply also in a considerable degree to the land along the railway from Chicago to New York, but on that line the land improves as it goes south, and approaches Philadelphia where some very good soil is seen.

While engaged at the Exposition I, of course, in accordance with the instructions I had received, took the opportunity of visiting the Union Stockyards in order to ascertain the number of stock which passed through the yards, what their quality was, how they were sold, the prices they brought, and to trace as far as possible the course of the American trade,—and I have now the honor to submit that portion of my report on these subjects which relate to the American Meat Trade.

I. THE NUMBER AND KINDS OF STOCK.

The latest returns available give the live stock in the United States as under :—

Horses	...	...	...	...	...	...	16,081,000
Mules	...	...	...	...	...	...	2,314,000
Milch Cows	...	...	...	...	...	...	15,487,000
Oxen and other Cattle	...	...	...	...	...	...	36,608,000
Sheep	...	...	...	...	...	...	45,048,000
Swine	...	...	...	...	...	...	45,206,000

II. THE LIVE STOCK EXHIBITED AT THE WORLD'S FAIR, CHICAGO.

I WILL here enumerate the different breeds of the stock exhibited at the Fair as some criterion of the description and quality of the live stock in the United States; and I may say with respect to the show of live stock, that it was in my opinion more than equal in the number and variety of breeds, and fully equal in quality of the exhibits to the best displays of the Royal English,—the leading Agricultural Show of Great Britain.

1. *Horses at the World's Fair.*

(1.) Heavy Draughts.

Under this head, at the World's Fair, the Clydesdale, the Shire, the Suffolk Punch, the Belgian, the Percheron, and the Norman were well represented. With respect to the number and character of these different breeds in the United States, it may be said that while there are a great many excellent specimens of the Clydesdale and Shire horses in the States—and the Clydesdale is very generally to be met with—the draught horses there, taken as a whole, are comparatively light, being largely of the Percheron and Norman blood; and there is no doubt that for farm work the lighter horse is the better. But not only is this the case in the country districts, but also to a large extent even in the towns, where immense quantities of goods have to be moved, and where, instead of heavy, slow-going horses moving large loads, as in Great Britain and in the Colonies, in the American States teams of comparatively light horses (what might be termed powerful light harness horses), are to be constantly met at a trot with perhaps little more than half the load which would be put on the waggons in England or in the Colonies, but going twice as fast as the heavy draughts.

The Percheron and Norman horses are specially adapted for this system of transportation. They began to be imported in 1850, and so largely have they been so, that the blood of these two French breeds, especially the Percheron, is now much more generally distributed in the United States than any other of the draught horses.

The Percheron, of which, I believe, there have been no importations into this Colony, may be described as a very compact, short-legged, small draught horse, with a rather thick neck, straight shoulder, short back, full drooping hindquarters, and rather round bone. He is, as a rule, wanting in style and action, but is hardy, staunch, and good-tempered, and as a generally-useful horse, either for the country or in the town, where very fast work is not called for, is everything that could be wished. The lighter descriptions of the breed make good 'bus and parcel delivery horses.

The Norman is another French breed, and may be described as an upstanding, powerful, well-bred, well-shaped, light harness horse, with good head and rein. Like the Percheron, the Norman is very much used as a waggon horse in the American cities and also on the farms, but he is much superior in shape, action, and style to the Percheron; and as I believe the Normans would make excellent sires to put to our light, well-bred mares, I would recommend some of our horse-breeders to import them from France.

(2.) Light Harness.

The representatives of this description of horse at the Exhibition were the Cleveland, the Yorkshire coaching horse, the German coach horse, and the French coach horse, a very stylish animal.

(3.) The Saddle Horse.

This section included the English thorough-bred, the English hackney, the Morgan horse, the American hackney, the Arab, and the American, French, and Russian trotters. The breeds of horses in this section, which have not been introduced into Australia, are the American hackney and the French and Russian trotters. The American hackney is apparently a second but higher-standing edition of the English horse of the hackney breed.

The French trotter is a more stylish horse than the American, but not so fast; and the Russian, which has many of the characteristics of his Arab progenitor, also shows more breeding than the American, and is said, if properly trained and driven, to be as fast.

(4.) Shetland Ponies.

There were 85 entries in this section, and many of the exhibits were everything that could be wished in shape, action, style, and character.

(5.) Jacks and Jennets.

This was a well-filled section, and some very large and useful specimens were exhibited.

2. *Cattle at the World's Fair.*

(1.) Beef Cattle.

These were represented at the World's Fair by the Shorthorns, Herefords, Aberdeen Angus, Gal-
loway, Red Polls, and Polled Durhams, and the display was a very grand one both as regards numbers and quality, more especially of the four first-mentioned breeds.

(2.)

(2.) Milch Cattle.

The classes in this section were represented by the Jerseys, Guernseys, Ayrshire, Shorthorn, Holstein, Dutch Belted Cattle, and Brown Swiss; and the same remarks as to large numbers and excellent quality apply to most of the classes in this division, but with even greater force. This will be readily understood when it is borne in mind that there are over 16,000,000 of milch cows in the United States.

It was the importance of the dairy industry in the States that induced the Chief of the Agricultural Department to institute and carry out the elaborate experiments and tests conducted in the Dairy section of the Fair,—the detailed report of which may be shortly expected from America, along with other printed papers which are to be furnished to the Colonies and countries taking part in the Exposition. The Jerseys and Guernseys took the principal prizes at the Fair, both in the butter and cheese contests.

3. *Sheep at The World's Fair.*

This section was represented by the American Merino, the Delaine Merino, the Rambouillet, the Leicester, the Lincoln, the Cotswold, the Dorset Horn, the Southdown, the Shropshire Down, the Oxford Down, the Hampshire Down, and the Cheviot. Here again the classes were very well filled, and the sheep show was considered the most extensive and best of the kind ever held in the United States. There was a strong display of the American Merino, and a fairly good show of the Delaine breeds, and the exhibits in both these merino classes were of high quality.

There was also a good exhibit of extra large-framed well-woolled Rambouillet Merinos from Prussia. Several of the English breeds mentioned were forward in unusually large numbers; and, although a good many of the exhibits were not up to the English standard, there were others, more particularly the recent importations, that would hold their own in any showyard.

4. *The Pigs at the World's Fair.*

In this section the following breeds were represented:—The Berkshire, Poland China, Duroc Jersey, Victoria, Chester Whites, Essex, Large York, Small York, Tamworth, Suffolk, and Cheshire; and there is no doubt but that the show, if not the most extensive—there were 1,418 exhibits—was one of the best that has been seen in any part of the world.

The breed which made the most extensive display was the Poland China; but while this is the case—and the class was an excellent one, and contained many pigs of very high merit, and several were perfect models of what pigs ought to be—the Berkshire classes, although not so well filled as the Poland China, showed pigs of exceptionally high quality and form, and fully maintained the honor of the breed against their rivals of the Poland China blood.

These and the other black breeds find by far the greatest favour in the United States. For one white pig to be seen in the stockyards there are fifty black; and although the white classes were very fairly represented at the World's Fair, nothing like the same interest was taken in them as in the black breeds, especially the Berkshire and Poland China. These remarks apply also to the two red breeds—the Duroc Jersey and Tamworth; and with regard to the Tamworth, so much have the breeders of pigs in the States given their attention to shapes, early maturity, and propensity for fattening, that objections to the defects of the breed as regards these points were very freely expressed, and their good qualities of hardiness and large proportion of red meat overlooked.

III. THE CHICAGO UNION STOCKYARDS.

1. *Their Extent, Capacity, and Business Arrangements.*

THE stockyards were first erected in Chicago in 1856, with a capacity for 5,000 cattle and 30,000 pigs. In 1865 a new company was formed with a capital of £100,000, which acquired a tract of 320 acres of land (the site on which the existing yards now stand), and commenced business in December of that year with yards covering 120 acres, of various sizes, capable of accommodating from one to ten car loads, and 1,200 cattle pens and 1,000 sheep and pig pens were sufficient to accommodate the stock, while it now requires 2,000 cattle and 1,500 sheep and pig pens; and 50,000 cattle, 30,000 sheep, 200,000 pigs, and 40,000 horses may find quarters at these yards to-day. The horse exchange and pavilion is 530 feet long and 185 feet wide, with display track 36 feet wide and 530 feet long, and an amphitheatre sale-room capable of seating 3,000 people.

In 1892, 5,571,796 cattle, 197,576 calves, 7,714,435 pigs, 2,145,079 sheep, and 86,998 horses passed through the yards, while the largest receipts of stock in one week during that year were 95,524 cattle, 8,479 calves, 300,488 pigs, 69,966 sheep, and 3,679 horses.

On the arrival of stock at the sheds they are watered and fed at the following rates:—Hay, 4s. 2d. to 6s. 3d. per cwt.; corn, 4s. 2d. per bushel; and the yardage charges are: horses and cattle, 1s. 0½d.; calves, 7½d.; pigs, 4d. and 2½d.

There is an exchange building on the ground, with offices of some 140 commission firms, a restaurant, barber's shop, telegraph, &c., attached to the yards.

About 100 firms do packing and other business, and about 20 of these are prominently identified with meat-curing. Their plants are estimated at \$5,000,000, with capital of \$50,000,000; their employes number about 40,000, and the annual pay roll, \$300,000,000.

There are about 150 miles of railroad trucks in the yards, and the various companies have an arrangement with the Market Company for all freight and traffic both in and out of the yards. The stock arrive during the night or early morning, and freight is despatched in the afternoon and evening.

The cattle, sheep, and pigs are sold by the live weight, and on the sale being completed, which it is by private bargain, and not by auction, they are sent to the scales, where they are inspected, weighed, and the certificated weight given.

The scales can weigh up to 100,000 lb., but the average weight of a carload is about 25,000 lb.

The

The following report of a week's transaction in stock at Chicago, which is taken from the *Breeders' Gazette*, of 20th June last, gives a good idea of the business done and the prices obtained at the Union Stockyards:—

2. Report referred to.

Numbers of Stock.

Day.	Cattle.	Calves.	Hogs.	Sheep.	Horses.
Wednesday	14,614	636	32,105	8,305	307
Thursday	13,415	897	32,640	10,150	208
Friday	7,317	495	32,680	6,688	188
Saturday	1,267	83	21,882	564	86
Monday.....	13,607	555	34,500	4,650	180
Tuesday.....	4,500	1,000	20,000	9,000	200
Sales for the Week	54,720	3,666	173,807	39,357	1,169

Prices of Cattle and Calves.

	Per 100 lb.	
	\$	\$
First quality fully-matured beeves, from 1,600 to 1,700 lb. live weight	4.90 to	5.10
Second quality choices smooth fat steers, from 1,450 to 1,600 lb. "	4.65 to	4.85
Good to choice steers, weighing 1,300 to 1,400 lb. "	4.25 to	4.65
Medium to good steers, " 1,200 to 1,300 lb. "	4.00 to	4.50
Fat steers " 1,050 to 1,200 lb. "	4.25 to	4.50
Common butcher's steers, weighing 900 to 1,200 lb. "	3.25 to	4.00
Feeder's steers " 900 to 1,200 lb. "	3.25 to	3.75
Stocker's young steers " 600 to 850 lb. "	2.50 to	3.30
Butcher's stock, poor to extra, cows, heifers, mixed stuff, all weights, according to quality	1.25 to	3.75
Bulls, common to choice fat	1.50 to	3.50
Springers, common to choice, per head	20.00 to	45.00
Veal calves, poor to common	2.50 to	3.50
" fair to choice	4.00 to	5.00

Prices of Pigs.

Common to prime light, averaging less than 200 lb. live weight	...	4.00 to	4.70
Pigs, averaging from 200 lb. to 275 lb. ... ..	...	4.50 to	4.85
" " heavier ... ..	...	4.60 to	5.00

Prices of Sheep.

Poor to choice sheep, per 100 lb. live weight	...	1.00 to	3.50
Yearlings " " ... ..	...	2.00 to	3.75
Spring lambs " " ... ..	...	3.00 to	4.50

3. How Stock are weighed at the Union Stockyards.

On being sold the stock are taken by an employee of the salesman to one of the scales, *i.e.*, weighbridges which are provided by the Market Company, and there weighed by an officer of the company, who enters the weight in a register and hands a note of it to the person in charge; and the stock are paid for in accordance with the price agreed to, and the weight certified in the note. In this way all the purchaser has to judge is the quality of the stock, and, on the other hand, the seller is paid for every pound the stock weigh. I would recommend that the same course be adopted in the Colony at the principal markets, and that stock be sold by live weight.

An Act (copy of which Sir Saul Samuel has sent me) has recently been passed in Great Britain for the purpose of initiating the system of selling by live weight as in America, and weighbridges have been erected at the cattle-markets in the principal towns. I may add, however, that under the English Act it is optional for the seller to sell by weight, and the stock-owners have hitherto been somewhat slow in adopting that system, notwithstanding its advantages; but they are gradually coming to do so.

4. The removal of the Abattoirs and their re-erection near the Saleyards.

In going into details with respect to the Chicago stockyards and the conduct of the enormous business done in the Union Stockyards, one of my objects was to contrast the arrangements there with the manner in which stock are sold and slaughtered in Sydney, with the hope that I might thereby hasten the alterations which are so urgently called for in the mode of carrying on that business here.

For a long time the abattoirs on Glebe Island were a serious nuisance to the people of the Glebe and Balmain; but there has of late years been a change to a considerable extent in this respect for the better. The people in the suburbs, however, between Homebush and Glebe Island, are still subjected to the inconvenience and risk arising from the driving of the cattle to the abattoirs; and the cattle still suffer from the dogging and rushing and cruelty inflicted on them by the way, and the starvation they get in the waiting-paddocks,—while the waste and deterioration of meat, which all this occasions, is a serious loss to our stock-owners.

I would therefore suggest, as has often been done, that the slaughter-houses be brought as close as possible to the Flemington yards, or that an entirely new site be obtained where both the saleyards and slaughter-houses could be erected in close proximity to each other, and where there would be far more and far better waiting-paddocks for the stock than can now be conveniently obtained.

If the alteration first alluded to were adopted, then sufficient land on a suitable site on the old Homebush Estate, belonging to Mr. Wentworth, near the Parramatta River—as at one time suggested by Mr. F. L. Barker—would have to be resumed; and if sufficient land were resumed, due care taken in selecting the site, and proper arrangements made for dealing with the offal and bi-products, no nuisance need be occasioned to the people in the neighbourhood. In proof of this I need only point to the Union Stockyards and Slaughter-houses at Chicago, which are in the centre of the city, to the slaughter-houses in London and all the other large cities in Great Britain, and to those in Berlin, Brussels, and Paris, on the Continent,—all of which are closely surrounded with shops and dwelling-houses, and occasion no nuisance beyond what the stock traffic entails—while the site now proposed, on the old Homebush Estate, would, if a sufficient area of land were resumed, be very isolated, and at a safe distance from dwelling-houses, other than those of the people at work at the yards and abattoirs.

If again the other alteration mooted were considered advisable, such a site as that indicated could, I think, be obtained on Mr. Wentworth's land some 3 or 4 miles beyond Parramatta, on the Great Western line; and if that were not at too great distance (less than an hour by train from Sydney) for the butchers to attend the sales, it would be the better site on account of the large extent of land which could be got at a reasonable price for the yards and slaughter-houses, and the number of paddocks in the neighbourhood which could be used by the stock waiting for sale or slaughter.

Should this alteration be entertained, and, say, 100 acres resumed, a good many of what are termed noxious trades—many of which are connected with stock and their products—could be carried on upon the same land; and its purchase would thus get rid of another serious difficulty. As regards the railway traffic, again; if the abattoirs are to be removed, and are not to be brought together, as here suggested, at Homebush, it will I think be seen that no more suitable site than that beyond Parramatta can be got, so far as railway accommodation is concerned.

IV.—THE CATTLE OF THE UNITED STATES.

1. *Description.*

Although I had heard that the quality of the cattle in the States of late years had improved, I found it a good deal better than I expected on the occasions on which I visited the Union yards, and the beef in the slaughter-houses, to which visitors were admitted, was generally good, and in many cases very prime. But while this is the case, hundreds, I might say thousands, of very inferior cattle, principally poor cows, bulls, and stags were to be seen every sale-day in the yards which never left there alive, and were disposed of somehow—most likely in the shape of canned meats and sausages; and if this is the case it accounts for the small amount of nutriment which a great deal of the American canned meat contains, compared with that of the Australian and the New Zealand companies, which put up only prime beef and mutton.

The majority of the cattle in the Union yards had more or less of the Shorthorn blood, but they were in many cases polled, the system of dehorning being very general in the States. This, however, does not account for all the polled cattle brought forward, as there are not only a good many Aberdeen, Angus, and Galloway cattle, but also a breed of pure polled Durhams in the United States, which is fully recognised as such by the Breeders and Agricultural Societies, and, in framing the prize list of the Live Stock Show to be held at the World's Fair polled Durhams were allotted a separate class. I would strongly recommend that the system of dehorning should be adopted in this and the other Colonies. The operation is easily performed, and the advantages of dehorning are too manifest to need anything to be said in its favour.

It will be gathered from the statement and description in this report of the different breeds of cattle exhibited at the World's Fair that most of the leading races of beef and milking cattle to be met with in Great Britain have been introduced into the United States, and with the best possible effect. But although the very great improvement noticed has been effected by these importations there are still in a good many instances rough cattle to be seen, which show very decided traces of the old Spanish breed, particularly among those offered at Kansas city, and there is yet ample room for the improvement, which has set in so strongly throughout the States, to continue and spread.

The best fat cattle offered in the Chicago market are, of course, those which, after having been fattened for a time on the pasture, are topped off on corn and hay; and a large proportion of these cattle, as regards size, breeding, and quality, compare favourably with the best Scotch, English, and Irish breeds of bullocks. In fact, taken as a whole, prime fat cattle of heavy weights are proportionately much more numerous in America than in Great Britain or Ireland, as the tendency there of late years has been to turn their fat stock off young, and not keep them to the ages and weights which they frequently attain in the States. This system of early marketing, which is spreading in the old country, no doubt pays the breeder best, while the consumer does not object to young beef if the cattle are well bred and prime fat; neither does the retail butcher, as young stock of this description give proportionately more meat and less bone. In the United States, however, it is different, and it suits the packing companies better in the circumstances under which the trade there is done to give longer prices per 100 lb. for heavy weights. For instance, while prime bullocks weighing say 800 lb. dressed weights sold at \$4.75 per 100 lb. live weight, the same day bullocks going 950 lb. and upwards brought \$5.25, and the difference which this discloses is quite a usual one.

The improvement referred to in the quality of the cattle in the United States, of recent years, has been quite phenomenal. Twenty years ago the greater part of the cattle in the States were very inferior, and the very best of them—some of those in the States east of the Mississippi—were only on a par with the second-rate Scotch and English cattle. Now, however, all this is changed, prime fat cattle are to be met with a good long way west of the Mississippi, and every week there are now being shipped to Great Britain from America 5,000 or 6,000 bodies of chilled beef, and 9,000 or 10,000 live cattle, the great proportion of which are prime and some very prime beef. No doubt a good many pure-bred cattle, principally Shorthorns had been imported previous to 1870, and larger numbers still in 1871, 1872, 1873, and 1874; but it was not until the chilled-beef trade, which was initiated in October, 1875, and successfully established

established (which it was very soon after), that the great influx of pure-bred cattle—principally Short-horns, with considerable numbers of Herefords, some Devons, and afterwards a good many black polled cattle—took place, and continued up to a recent date. With these heavy importations of pedigree stock, a great many herds were formed to breed stud bulls, and as the export trade in chilled beef and afterwards in live fat cattle was a profitable one, and as both grass and corn of excellent quality were plentiful in the States, it can readily be imagined that owners were not slow in improving the quality of their meat, especially as they soon found, what is now so well known to us, that to do a paying trade only meat of the best quality need be put on the London and other important markets in England.

The cost of fattening cattle in America is considerable, and it is this which will enable the Australian Colonies, where the stock are fattened almost wholly on grass, to compete successfully in the British and Continental meat-markets with the United States. There, very few cattle are fattened on grass alone; and it is the almost universal practice to give the cattle corn (maize) as well as grass—that is when grass is available, and where it is not, to supply hay or some other fodder instead. It takes from five to six months in this way to fatten a bullock, and during that time he will consume from 60 to 80 bushels of corn, costing at a moderate average price (say) 1s. 5d. per bushel, and with the grass, hay, or fodder supplied, would amount to (say) from £5 7s. 6d. to £6 16s. 8d. for each head of cattle. But from this would have to be deducted the profit, say 30s. to 40s., made by fattening pigs, the custom being to put (say) one pig in along with each head of cattle to fatten on the grass and on the corn which the cattle leave or drop.

2. *The prices made by Cattle in the Chicago yards.*

Prime fat bullocks weighing (say) 1,400 lb. live weight (which would be about the average of our best Australian cattle) have, during the first six months of this year, been selling at the Union Stock-yards at prices ranging at from \$3.50 to \$5.15, and averaging during that time (say) \$4.17 per 100 lb. (*i.e.*, 17s. 4½d. per 100 lb., or 2½d. per lb. live weight), and that for 1,400 lb. would make the price in Chicago of a bullock of the description mentioned \$58.38, or in our money (calculating the dollar at 4s. 2d.) £12 3s. 3d.

To compare this again more closely with the prices current in our markets and those of the neighbouring colonies, it will be necessary to ascertain what the cost of the beef would be if calculated as it is in Australia by the 100 lb. dressed weight. With that view we will take the shrinkage at the rate usually allowed in prime beef, *i.e.*, 40 per cent. This leaves 60 per cent. of the gross weight of 1,400 lb. of dressed carcass, which would be 840 lb., and which costs £12 3s. 3d. This would make the price of prime fat cattle of the class mentioned sold on foot at Chicago, during the first half of the present year, 28s. 11½d. per 100 lb. dressed weight, or very nearly 3½d. per lb., a price which is nearly as high as prime American beef of that class often brings in London, taking both fore and hind quarters together, and such as would leave very little margin of profit to the American shipper after paying freight and charges, if he purchased at the prices quoted, and had to rely solely on the sale of the beef.

But, in the first place, although the prices given are those which I have quoted as ruling in Chicago, it may fairly be presumed that they are only given for beef of the very best description and prime quality, and that a great deal of the meat sent to Great Britain from America has been purchased at rates under those quoted as "top." This is in any case very probable, but I think it will be seen to be almost certain to be so when it is recollected that the meat trade in Chicago is very largely controlled by some six or eight of the leading companies in that city. Then the hide, fat, and other offal falls to the exporter; and, considering the exceedingly complete and thorough way in which the whole of the bi-products of the stock are turned to account and utilised by the great packing companies, they do not rely solely or even to any great extent on the amount realised from the carcass for a profit, inasmuch as they get large returns from the offal and bi-products. Then, again, by clearing the American markets of a large portion of the stock these packing companies are able to keep control of the American home meat trade; and thus, although they may make little or no profit on the meat they export, they gain indirectly by its leaving America, and charge higher prices for what they dispose of there.

3. *Veal.*

During the period here mentioned veal was selling in Chicago at an average of say ¼d. per lb. more than beef, but the price is a comparatively fluctuating one.

4. *How Cattle are slaughtered at Chicago.*

The cattle on being weighed are removed on viaducts built over the yards to pens in the packing-houses, which are in close proximity to the yards, and they remain there till required for slaughter, when they are passed singly into a narrow pen, over which a man with a long-handled hammer stands and drops the bullock with a blow on the forehead. Immediately he falls a lever is pulled, when the floor is raised at the back, and at the same time the partitions at the sides open and the carcass slides out upon the dressing-floor. There a man decapitates the body with a single stroke of the knife, others cut off the legs at the joints, another fixes hooks in the tendons of the gambel joints, others begin to skin the body; and in a very short time it is hanging dressed.

The backbone is then split with a cleaver, and the carcass is slid on an overhead truck into the chill-room.

In the meantime the heart and liver are dissected from the lungs and other portions of the body, and hung on hooks and racks, and the entrails and paunch are cleared of tallow.

5. *The Bi-products from the Bullock.*

These are the cheek meat, heart, liver, tongue, sweetbreads, tallow, blood, guts, weasand, bladder, hide, switch, and offal. The skin of the head, with that of the legs and tail, goes to the glue factory; the cheeks are used for Bologna sausages; the tongue is pickled and smoked; the skull goes to the glue-house, and is boiled, and then to the fertiliser factory; and of the feet the glue and bone houses get a part; neatsfoot oil is also obtained from them; the sweetbreads are made into pancreation; portions of the liver and heart are used for sausages; the blood goes to the fertiliser; and the horns are sold, to be made into knife-handles, buttons, and combs.

It is through the saving and utilising of absolutely every portion of the bullock that the packer can make a profit at the prices at which dressed meat is now sold to the retail butcher.

V.—THE SHEEP OF THE UNITED STATES.

1. Description.

The sheep of the United States are usually spoken of and described under the following divisions or heads:—

- (1.) "The Natives," *i.e.*, Mexican Sheep.—These are the descendants of the sheep introduced by the Spaniards into Mexico about three centuries ago, considerable numbers of which are still to be met with in that country, and some of the same breed are also to be seen in the south-western portions of the United States in a very unimproved state; while the glaring defects in size, shapes, and fleece shown by a good many of the sheep on the ranches on both slopes of the Rocky Mountains, but more especially towards the south, clearly indicate that they are related, though perhaps distantly, to the original Spanish sheep, "The Natives."
- (2.) "The Scrubs."—These are to be found in the South-eastern States (Florida, Alabama, Mississippi, and Louisiana), and may be described as the descendants of Mexican sheep, which have at times been interbred with sheep of improved breeds, but generally neglected, as the climate and soil in these States are not favourable to sheep-breeding.
- (3.) "The Grade Merinos."—These include the offspring of all ewes, other than Merino, to which pure or well-bred Merino rams have been put, whether these ewes be Natives for the descendants of Native ewes and Merino rams, or of Merinos and crosses of Merinos and Natives, or Merinos and some of the English breeds, or the Merino and the crosses of the Merino and the English. But, of course, in many cases the pure Merino has been so often put to the descendants of the Native ewes that these grades show few, or none, of the faults of the Natives, and, in many cases, are classed as Merinos. This is not the case in regard to the crosses of the Merino and English sheep, for, as will be seen from what is afterwards said with regard to the direction in which breeding has lately been tending in the States, that it has not been, nor is now, the practice to return to the Merino, but rather to breed up for English or mutton sheep.
- (4.) "The Merino."—This includes—
 1. The Silesian Merino.—Live weight, fully matured, rams (say) 120 lb.; ewes, 80 lb.
 2. The Vermont " " " " 130 lb.; " 90 lb.
 3. The Delaine " " " " 150 lb.; " 120 lb.
 4. The Black Top " " " " 180 lb.; " 130 lb.
 5. The Dickson " " " " 200 lb.; " 150 lb.
 6. The Rambouillet " " " " 250 lb.; " 150 lb.
- (5.) "The English" *i.e.*, the Mutton Breeds:—

1. The English Leicester,	6. The Shropshire Down,
2. The Border Leicester,	7. The Hampshire Down,
3. The Cotswold,	8. The Oxford Down,
4. The Lincoln,	9. The Suffolk,
5. The Southdown,	10. The Dorset Horn,
	11. The Cheviot.

Of these, at first the English Leicester was the breed most frequently used for crossing with the Merino; but, afterwards, the Cotswold was preferred, and latterly the Southdown and Shropshire have come into more general use in the States than any of the other British breeds.

This is especially the case as regards the Shropshire, which is now looked upon there as the best all round English sheep for crossing. The Oxford and Hampshire Downs have also been used to a considerable extent, and, more recently, a good few breeders have tried the Dorset Horn, and are satisfied with the result. Lincolns have been but very little tried, which is rather strange, considering that the Lincoln with the Merino, while it makes good mutton, clips a much heavier fleece of excellent cross-bred wool than any other first class; and that the price of wool in the United States has for many years been very high.

2. Estimated number of Sheep of the different classes in the United States.

So far as I could ascertain, neither official nor any other reliable returns have been collected of the relative numbers of the different breeds or classes of sheep in the United States; and the only thing I could do towards arriving at any conclusion on this question was to obtain the opinion of gentlemen largely connected with the American wool trade, and that of the sheepowners with whom I came in contact. This I did, and as it is of very great importance to our sheepowners, both from a mutton and wool producing point of view, to learn how this matter stands, I now venture to submit the estimate given below of the different classes of sheep in the United States, based on the opinions I obtained, and in some measure, also, on information contained in the report published in 1892 by the Department of Agriculture on the Sheep Industry of the United States.

Estimate mentioned above:—

Scrubs	...	...	...	...	...	...	...	...	(say)	1,000,000
Natives and very inferior grades	...	...	...	...	...	...	...	...	"	3,000,000
Other Merino grades	...	...	...	...	...	...	...	...	"	17,000,000
Pure Merinos	...	...	...	...	...	...	...	...	"	5,000,000
Registered Merinos	...	...	...	...	...	...	...	...	"	1,000,000
Crossbreds (got by Merino ewes and British rams)	...	...	...	...	...	...	...	...	"	15,000,000
Pure-bred British sheep	...	...	...	...	...	...	...	...	"	2,500,000
Registered British sheep	...	...	...	...	...	...	...	...	"	500,000
										45,000,000

It may, perhaps, seem that the number of crosses of the British blood are over-estimated, and it may possibly be that they now are so; but if they are, it is only a question of very short time when the number stated will be considerably under the mark, for the report alluded to, by the Department of Agriculture on the Sheep Industry, clearly shows that in almost every State east of and including North Dakota, Minnesota, Iowa, Missouri, and Arkansas, the majority of the farmers, except where they own registered

registered merino flocks, are using rams of some of the British mutton breeds, instead of the merino, with their merino ewes; for they have discovered that while it does not pay to breed merinos on cultivated land, it does pay well to keep cross-bred sheep on it.

Not only is this the case with the farmers in the eastern portion of the United States, but in large portions of Texas, Oregon, Washington, and California quite as many, if not more, mutton rams are being used as merino; and it may be said that in all the States, even in those where the largest numbers of merinos and grade merinos are kept, and where formerly only merinos were bred, considerable numbers of crosses with English blood are being bred.

As I said, our sheep-owners are deeply interested in ascertaining how far the system of crossing now so generally followed in the States will be followed up, for if it is to become much more general, it will be a matter for consideration by Australian owners how far they will go into breeding cross-breds, seeing that, if the sheep-owners in the States adopt that system as generally as those in South America, the production of merino wool must decrease, and the owners in this and neighbouring Colonies might in that case do better to stick to the greater part of their merinos, and only breed a sufficient number of cross-breds to make up the surplus which we find it necessary to export.

Nor is this the only contingency which may arise. If the farmers in the United States go very strongly into cross-breeding with mutton-producing rams, there would then, in that case, be a good deal more mutton produced than could be consumed there; and if so, it is only natural that those now in the beef export trade should turn their attention to mutton, and send over to Great Britain large numbers of fat sheep both alive and in a chilled state. If this should happen, competition in the mutton trade, as well as the beef, would have to be faced by our sheep-owners; but, as I said, when alluding to that in beef, that the balance of the advantages is in our favour, and if they are turned to proper account, we are bound to win.

3. *The Quality and Price of the Sheep and Lambs in the Union Stock-yards.*

1. Quality.

Although there has of recent years been a very great improvement in the quality of the sheep and lambs offered as fat in the Chicago market, still a large portion of them are very inferior, many of them being not only badly fattened merinos, but merinos defective in size and quality. These defects were also noticeable in the cross-breds; and it was evident that the ewes from which they had been bred had not been of the right stamp, and that pure-bred rams of the best English breeds had not been used.

2. Price.

The average price in the Union stock-yards during the first six months of this year, of prime fat wethers of any of the Downs breeds, or first-class crosses from merino ewes and the best kinds of British rams, weighing from 60 lb. to 70 lb., has been about \$3.45 per 100 lb., or, say, 1½d. per lb. live weight, which, taking the loss of weight in slaughtering at 50 per cent.—the usual rate allowed for shrinkage in fat sheep,—makes the wholesale price of the very best mutton in Chicago 3¼d. per lb. dressed weight; the second grade, 2½d. per lb.; and the third grade, say, 1¾d. per lb., while there were a good many sheep at every sale which were sold at even lower figures than that last quoted.

The comparatively low prices which a large proportion of the fat sheep bring at Chicago is attributable to some extent to the demand for mutton being less steady than for beef and pork, but mainly to the scarcity of really prime sheep, which not only leads to the owners' direct loss in the low prices they receive, but also to their indirect disadvantage in as far as it renders it impossible for intending exporters to find a sufficient number of first-class sheep to make regular shipments.

I may state, however, that the low prices have been attributed to another cause. It is said that the mutton portion of the meat trade in Chicago has been "cornered" by three of the largest packing companies, who practically hold the control of it.

However this may be, there is exceedingly little mutton, either alive or dead, exported from the United States; and, to show how very insignificant that trade has hitherto been to Great Britain, I give the following extract from the Annual Statement of the Trade of the United Kingdom for 1892:—

IMPORTS FROM THE UNITED STATES.

Year.	Live Sheep and Lambs.	Fresh Mutton.
1888	1,203	cwt. 7,157
1889	18,690	1,609
1890	3,904	134
1891	10,537	10,574
1892	2,829	72

At one time the consumption of mutton in the United States was very small, compared with that of beef and pork; but within the last fifteen or twenty years a considerable demand for mutton has arisen, and, although it is a somewhat fluctuating one, the demand is increasing, and likely to continue to do so, with the large increase in the number and quality of the mutton breeds of sheep now taking place in the United States.

4. *How Sheep are Slaughtered at Chicago.*

Sheep are taken from the yards, when weighed, to the packing houses, and dealt with very much in the same way as cattle.

The most noticeable difference in the mode of slaughtering sheep at Chicago from that followed in the colonies is that, as in the case of cattle and pigs in Chicago, different portions of the work of killing and dressing is done by different hands, many of the hands on the work being only young lads.

Under this system the sheep is hung on an overhead truck and passed from one hand to the other, who each does his allotted portion of the work.

VI.—THE PIGS OF THE UNITED STATES.

1. *Description.*

As I have already stated, the leading breeds of pigs in the United States are the Berkshires and Poland China, and of the two I understand the Berkshire and the pigs showing Berkshire grades are more generally distributed than the Poland China, although that breed is also a very general favourite. In fact, the fat pigs to be seen at the Union Yards are apparently little else but Berkshire or Polands or crosses of these two breeds; and in no part of the world are there to be found anything approaching to the number, quality, weight, and uniform quality of the pigs offered day by day in the Chicago stock-yards.

In 1892 over seven millions of pigs passed through the Union Yards. This would give an average of very nearly 25,000 pigs a day; and when we consider how enormous this number sent to a single market is, and that the greater portion of these pigs dressed to more than 200 lb. each, we can understand how the United States can claim that the value of the products from the pigs in the States for 1892 amounted to \$241,000,000, or about £60,000,000; and that after supplying her own people with all the pork, bacon, hams, sausages, and lard they required she could export and dispose of pigs and the products of pigs, the greater part of excellent quality, to the value of \$85,450,401, or, say, £17,000,000 sterling, as shown by the following statement:—

Extracted from the statement of agricultural exports from the United States for 1892:—

							\$
Live pigs	...	...	...	.....	...	...	364,081
Lard oil	...	...	...	901,575 gallons	...	...	496,601
Bacon	...	...	...	507,919,830 lb.	...	...	39,334,933
Hams	...	...	...	76,856,559 „	...	...	7,757,717
Pork, fresh	...	...	...	377,746 „	...	...	30,246
„ salted or cured	...	...	...	80,336,481 „	...	...	4,792,049
Lard	...	...	...	460,045,776 „	...	...	33,201,621

Over £17,000,000

\$85,977,248

This has been accomplished by improving the quality of the pigs, keeping only those best adapted for the trade; by supplying them with plenty of the best kinds of food; by providing convenient markets for the disposal of the pigs to the best advantage; by erecting suitable packing houses with all the latest and most approved machinery and labour-saving and refrigerating appliances; by dealing scientifically with the whole products, but especially with what until recently was termed offal; by being exceedingly careful while sending out their products in as taking a form as possible to do a thoroughly honest trade; and last, but not least, by leaving no stone unturned till markets were found for their goods in all parts of the world. Dealing with the business in this way it was only natural that those engaged in it should succeed; and it can, I think, be fairly asserted that they have met with the success which they deserved.

I have frequently drawn the attention of our pastoralists and farmers to the advantage of increasing the number of pigs they kept, there being only some 300,000 in the whole Colony, while in the United States there are more than 52,000,000, giving a better and more certain return than any other description of stock.

We ought, with our exceedingly favourable climate, the abundance of both outdoor and indoor food for pigs, to have at least ten times as many as we now have; and if we adopt the means which have been so successful in the United States we must be as successful, for both as to climate and cost of food we have the advantage; and as regards bacon, hams, and lard, which require little or no refrigeration in transit to Europe, and can, therefore, be conveyed at comparatively low freights, we would not be placed at the same disadvantage as we now are with respect to some of our products, such as meat, butter, and fruit. The products from the pig can be both kept and carried at comparatively cheap rates. If anything further were required to be said in order to show the very great profitableness of pig farming the most convincing fact which could be adduced is, that with 52,000,000 pigs, those in the trade in the United States claim to have dealt with, what they speak of as an ordinary annual cast of pigs, *i.e.*, 24,000,000 pigs, or very nearly 50 per cent. of the whole number in the States.

This may at first sight appear to be a great exaggeration, but when it is recollected that a breeding sow has two litters a year and that there will on an average be, say, seven in a litter, and that pigs at less than 12 months old, if properly fed, are fit for the butcher, the correctness of the statement need not be questioned.

In any case the extraordinary prolificness of the pig cannot be disputed.

I would strongly recommend the introduction of the Poland-China pigs. They have more “red” meat than the Berkshire, and make a fully wider side of bacon.

I cannot close this portion of my report better than by giving an extract from an article which appeared in the *Butchers' Gazette* of 13th June last, on the advantages of pig farming, to which the extract so forcibly calls attention; but I, of course, do not allow that nowhere outside the United States can it be so profitably carried on, for, as I have already stated, it can be so in this Colony, *viz.*:—“The hog is the only reliable money maker, the rent payer, the bread winner, and mortgage lifter *par excellence* of the Corn States. He may make more money for his owner some years than others; he may be overtaken at times by disease, but in the long run he always pays a handsome profit in any corn-growing district. Other countries may grow ‘pigs’ in comparatively small numbers, but nowhere outside of the United States can hogs making such astonishing weights at such an early age be produced in such enormous numbers at such slight cost. Only two weeks ago there were over 300,000 head bought and paid for at four primary receiving points in six days, and even that great ‘run’ was absorbed without a ‘break.’ There is no over-estimating the importance of the hog crop as a leading factor in American agricultural prosperity. We have virtually a monopoly of the world’s markets so far as cheap or fine quality is concerned, and should make the most of it.”

2. *The Price of Pigs in Chicago.*

The average price of prime heavy pigs in the Union stock-yards during the first six months of this year, weighing, say, 250 lb. and over, was \$4.96 per 100 lb. live weight, which would make the cost of the pig in our money £2 11s. 8d., or, say, 2½d. per lb., and if the loss in killing were, say, 30 per cent. that would give

give a dressed carcass of, say, 175 lb., and would make the cost per lb. dressed weight, say, 3½d. per lb. The current price during the same period in the Smithfield market was about 5½d., which would seem to leave sufficient margin for fresh pork to be shipped from America to England; but it does not appear that any pork in a chilled state has been dealt with in that way, the packing companies having evidently made more money out of hams and bacon curing and pickled pork than they would have done by sending chilled pork to the British and other markets; and if additional proof were required beyond what I have already adduced of the profits which our pastoralists and farmers could make by breeding and fattening pigs and making pickled pork, hams, and bacon in an extensive and systematic manner, as the business is conducted in America, this fact should convince them of the soundness of my suggestions under this head.

3. *How Pigs are killed at Chicago, cut up, and utilised.*

Like cattle and sheep, the pigs are conveyed after being weighed to the packing houses, and there placed in receiving pens which are allotted to them in the third or fourth floor of the building in order that they may, while being killed and dressed, pass by gravitation from the one person to the other engaged in the work until it is completed. Although the mode in which this is done has more than once been described, I will here briefly state how it is so:—A portion of the pigs is confined in a small pen; a man stands among them and puts a clutch attached to a rope connected with a steam windlass on one of the hind legs of the nearest pig. It is immediately pulled up and carried on a travelling truck to a butcher who sticks it. The pig then slides down the track into the scalding tank. There it is rolled about by machinery, and then lifted into the scraping machine (*i.e.*, a large box lined with brushes, the sides of which move up and down and rub the bristles off the pig), from which it passes on to two men, one on each side of it, who scrape off any bristles which the machine may have missed. The pig is then hoisted and passed on runners to the man who disembowels it, another cuts off its head, another washes off the loose bristles with cold water. The back-bone is then split with a cleaver, and the two sides are passed into the chill room. It is said that the whole of this work has frequently been done in less than 12 seconds.

While this is being done the fat is taken from the entrails, the tripe is sent one way, the heart and liver another. The entrails are cleaned and sent to the casing department, part of the head is sent to the sausage room, and the gut fat to the lard refinery.

In the division of the parts, the top of the head, the ears, and tail go to make "head cheese." The heart and liver are converted into liverwurst, the entrails into sausage casings, the stomach into pepsin; the bristles go to the hairfield to be sorted and baled for market, the feet and tongues are pickled and put in small kegs, and the blood, which is a powerful fertiliser, is caught and dried.

After from eighteen to thirty-six hours the carcass is taken to the cutting room, placed on a cutting block, and cut up with great cleavers; the hams and shoulders are sent to the curer, who keeps them for weeks in huge pickling tubs, in contact with a solution of salt, granulated sugar, and other ingredients, each curer having some secret formula which he jealously guards. Frequent handling ensures the absorption of the solution.

When thoroughly cured, the hams are washed in cold water and sent to the smoking house. Some of them contain 10,000 to 20,000 hams; and the smoke is made from hickory wood smothered by sawdust. Only reliable experts have charge of the smoke-houses.

VII.—THE MANUFACTURE OF BI-PRODUCTS.

1. *Sausages.*

The production of sausages by the packers at the Union Stock-yards in 1892 amounted to about 75,000,000 lb., in which many of the parts of cattle, sheep, and pigs that would otherwise have been wasted were utilised. Where the manufacture is carried on everything is arranged with the view to thorough cleanliness, and the greater part of the work, including the chopping, mixing, seasoning, and filling, is done by machinery. If the sausages are made of pork, they are placed in the chill room till required to be sent out, and other sorts are sent to the smoke-room for a few hours and then boiled.

2. *Tallow.*

Considerable portions of tallow are still required for soap and candle-making, but of recent years a new use has been found for it, and to-day millions of pounds are converted into olio oil, most of which is exported to Holland, to be there converted into butterine, but considerable quantities of that article are now also made in America.

3. *Glue.*

Hoofs, horn-piths, bones, and hide-trimmings are the bi-products from which glue is made. Enormous amounts of these materials were at one time wasted, but latterly turned to account, and some 15,000,000 lb. of glue are manufactured by the packers in Chicago.

4. *Beef Extract.*

The process of manufacture of beef extract consists in extracting the juices from lean beef by forcing cold water through the meat. These are boiled to coagulate the albumen in it, after which a whole clear liquid remains, which is reduced to the consistency of a paste in a vacuum kettle at a very low temperature.

5. *Wool.*

The wool is pulled from the sheepskins by means of improved appliances, and the pelts are cured and sold to the tanner. The wool is washed by machinery before it is pulled, and centrifugal wringers are used to dry the wool; and when pulled the wool is graded, dried with hot-air blowers, put in bales, and sent direct to the manufacturers.

6. *Pepsin.*

This article is made from the membranous lining of the stomach of the pig by dissecting this lining from it, and, after washing, putting it in earthen croches placed in shallow tanks and surrounded with water kept at a temperature of about 104° Fahr. The linings are covered with acidulated water, which digests them in a few hours, after which the liquid is drawn off and naturalised by the addition of an alkali; then it is dried on shallow plates in hot-air chambers at a temperature of 124° Fahr. The drying process takes from six to twelve hours, after which it is scraped off. It is then the scale pepsin of commerce.

7. *Pancreatin.*

It is a new product, made from the pancreas glands, commonly called the liver sweetbread. Its medicinal value is its action on the liver and its power in digesting fats. The pancreas glands are cut fine and churned in acidated water and dried cloths, after which the product is treated by a gasoline process that extracts the fat from it; it is then ground into powder. There is an essence and glycerine made from it also.

8. *Butterine.*

Butterine is composed of butter, butter oil, neutral lard, and olio oil.

Creamery butter and butter made at the factory daily, are the milk products used in butterine.

Butter oil is made by pressing the oil from American cotton seed, and is used in small quantities to soften the texture of the butterine.

Neutral lard is a pure chilled leaf lard, cooked at a low temperature, and is then put into bath of pure water for about forty-eight hours, which removes all flavour, leaving a perfect neutral material.

Olio oil is made from the leaf, the choicest fat of beef cattle, which is chilled in ice water and then melted at a temperature of 140° Fahr. into truck tanks, where it is allowed to stand in a room kept at a temperature sufficiently warm to keep it from hardening until it grains. From this is then pressed a perfectly soluble oil known as olio oil, which is the only beef product used in butterine, and the stearine remains in the press.

The above products, when properly combined, salted, and worked the same as butter, form what is known as butterine, which is one of the purest and most wholesome articles of food in greatest use.

9. *Hair and Bristles.*

The hair saved from the hide trimmings of the cattle hides, and the bristles from hogs, are taken to a field and spread out on the ground to cure. There they are stirred and raked about like hay till thoroughly dried. They are then baled and put in soaks. The best bristles are sold to brushmakers, and the rest go to the manufacturers of mattresses, &c.

10. *Bones.*

After the glue has been extracted from the bones those of them that are of no value for manufacturing purposes are dried and ground as fertilizers. The shank bones of cattle are sawn into pieces, and after boiling are dried and sent to the comb or button factory. Horns go to the same destination.

11. *Fertilizers.*

When any portion of the ox, the sheep, the pig, cannot be turned to better account it is made into manure, and, if blood, it is dried and ground. All the water used in washing, scrubbing, and cleaning is run into tanks and boiled and evaporated to the consistency of syrup. After that it is put in ovens and baked or dried, and then mixed with bone-dust or dried blood, packed in bags, and sent back to the farmers to help to make the corn and other crops grow to produce more beef, mutton, and pork.

VIII.—THE EXPORT OF LIVE CATTLE FROM THE UNITED STATES.

It will be seen from the amount which appears in the statement of the Value of the Exports of Animals and Animal Products from the States for 1892 (afterwards given at page 17 of this report, *Appendix A*), that this is a most important branch of the American stock trade. The statement referred to shows that 394,607 cattle, valued at \$85,099,095 (*i.e.*, about £7,000,000) were exported that year. This would make a weekly average of 7,588 head. For 1893, the number was considerably less, only 248,825, and the value, £4,667,152; but it appears from the returns received for the present year, from 1st January to 16th August last, that the shipments this year (1894) will be considerably higher than those in 1893, for up to the date mentioned more cattle were landed in England from the United States than during the whole of 1893.

This increase seems still to be going on, and by the end of the year it is fair to assume that the number of cattle shipped to the United Kingdom will be equal, or nearly equal, to the heavy importations of 1892, and that the decrease in 1893 was a temporary and exceptional one.

The nominal rate of freights of live cattle from America to Great Britain is £3 per head; but with the present scarcity of cargo the rate is really a matter of arrangement between the shippers and the owners of the steamers, who are said at times to accept as low as £2 per head.

There is nothing to report that is new with regard to the mode of shipping the cattle in America and securing them on the steamers, or better than that followed in the colonies, but the accommodation on board the steamers and the convenience for feeding and watering the stock is much better than is usually provided on steamers engaged in the Tasmanian and New Caledonian stock trade; and, what is of still greater importance, the system of ventilation is very complete and effective. This has been brought about principally by the supervision of Government inspectors, who see very strictly to the enforcement of the Acts and Regulations which bear on the shipment of live cattle, more especially of those which relate to the proper ventilation of the steamers.

Under the Imperial regulations live stock are not allowed to be imported from any country in which any infectious or contagious disease to which the stock are subject exists, except for slaughter at ports notified for the purpose, such as those at Deptford, Liverpool, or Glasgow, where quarantines have been set apart for the reception, sale, and slaughter of such stock. As, therefore, the Imperial authorities believe that pleuro-pneumonia exists in the United States, and also in Canada, all the cattle imported from either of these countries have to be landed at one or other of the ports mentioned. They are there taken to the lairs provided for them in the sheds at the dock, and tied up until their turn comes to be offered for sale, when they are run out singly into the sale ring, around which the purchasers are seated, and sold by auction. They are then taken back to the lairs and removed to the slaughter-houses, which are attached to the lairs, and slaughtered as required by the purchasers, and the carcase and offal are inspected before they are removed.

If it should be found that a paying trade in live stock from Australia can be established, our cattle will have to be dealt with in the same manner as the American now are, for we cannot certify that our herds are entirely free from pleuro-pneumonia.

When

When in Glasgow I attended a sale of American cattle, the greater proportion of which were anything but prime, and they brought prices ranging from 37s. 4d. to 51s. 4d. per cwt., or say 4d. to 5½d. per lb., on the foot, according to quality; but prices for prime American, especially at Birkenhead and Deptford, rule higher than those here quoted, and at times reach as high as 56s., and for very prime even 58s. per cwt.—say 6d. to 6½d. per lb. It may be said that American cattle sell at Deptford, Liverpool, and Glasgow Docks at about 1s. per stone of 8 lb. less than home-bred stock of the same grade of quality and condition.

The accommodation at these quarantines where the foreign stock are slaughtered is excellent, and there are now very extensive cool rooms attached to them, where the meat can be chilled and kept at a reasonable charge till required; in fact, everything possible is being done to promote the live stock trade, as butchers can not only make money out of the offal, but the beef of American cattle slaughtered in England can, of course, be more readily passed off as Scotch or English than that which comes over chilled. This has helped on the increase in the shipments of live cattle from America during the last three or four years; but the principal reason for the increase is that live stock have of recent years, with the improvement of the accommodation on the steamers, the decrease in losses on the voyage, and the cheap freights through the depression in the shipping trade, paid the shippers in America better than the chilled meat.

IX.—THE CHILLED MEAT AND EXPORT TRADE.

In Chicago it may be said that the chilled or fresh meat trade has, so far as the American Home Trade is concerned, now taken the place of the live stock; for although a good many cattle intended for shipment alive to Europe and for slaughter at Boston and New York, for shipment in the shape of chilled meat to Scotland and England, are purchased in Chicago, the business formerly done there in selling live stock, which were taken and slaughtered at the principal towns in the States, is now practically supplanted by the adoption of the chilling system, which not only puts the packing companies in a position to carry on an extensive business in exporting chilled meat to Great Britain, but enables them to supply much better, as well as cheaper, meat to the consumers in the States. In carrying on the Home trade the more extensive Chicago packing companies have branches for the purchase and slaughter of stock at the principal centres of the stock traffic, such as Kansas City, Omaha, Denver, St. Louis; and for the sale of the meat and other products they have agents, and in some cases cold stores, at the larger towns, who receive regular consignments of fresh meat, bacon, hams, sausages, and other articles from Chicago, and supply the retail butchers, provision merchants, and grocers. To show the magnitude of the chilled meat trade done by the leading packing companies in Chicago, it may be stated that Swift and Company use over 3,000 refrigerator cars, and Armour and Company 2,250.

So very advantageous has the chilling of meat been found that not only at all the principal centres of the stock traffic, but almost all the slaughter-houses in the States are provided with chill rooms, into which the stock as slaughtered are regularly passed, with the view to the meat being cooled and set as quickly and as thoroughly as possible.

Then where the meat is intended for distant parts of the States, but especially where it is so for exportation to Europe, special care has to be taken that it has been thoroughly cooled and set, so that it may not only be carried without risk of taint to its destination, but that it shall also have sufficient keeping margin to admit of its being sold to the butcher and retailed by him in a perfectly sound condition. This is effected by keeping the meat in a chill room for (say) forty-eight hours, in the first instance, of course, at a moderately low temperature, but during the last portion of that time at a temperature a little below freezing point, and still lower (it has been said as low as 28° or 29° Fahr.) during the voyage from America to Europe; and so effectually is the chilling carried out that while some 5,000 or 6,000 bodies of chilled beef on an average now reach Great Britain every week from America, it is very seldom that any of the meat is landed in bad order.

The only case of the sort which I heard of while in England was that of a shipment which, through a breakdown of the steamer's machinery, was thirty-five days in delivering her cargo.

With the view to illustrate to some extent the course of the chilled meat trade carried on from America to England, and to give our owners as much reliable information as possible with respect to the prices in the States for store and fat stock, to enable them to compare their prices with those ruling in this and the other Colonies, I have prepared, and submit below, a *pro forma* statement of the dealings with a store steer 3½ years old from the time he is sold to the farmer, by whom the steer is fattened, until he is disposed of in England as a carcase of prime chilled beef, the prices appearing in the statement being averages for the half-year from 1st January last, made up from prices given in the leading Chicago Agricultural Journal.

STATEMENT of Cost of Chilled Beef in America, and Price realised in England.

Statement so far as the Farmer is concerned.

	£	s.	d.	£	s.	d.
Cost of store bullock of improved grade, 3½ years old, 1,200 lb. live weight, at \$3.18 = \$38.16	7	19	0
Cost of six months' feeding, (say) 60 bushels corn, at 35c.	4	7	6
One ton hay, at \$7.20	1	10	0
				<hr/>		
				5	17	6
Trainage to Chicago	0	10	0
Yardage, 1s.; food, 2s.; and commission, 2s.	0	5	0
				<hr/>		
				0	15	0
				<hr/>		
				14	11	6
Selling price in Chicago as a prime fat 4-year old bullock, weighing 1,450 lb., live weight, at \$4.50 per 100 lb., at 4½c. per lb., or dressed weight, the carcase giving 60 per cent. meat = 870 lb., at 18s. 9d. per 100 lb., or 2¼d. per lb.	13	11	10
<i>Add—</i>						
Profit on one pig, fattened along with the bullock (say)	1	5	0
				<hr/>		
				14	16	10
				<hr/>		
Profit to the farmer	£0	5	4

Statement

Statement so far as the Shipper is concerned.

	£	s.	d.	£	s.	d.	
Price of bullock at Chicago, weighing 1,450 lb. live weight, or, as before, 870 lb. dressed weight, at 2½d. ... ..	...	...	...	13	11	10
<i>Add—</i>							
Slaughtering in Chicago	0	2	6				
Chilling	0	2	0				
Loading	0	1	0				
Freight by rail to New York, 870 lb., at 45c. per 100 lb. ...	0	16	3				
Loading on steamer	0	0	6				
Freight to England... ..	1	10	0				
Expenses, including steamer, carting meat to store, storing, and delivering	0	2	0				
Commission—selling	0	6	9				
				3	1	0	
<i>Less—</i>							
Received for bi-products, including cheek, meat, heart, liver, tongue, sweatbreads, tallow, guts, weasand, bladder, hide, switch, head, skirts, feet, shank-bones, offal, containing other bones, blood, &c.				1	10	0	
					1	11	0
Amount realised in England for 870 lb. carcass				15	2	10	
Sold there at 2s. 8½d. per stone, at 8 lb., bring = 4½d. per lb. ...				14	14	6	
Apparent loss				£0	8	4	

It will be seen from the foregoing statement that if the prices there given were actually paid, the transaction left neither the farmer who fattened, nor the shipper who purchased in the Chicago market, any profit. No doubt with the assistance of the pig, which was kept with the steer at but little additional cost, the farmer realised a trifling profit, but certainly not sufficient to reimburse him for the trouble, risk, and expense he was put to in the transaction, while the shipper sustained a loss; and the question seems to arise whether, looking at the price paid the breeder of the steer, and the amount he realised in Chicago and London, he did not in selling at £7 19s. receive too high a price for him. This is a most important point, for it has a direct bearing on the question whether the American stockowner can successfully compete with the Australian in the production of meat, and it would seem that that depends upon whether the breeder of the store steer (who, as a rule, is the owner of a western ranch) can make the breeding of store cattle pay, and sell at a figure which, keeping in view the price beef sells at in Great Britain and on the Continent, will enable the farmer who purchases and fattens the steer, and the shipper who purchases from the farmer for export, to make a fair profit in carrying on their portions of the trade; and I think, looking at the differences in the price of store and fat stock in the colonies, that the breeders can afford to breed and rear store steers for considerably less money than £7 19s., and my reasons for saying so are the following:—

1. If the breeder is occupying Government land he pays no rent unless the land he has is, as it sometimes has, but not very frequently, been vested in the Education Department of the State, and then the rent is very low.
2. If again the breeder is occupying land belonging to any of the great railway companies (of which there are large areas in the Western States acquired as land grants for making the railways), then in that case the rent charged him is also low, and besides he is usually able to obtain the use, without payment of rent, of considerable areas of Government land adjoining that leased from the railway company. I consider, therefore, that even if the breeder of the store steer had in very cold weather to provide some fodder to bring his cattle through the winter—which is necessary in exceptionally heavy falls of snow on the higher lying ranches in the west—he could afford to breed and sell store steers 3½ years old at, say, £6, which is £2 a head less than the price given in the above statement for the store steers; and I think that such a reduction of the prices now current in England and on the Continent for prime fat cattle continue at the present figures, would admit of both the farmer fattening and the shipper who sells in these markets making fair profits.

X.—MEAT CANNING.

Canned meats are put up by several of the larger packing companies in Chicago, among whom Nelson, Morris, & Co., Armour & Co., and Libby, McNeill, & Libby do the most extensive business in that line. In canning corned beef the meat is trimmed from the bone and slightly corned, after which it is cooked and pressed into cans by automatic machines worked under experienced eyes. The cans are all filled correctly with the right quantity, according to scale, in far less time than it takes to tell it. They are then capped and processed.

The latter work is the insertion of the can while closed in a steam-heated retort, which brings the contents to a heat and fermentation that forces the air to the top, when the can is perforated by a needle-shaped instrument, and the air escapes with a rush. The can is then sealed tight, and the contents are thus rendered proof against the climatic changes to which they may be exposed; after this the cans are washed, dried, painted, and labelled, and packed in cases ready for shipment. The principal noticeable features in the American canning trade were:—

1. The numerous and very effective labour-saving appliances in the handling of the meat, the making and filling the cans, the printing and putting on the labels, and the construction of the packing cases.
2. The colour, consistency, and taking appearance of the meat when the can is opened, which not only gives a favourable impression of the quality of the meat, but makes it very suitable for being retailed—as the 6-lb. and 14-lb. cans frequently are by grocers and others—by the pound, and even half-pound.
3. The bright and taking appearance of the can and label.

XI.—SALTED AND PICKLED BEEF.

The importance of this branch of the meat trade has of late years become considerably less. This has arisen principally, of course, through a great deal of the meat which was at one time salted being now chilled. Only the best beef is suitable for salting, and as this quality has been found to pay better chilled than salted, the more profitable course has been adopted. Besides this, both chilled beef and frozen beef and mutton have, in a vast number of cases, more particularly on board ship, taken the place of salted meat, and it is likely to do so more and more. Still the quantity of salted and pickled beef and pork exported from the United States is very considerable. In 1892 the quantity of salt beef sent away was 70,204,736 lb., valued at 3,987,829 dollars, and of pickled pork, 80,336,481 lb., valued at 4,792,049 dollars, the aggregate value being 8,779,878 dollars, or, in our own money, taking the dollar at 4s. 2d., £1,829,141 5s., a very large amount.

As this is the case, and as both salted beef and pork can be produced more cheaply in Australia than in America, while they are articles which, when properly cured, will keep for any length of time, and can be transported at comparatively low freights from one part of the world to another, it will be seen that this branch of the meat trade is one of great importance to our pastoralists and farmers, especially when it is considered how very necessary it is that every portion of the carcass should be put to the purpose for which it is best adapted, and will make the best return to the producer.

To make meat-curing a success, the work must be done at a low temperature, and, as I have elsewhere pointed out, the packing companies in the United States, notwithstanding that there were as good and very much cheaper cattle in Australia, long ago obtained a monopoly of the salt-beef trade, which they still retain, through being in a position to harvest and store in their curing-houses large quantities of natural ice from Lake Michigan, at a cost of only a dollar a ton, which enabled them to do the work at a temperature of about 40° Fahr. all the year round. Now, however, they have no such advantage, as it has been found cheaper and better to obtain the necessary cold by refrigeration, and as there are a good many freezing and chilling works in this Colony and in Queensland, there is no reason why, with the low prices of beef in Australia, compared with America, these colonies, more particularly Queensland, should not secure, if not the whole, the greater part of the salt-beef trade of the world, if the work is done honestly and carefully.

I am glad to hear that, largely with this object in view, the services of an expert, with Chicago training, have been obtained by the Queensland Government, and that a trial shipment of beef, cured and packed under his supervision, has been forwarded to London, and I trust that not only on the quality of the beef, and the portions packed, but also on the colour and condition of the meat and the package in which the shipment is sent, it will be equal to the very best American, for there is a strong prejudice against Australian salt beef on account of the inferior article which we have hitherto put up, and the American packers and their agents in London will use every effort to prevent the trade coming to Australia.

XII.—HOW THE AMERICAN SHIPMENTS OF LIVE STOCK AND MEAT ARE DISPOSED OF.

I have already made a passing allusion to the effective manner in which the shippers of live stock, meat, and other products from the United States—who are said not to exceed half a dozen in number—push their sale. They have thoroughly reliable agents in the countries to which their consignments are sent, who not only see that they are disposed of to the best advantage, but narrowly watch the markets and keep their principals advised as to their prospects. It is believed, too, that, notwithstanding the trade rivalry between the different shippers, their agents—several of whom are members of the firms they represent—co-operate as far as possible in preventing the shipment of our supplies from the States, and in regulating prices and saving the consignments from being sacrificed. But, while this is said to be the case, I understand that the co-operation is only temporary, and the arrangement as to prices a verbal one. The shippers' agents dispose of large quantities of the consignments themselves; but a good deal of them are also placed in the hands of auctioneers, brokers, and salesmen, who dispose of them under the close supervision of the shippers' agents.

XIII.—THE BEARING THE UNITED STATES BEEF TRADE HAS ON THE PRICE OF FROZEN MUTTON.

I have gone at considerable length into the particulars of the American beef trade with the United Kingdom into both the live stock and chilled meat trade because, although the importations from New South Wales at least will consist principally of sheep, the American cattle trade, more especially in the shape of chilled beef, has a very important bearing on the price of our frozen mutton in England. For those who purchase frozen mutton also at times buy chilled beef, and as the majority of them prefer beef to mutton, the result is that when the price of chilled beef is so low as to be only a little higher than frozen mutton, the beef is purchased in preference to the mutton. Then again, the American shippers are so very much nearer to England than those in Australia, and so very well and promptly advised by their agents as to the state of the meat market and its prospects, and have always ample supplies of beef at their command, that they can take advantage of the slightest rise in the market, and send over at once full supplies of beef.

And, notwithstanding that it frequently sells at prices which, taking those quoted in the Chicago market and those realised in England, must, after paying freight and charges, be anything but remunerative to the shippers, heavy shipments continue to arrive every week, and, of course, have a depressing effect on the Australian and New Zealand frozen meat trade.

The effect of the American supply on the British meat market will, however, be better grasped by our owners when the enormous quantities which were sent over during last year, in the shape of cattle and chilled beef to Great Britain, is put into the equivalent of Merino sheep weighing (say) 50 lb. each thus:—

	Sheep.
248,825 live cattle, each 900 lb. dressed weight, is 223,942,500 lb., or, say	4,478,850
14,589,949 cwt. fresh beef, which is, say	3,337,485
	<hr/>
Equivalent	7,816,335

That is to say, the quantity of beef sent in 1893 by the United States to Great Britain is considerably more than twice as much as the mutton shipped there by all the Australian Colonies, while American supply for that year was less than that for each of the previous three years.

XIV.—

XIV.—WILL PRESENT EXTENSIVE SHIPMENTS FROM THE UNITED STATES OF FAT CATTLE AND CHILLED BEEF CONTINUE?

I have heard the remark repeatedly made that it is only a question of comparatively short time when the United States, with the rapid increase of population from natural growth and immigration, will require all the meat she can produce, or, at least, that with these additions to her population, meat will rise to a figure which must make the price too high to export, and, of course, that Australian beef and mutton would then bring better prices.

As will be seen from the figures I have already quoted, there was a considerable falling-off last year in both the live cattle shipments and those of chilled meat; but, as I have shown, this decrease was only a temporary one, for the shipments of both live cattle and fresh meat have been heavy since the beginning of the present year, notwithstanding that the prices received in England for both the live cattle and meat were apparently unremunerative. But even if the supply of meat were to run so short in the United States as to diminish the quantity exported from that country, it would not fall solely to Australia to make up the deficiency; for not only is Canada steadily increasing the production of meat and shipping regularly to Great Britain, but the supply of beef and mutton from South America is bound both to improve in quality and increase in quantity, as there are large tracts of country in Argentine, and also in Uruguay and Paraguay, well adapted for cattle, still unstocked; and the improvement of the quality of both cattle and sheep is now making rapid progress in all parts of the world, and especially in Argentine.

But, apart altogether from the supplies which may come from the countries to which I have here alluded, in order more thoroughly to put our owners on their guard against relying on any considerable decrease in the shipments of live cattle and fresh meat to British and Continental markets, I fear that a shortage, such as that which some of our owners are expecting to take place in the United States, will not occur; for—what with the additions which are certain to be made there to the present area of land under tillage, with the improvements by fencing and water-conserving which will be effected on the native pastures, with the adoption of better systems of crop-growing, the laying down more land in cultivated grasses, the growing of roots, green crops, and in the breeding, management, and fattening of stock—it may, I think, be fairly assumed that the production of beef and mutton in the United States will, for a considerable time at least, keep pace with the growth of the population, especially if it should happen, as there seems to be considerable probability of its doing, that the emigration to America will not in the coming decade be so extensive as in the past. On this point see *Appendix B*, which gives an estimate of the meat supply of the United States and of the probable surplus for export. So much as regards the supply of meat likely to be sent from the United States. With respect again to the price at which it will pay stockowners and farmers to breed and fatten stock for export to the British and Continental markets, some idea of this may, I think, be gathered from what I have already stated, more especially from the *pro forma* statement which I submit in connection with the chilled meat trade; but I may add here on that point, that as there is no prospect of the land in the United States being turned to better account (grain-growing would not pay better) than by breeding and fattening stock, it must, I think, still be devoted to that purpose, and if so the stock must continue to be sent to the British and Continental markets; and it seems to be not so much a question of what price the American breeder and farmer considers it will pay them to produce and send meat to these markets, as what price the meat will bring in competition with that sent from New Zealand, Australia, and South America. That, in fact, the meat has to be produced in America and exported and sold for what it will bring. In any case the change, which those who make these statements expect, must be a gradual one; and as stockowners in this and the other Colonies need immediate relief, it will be for them to do their best, with the least possible delay, to make the advantages they possess of a more equable climate, better breeds of stock—more especially of cattle and cheaper food for them—more than counterbalance those which enables the American farmers not only to send their meat in a chilled, instead of a frozen, state to Great Britain, but also to ship live stock at a low rate of freight to the Deptford, Birkenhead, Glasgow, and other docks, where they bring better prices than those obtained for even chilled meat. When I say that our owners must do their best, I mean that they should breed and fatten stock of the primest quality and of the sort best suited for the markets to which they are to be exported; that, if sent away in the shape of meat, the works for its preparation should be of the best and most approved description, so arranged as to economise labour in all directions, and with so many and so very complete sets of appliances as to be able to deal not only with every class of stock, but even with every portion of each head of stock in the most advantageous manner; while every bit of the bi-products must be turned to the best account; and, above all, that there should be through co-operation, not only amongst owners in each Colony, but that the owners in all the Australian Colonies should as far as possible work together, especially in regard to the supply of shipping and the distribution and sale of the meat in the countries to which it is sent.

I have thought necessary here to say this much as to what owners should do; but I will, of course, when reporting on the sale of Australian meat in Great Britain and on the Continent, point out in detail the course which I think owners should take in disposing of their surplus stock, and give my reasons for the recommendations which I make.

APPENDIX A.

HAVING, in what I have already written, described the different ways in which the animal products of the United States are utilised and prepared for sale, I will here, by way of criterion as to their relative value, give the statement which appeared in the Annual Report of the Statistician of the Department of Agriculture of the United States for 1892.

Agricultural Exports, 1891 and 1892.

Animals and Articles.	Quantities.	Value.
Animals, living—		
Cattle	394,607	\$35,099,095
Horses	3,199	608,708
Mules	1,992	241,071
Sheep	46,960	161,105
Pigs	31,963	364,081
Other and Fowls ... ..	.....	24,161
Animal Matter—		
Bones, Hoofs, Horns, Tips, Strips, and Waste ... ..	.....	218,639
Casings for Sausages ... ..	.....	878,675
Eggs doz.	183,063	32,374
Glue lb.	580,815	66,403
Grease, Grease Scraps, and Soap Stock ... ..	.....	1,298,598
Hair and Manufactures of ... ..	.....	370,169
Hides and Skins other than Fur ... ..	.....	1,211,620
Honey ... ..	.....	78,048
Oils—		
Lard gallons	901,575	496,601
Other Animal	278,954	144,119
Meat Products—		
Beef Products—		
Beef, Canned lb.	87,028,084	7,876,454
" Fresh	220,554,617	18,053,732
" Salted or Pickled	70,204,736	3,987,829
" Otherwise Cured	953,712	92,524
Tallow	89,780,010	4,425,630
Mutton	101,463	9,022
Oleo Margarine—		
Imitation Butter	1,610,837	195,587
The Oil	91,581,703	9,011,889
Pork Products—		
Bacon	507,919,830	39,334,933
Hams	76,856,559	7,757,717
Pork, Fresh	377,746	30,246
" Salted or Cured	80,336,481	4,792,049
Lard	460,045,776	33,201,621
Poultry and Game ... ..	.....	13,828
All other Products ... ..	.....	1,220,205
Dairy Produce—		
Butter	15,047,246	2,445,878
Cheese	82,100,221	7,676,657
Milk ... ..	.....	236,358
Wax, Bees	127,470	31,898
Wool, Raw	202,456	30,664
Say... .. £37,857,955 16s. 8d.	.....	\$181,718,188

APPENDIX B.

ESTIMATE of the Meat Supply of the United States of America, and of the surplus for Exportation:—

<i>Population.</i>	
Population in 1890	62,622,250
Proportionate increase for 3 years, 1890-93	3,739,940
	66,362,190
<i>Consumption.</i>	
Say population, 66,000,000, consuming meat at rate of 120 lb. per head per annum ...	7,920,000,000 lb.

NUMBER OF CATTLE, SHEEP, AND PIGS, AND ANNUAL INCREASE:—

No. of Cattle in United States	...	...	...	...	...	...	...	52,095,568
Allowing increase at rate of (say) 11 per cent., would give...	...	...	...	...	...	...	...	5,730,511 Cattle
No. of Sheep in United States	...	...	...	...	...	...	...	45,048,017
Allowing increase at rate of (say) 13 per cent., would give...	...	...	...	...	...	...	...	5,856,242 Sheep
No. of Pigs in United States	...	...	...	...	...	...	...	45,206,498
Allowing increase at rate of (say) 47 per cent., would give...	...	...	...	...	...	...	...	21,247,054 Pigs

Production of Meat.

Cattle, 5,730,511, × 750 lb.	...	...	...	...	...	...	...	4,297,883,250 lb.
Sheep, 5,856,242, × 60 lb.	...	...	...	...	...	...	...	351,374,520 „
Pigs, 21,247,054, × 175 lb.	...	...	...	...	...	...	...	3,718,234,450 „
								<u>8,367,492,220 lb.</u>
Less quantity required for consumption	...	...	...	...	...	...	...	<u>7,920,000,000 „</u>
Estimated surplus for Export	...	...	...	...	...	...	...	447,492,220 lb.

Which is equal to (say) 8,949,844 Merino Sheep, at 50 lb. each.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED
STOCK ACT AMENDMENT ACT OF 1884.
(REGULATIONS.)

Ordered by the Legislative Assembly to be printed, 26 February, 1895.

Department of Mines and Agriculture,
Stock and Brands,
Sydney, 25th January, 1895.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

THE following Regulations, which were made by His Excellency the Governor, with the advice of the Executive Council, for carrying into effect the provisions of the above-named Acts, relating to the importation and introduction of stock by sea into this Colony, are hereby published for general information.

SYDNEY SMITH.

1. Form O of the Regulations of the 10th January, 1893, as amended by the Regulations of the 14th September, 1894, is rescinded, and Form O which now applies solely to imported stock about to be introduced into the Colony, and which has in other respects been amended, is hereby notified in lieu thereof.

2. The fees for the inspection and transport of ship's stock, and the charges and expenses payable by such stock for sustenance or otherwise while in quarantine, shall be one-half the rate payable under Schedule O for stock intended to be introduced into the Colony.

Form O.—(Regulation 10.)

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED
STOCK ACT AMENDMENT ACT OF 1884.**

**SCALE OF TRANSPORT AND QUARANTINE CHARGES AND
EXPENSES FOR STOCK INTENDED TO BE INTRODUCED
INTO THE COLONY.**

Veterinary Surgeon's fees for inspection.

	£	s.	d.
Foreign horses and cattle.			
For one, and not exceeding four head, a fee of.....	1	1	0
For every additional head over four head, an additional fee of	0	5	0

Foreign sheep, goats, pigs, or dogs, and Australian sheep.			
For one and not exceeding 20 head	1	1	0
Any number from 21 to 50 head.....	1	5	0
" 51 to 100 ,,	1	10	0

If over 100, the charge instead of per number to be by the day or half-day, as the case may be, at the rate of £3 3s. per day.

*Charges for Transport of Stock to and from Quarantine.—
Payable each way.*

	£	s.	d.
Foreign horses or cattle.			
For one head.....	0	10	0
For every additional head arriving on board the same vessel	0	5	0

Foreign sheep, goats, or pigs.			
When conveyed with cattle or horses, every sheep, goat, or pig	0	1	0
When conveyed without cattle or horses, any number from 1 to 5	0	10	0
When conveyed without cattle or horses, any number from 6 to 20	1	0	0
When conveyed without cattle or horses, any number from 21 to 50	1	15	0

	£	s.	d.
When conveyed without cattle or horses, any number from 51 to 100	2	10	0
When conveyed without cattle or horses, any number from 101 and upwards	3	0	0

Foreign Dogs.

When conveyed with cattle or horses, every dog ...	0	1	0
When conveyed without cattle or horses, any number from 1 to 2	0	5	0
When conveyed without cattle or horses, any number from 3 to 10	0	10	0
When conveyed without cattle or horses, any number from 11 to 20	1	0	0
When conveyed without cattle or horses, any number from 21 upwards	1	10	0

Charge for sustenance in Quarantine, of foreign animals, per night.

Horses, per head	0	3	0
Cattle, per head	0	2	0
Pigs, each	0	0	6
Young pigs, under 2 months old	0	0	4
Sheep, per head	0	0	4
Dogs, per head	0	0	4
Pups, over 1 month and up to 3 months old	0	0	2
Pups, over 3 months	0	0	4

Keep of Australian sheep in Quarantine.

Sustenance and attendance per sheep per night	0	0	6
-----------------------------------------------------	---	---	---

Dipping Foreign and Australian Sheep—each dressing.

1 sheep	0	10	0
2 sheep, and not more than 5 sheep, per sheep...	0	5	0
6 sheep, and not more than 10 sheep, per sheep...	0	3	0
11 sheep, and not more than 20 sheep, per sheep...	0	2	0
21 sheep, and not more than 40 sheep, per sheep...	0	1	6
41 sheep, and not more than 100 sheep, per sheep...	0	1	0
101 sheep, and not more than 200 sheep, per sheep...	0	0	9
201 sheep and over, per sheep	0	0	6

N.B.—Besides the charges and expenses specified above for inspection, transport, sustenance, and dipping, the cost and expense of disinfecting stock, or the vessel by which they arrive, or the fittings thereof, or the effects of their attendance, as well as all other charges and expenses of every description incurred through the importation of foreign or Australian stock, shall be paid by their owner to the Inspector.

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

IMPORTED STOCK ACTS, 1871 AND 1884.

(NOTIFICATION OF CANCELLATION OF FORM O, REGULATION 10, AND SUBSTITUTION IN LIEU THEREOF.)

Presented to Parliament, pursuant to Act 35 Vic. No. 6, sec. 13.

Department of Mines and Agriculture,
Stock and Brands,
Sydney, 14th September, 1894.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

His Excellency the Governor, with the advice of the Executive Council, has been pleased to cancel Form O of the Regulations of 10th January, 1893, issued under the abovenamed Acts, and to substitute the following in lieu thereof.

SYDNEY SMITH.

Form O.—(Regulation 10.)

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED
STOCK ACT AMENDMENT ACT OF 1884.SCALE OF TRANSPORT AND QUARANTINE CHARGES AND
EXPENSES.*Veterinary Surgeon's fees for inspection.*

Foreign horses and cattle.

	£	s.	d.
For one and not exceeding four head, a fee of	1	1	0
For every additional head over four head, an additional fee of	0	5	0

Foreign sheep, goats, pigs, or dogs, and Australian sheep.

	£	s.	d.
For one and not exceeding 20 head	1	1	0
Any number from 21 to 50 head	1	5	0
„ 51 to 100 „	1	10	0

If over 100, the charge instead of per number to be by the day or half-day, as the case may be, at the rate of £3 3s. per day.

Charges for Transport of Stock to and from Quarantine.—
Payable each way.

Foreign horses or cattle.

	£	s.	d.
For one head	1	0	0
For every additional head arriving on board the same vessel	0	5	0

Foreign sheep, goats, or pigs.

When conveyed with cattle or horses, every sheep, goat, or pig	0	1	0
When conveyed without cattle or horses, any number from 1 to 20	1	0	0
When conveyed without cattle or horses, any number from 21 to 50	1	15	0
When conveyed without cattle or horses, any number from 51 to 100	2	10	0
When conveyed without cattle or horses, any number from 101 and upwards	3	0	0

Foreign dogs.

	£	s.	d.
When conveyed with cattle or horses	0	1	0
When conveyed without cattle or horses, any number from 1 to 5	0	10	0
from 6 to 10	1	0	0
from 11 to 20	1	10	0

Charge for sustenance in Quarantine of foreign animals, per night.

	£	s.	d.
Horses	0	4	0
Cattle, per head	0	3	0
Pigs, each	0	1	0
Young pigs under 2 months old	0	0	3
Sheep, per head	0	0	6
Dogs, per head	0	0	6
Pups, over 1 month and up to 3 months old	0	0	3
Pups, over three months	0	0	6

Keep of Australian sheep in Quarantine.

	£	s.	d.
Sustenance and attendance per sheep per night	0	0	6

Dipping foreign and Australian sheep—each dressing.

	£	s.	d.
1 sheep	0	10	0
2 sheep, and not more than 5 sheep, per sheep	0	5	0
6 sheep, and not more than 10 sheep, per sheep ...	0	3	0
11 sheep, and not more than 20 sheep, per sheep ...	0	2	0
21 sheep, and not more than 40 sheep, per sheep ...	0	1	6
41 sheep, and not more than 100 sheep, per sheep ...	0	1	0
101 sheep, and not more than 200 sheep, per sheep ...	0	0	9
201 sheep, and over, per sheep	0	0	6

N.B.—Besides the charges and expenses specified above for inspection, transport, sustenance, and dipping, the cost and expense of disinfecting stock, or the vessel by which they arrive, or the fittings thereof, or the effects of their attendance, as well as all other charges and expenses of every description incurred through the importation of foreign or Australian stock, shall be paid by their owner to the Inspector.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

IMPORTED STOCK ACTS FURTHER AMENDMENT BILL.
(MESSAGE No. 30.)

Ordered by the Legislative Assembly to be printed, 22 November, 1894.

R. W. DUFF,
Governor.

Message No. 30.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends to the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with "A Bill to amend the Imported Stock Act of 1871, and the Imported Stock Act Amendment Act of 1884; and for other purposes in connection therewith."

Government House,
Sydney, 22nd November, 1894.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

BATHURST COMMON.

(PETITION FROM RESIDENTS OF BATHURST AGAINST THE RESUMPTION BY THE GOVERNMENT OF PORTION OF THE BATHURST COMMON, FOR THE PURPOSES OF A MODEL FARM.)

Received by the Legislative Assembly, 13 March, 1895.

To the Speaker and Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned, residents of the City of Bathurst, and persons entitled to the use and enjoyment of the Bathurst Common,—

SHOWETH :—

1. That we are informed it is the intention of the Government to resume a portion of the Bathurst Common for the purposes of a Model Farm.

2. That we beg to respectfully enter an objection to such a proceeding.

Your Petitioners therefore humbly pray that your Honorable House may be pleased to give effect to your Petitioners' request and refuse to sanction such a resumption.

And your Petitioners, as in duty bound, will ever pray, &c., &c., &c.

[Here follow 349 signatures.]

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

RESUMPTION OF PORTION OF BATHURST COMMON
FOR MODEL FARM.

(PETITION FROM CERTAIN INHABITANTS OF THE CITY OF BATHURST AND SURROUNDING DISTRICT,
IN FAVOUR OF.)

Received by the Legislative Assembly, 2 April, 1895.

To The Honorable the Speaker and Members of the Legislative Assembly of New South Wales.

The humble Petition of certain inhabitants of the City of Bathurst and surrounding district,—

SHOWETH :—

That your Petitioners are gratified to know that certain lands in the vicinity of Bathurst have recently been resumed for the purposes of a model farm.

That your Petitioners have learned with regret that notwithstanding such resumption, certain steps are being taken by petition to your Honorable House with a view to having the resumption cancelled.

That your Petitioners are still of opinion that such resumption will largely benefit agriculturists and others in the western districts, by being the means of imparting instruction and information, and forwarding agricultural pursuits generally.

That your Petitioners are desirous that operations should at once be commenced to bring the resumption referred to into practical effect.

Your Petitioners, therefore, humbly pray,—

1. That the said resumption be maintained.
2. That operations be at once commenced to bring the resumption referred to into practical effect.

And your Petitioners, as in duty bound, will ever pray.

[Here follow 764 signatures.]

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

VINE DISEASES ACT, 1893.

(REGULATION UNDER.)

Presented to Parliament, pursuant to Act 56 Vic. No. 22, sec. 52.

Department of Mines and Agriculture,
Sydney, 31 July, 1894.

VINE DISEASES ACT OF 1893.

PURSUANT to the provisions of the Act 56 Victoria No. 22, section 52, His Excellency the Governor, with the advice of the Executive Council, hereby makes the following Regulation:—

For the purposes of the election of Members of the Board of any Vine District proclaimed under the Act aforesaid, each vinegrower whose name and address appear upon the Vinegrowers' Roll of any such District shall be entitled to vote within the District to which such Roll refers in accordance with the scale hereunder mentioned:—

Area of Vineyard.	Number of Votes to which the Owner or Occupier is entitled.
1 acre and under... ..	One vote.
Over 1 acre and up to 2 acres	Two votes.
Over 2 acres and up to 3 acres... ..	Three votes.
Over 3 acres and up to 5 acres... ..	Four votes.
Over 5 acres and up to 10 acres	Five votes.
Over 10 acres and up to 20 acres	Six votes.
Over 20 acres and up to 40 acres	Seven votes.
Over 40 acres and up to 75 acres	Eight votes.
Over 75 acres and up to 100 acres	Nine votes.
Over 100 acres	Ten votes.

T. M. SLATTERY.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

VINE DISEASES BILL.

(MESSAGE No. 55.)

Ordered by the Legislative Assembly to be printed, 3 April, 1895.

FREDK. M. DARLEY,
Lieutenant-Governor.

Message No. 55.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Lieutenant-Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill relating to Vine Diseases; to prevent the introduction into this Colony, or removal from place to place in this Colony, of diseased grapes or grape vines, or any insect or other pest, or any other matter or thing which may injuriously affect any grape vine or vineyard; and to eradicate any disease affecting grapes, grape vines, or vineyards; to quarantine and, if necessary, destroy any grapes, grape vine, vineyard, package, or implement; to proclaim vine districts; to appoint a Central Board; and for other purposes incidental thereto; and to repeal the Act 56 Victoria No. 22.

*Government House,
Sydney, 3rd April, 1895.*

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

FRUIT PROTECTION BILL.

(MESSAGE NO 56.)

Ordered by the Legislative Assembly to be printed, 3 April, 1895.

FREDK. M. DARLEY,
Lieutenant-Governor.

Message No. 56.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Lieutenant-Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to prevent the introduction of, and to eradicate diseases affecting fruit trees; to prevent the introduction of, and to destroy any insects, birds, or animals which are injurious to fruit trees; to inspect, and, if necessary, quarantine, any orchard, building, or place containing or supposed to contain any infected trees, plants, or fruit, and to destroy any such tree, plant, or fruit, or any insect, bird, or animal; and for any purposes incidental thereto.

*Government House,
Sydney, 3rd April, 1895.*

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT FROM THE SELECT COMMITTEE

ON THE

COOTAMUNDRA RACECOURSE BILL;

TOGETHER WITH

PROCEEDINGS OF THE COMMITTEE

AND

MINUTES OF EVIDENCE.

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,
6 *November*, 1894.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

1894.

1894.

(SECOND SESSION.)

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE
LEGISLATIVE ASSEMBLY.

VOTES No. 29. TUESDAY, 30 OCTOBER, 1894.

4. COOTAMUNDRRA RACECOURSE BILL (*Formal Motion*):—Mr. Barnes moved, pursuant to Notice,—
- (1.) That the Cootamundra Racecourse Bill be referred to a Select Committee for consideration and report.
- (2.) That such Committee consist of Mr. Carruthers, Mr. Carroll, Mr. Frank Farnell, Mr. Fitzpatrick, Mr. Gillies, Mr. Travers-Jones, Mr. Lee, Mr. O'Sullivan, Mr. Watson, and the Mover.
- Question put and passed.
-

VOTES No. 32. TUESDAY, 6 NOVEMBER, 1894.

2. COOTAMUNDRRA RACECOURSE BILL :—Mr. Barnes, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before the Select Committee for whose consideration and report this Bill was referred on 30th October, 1894, together with a copy of the Bill as agreed to by the Committee.
- Ordered to be printed.
- * * * * *
-

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1894.

(SECOND SESSION.)

COOTAMUNDRA RACECOURSE - BILL.

REPORT.

THE SELECT COMMITTEE of the Legislative Assembly, for whose consideration and report was referred on the 30th October, 1894, "*The Cootamundra Racecourse Bill*,"—beg to report to your Honorable House:—

That they have examined the witnesses named in the list (whose evidence will be found appended hereto); and that the Preamble having been satisfactorily proved to your Committee, they proceeded to consider the clauses of the Bill, in which it was not deemed necessary to make any amendment.

Your Committee now beg to lay before your Honorable House the Bill without amendment.

JNO. F. BARNES,
Chairman.

No. 1 Committee Room,
Sydney, 1st November, 1894.

1894.

PROCEEDINGS OF THE COMMITTEE.

THURSDAY, 1 NOVEMBER, 1894.

MEMBERS PRESENT:—

Mr. Barnes,	|	Mr. Fitzpatrick,
Mr. Carroll,	|	Mr. Watson,
Mr. Travers-Jones.		

Mr. Barnes called to the Chair.
 Entry from Votes and Proceedings appointing the Committee *read* by the Clerk.
 Printed copies of the Bill *referred*, together with original Petition to introduce same before the Committee.

Present:—T. P. MacMahon, Esq. (*Solicitor for the Bill*).

Frederick A. Pinkstone called in, sworn, and examined.

Witness withdrew.

Solomon Cohen called in, sworn, and examined.

Witness withdrew.

William Hall Matthews called in, sworn, and examined.

Room cleared.

Preamble considered.

Question,—“That this Preamble stand part of the Bill,” put and passed.

Clauses 1 to 29 read and *agreed to*.

Title read and *agreed to*.

Chairman to report the Bill, without amendment, to the House.

LIST OF WITNESSES.

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1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON THE

COOTAMUNDRA RACECOURSE BILL.

THURSDAY, 1 NOVEMBER, 1894.

Present:—

MR. WATSON,	MR. CARROLL,
MR. TRAVERS-JONES,	MR. FITZPATRICK,
MR. BARNES.	

J. F. BARNES, ESQ., IN THE CHAIR.

Mr. MacMahon, Solicitor, appeared for the promoters of the Bill.

Mr. Frederick A. Pinkstone called in, sworn, and examined;—

1. *Mr. MacMahon.*] What is your occupation? I am a journalist.
2. You reside at Cootamundra? Yes.
3. Do you produce the grant of this land? I do.
4. Is the description in that grant similar to the description contained in the Bill now before the Committee? Yes; it is the same.
5. The present trustees of the land are John Frederick Barnes, Patrick James O'Donnell, James Connell, Solomon Cohen, and Frederick Pinkstone? Yes.
6. Who were the original trustees? John Frederick Barnes, Patrick James O'Donnell, William George Archer, Frederick Pinkstone, and Edward Strongitharm.
7. What became of Archer and Strongitharm? Archer removed from the district and resigned; Strongitharm is deceased.
8. And I believe that Mr. James Connell and Mr. Solomon Cohen were appointed in their places? Yes.
9. What were the purposes for which the land was granted to the trustees? It was granted for racing purposes and for a recreation ground.
10. Does the grant provide that the trustees shall have power to make rules and regulations? Yes.
11. Also that the Government shall have power to appoint new trustees? Yes.
12. Have the trustees for many years past permitted members of the Cootamundra Turf Club to have the use and enjoyment of the land for horse-racing? Yes; for the past seventeen or eighteen years.
13. Have the Cootamundra Turf Club expended large sums of money in making, forming, and improving the racecourse in sowing grasses, planting trees, and erecting stands on the land? Yes.
14. How much have they expended altogether? I should say over £2,000.
15. Is the club desirous of erecting and maintaining other improvements on the land which will require a large outlay? Yes; they contemplate making other improvements, including the removal of the grandstand to another site, which will entail an expenditure of perhaps £1,000.
16. Is it necessary, in order to enable them to raise that money, that the trustees should be empowered to grant leases of the land to the said club? It is absolutely necessary.
17. Is that the only way that the money referred to can be raised? Yes. Hitherto we have been personally responsible for the amount of £1,000. In these times we do not like to undertake personal responsibilities in such matters.
18. Are the trustees desirous of obtaining such advantage? Yes.
19. Are they members of the club? Yes, all the trustees have been members during my time.
20. Are you a member of the club? Yes.
21. What position do you hold? I am a committee-man.
22. How have the club signified their willingness to accept a lease? They are the originators of the movement for the passing of the Bill to enable the leases to be granted.
23. Did they pass a resolution to that effect? They did.

Mr. F. A.
Pinkstone.
1 Nov., 1894.

- Mr. F. A. Pinkstone.
1 Nov., 1894.
24. Has any action been taken by any subscribers to the club of a contrary nature? No; due notice has been given publicly extending over some months of the intention to apply for the Bill, but there has been no opposition to it.
25. Has application been made to the trustees for the lease? Yes; but we find that they have not got power to grant a lease. Hence the necessity for the Bill.
26. Have there been any other organised public amusements held on the course? No; it has been used almost exclusively for racing purposes. There are other grounds about the place suitable for purposes of amusement.
27. What other grounds do you refer to? The public park in the town, about 12 acres, which is used for genuine recreation purposes. The Council has been granted a large domain outside the town, and the show people have about 30 acres.
28. Are all those lands that you have mentioned nearer to the town than the racecourse, and more convenient for the general body of the people? Yes; the recreation ground or park and the show-ground are right in the township. The domain is a little more convenient than the racecourse.
29. Are there buildings erected on the show-ground? Yes, a grand-stand and all the buildings necessary for show purposes.
30. Has any opposition been offered to the use of the racecourse for the purposes for which the ground was originally contemplated by the trustees or by the Cootamundra Turf Club? No; we have never had any collision with the people as to this grant at all.
31. As a matter of fact is the reserve used for any other purposes than for horse-racing and cricket and for picnicking? Up to the present it has been used almost exclusively for horse-racing. There was one coursing meeting on it, and there have been Sunday-school picnics on it. If the weather is uncertain they go on the racecourse to get the shelter of the grand-stand.
32. No objection has ever been offered to people going there? None whatever.
33. Have you any means of knowing whether the people of Cootamundra are opposed to the passing of the Bill or not? I have every means of knowing, especially being a journalist. It would be my duty to conserve the interests of the people. I have never known the people to be dissatisfied with the management of the ground.
34. To your knowledge has any petition been presented to Parliament against the passing of the Bill? No petition has been presented against it.
35. As far as you know there is not the slightest wish to prevent the reserve from being used for the various purposes contemplated by the grant? No.
36. So the passing of the Bill will not interfere in any way with any of these privileges? I am sure it would not.
37. In your judgment, will not the passing of the Bill have the effect of rather affording increased facilities for public amusement? Yes.
38. Do you think the racecourse could be made into a thorough recreation ground? Yes, it might be made of great use to the people for recreation purposes.
39. I presume that the Cootamundra Turf Club do not think themselves justified in spending a large sum of money in improving the racecourse unless they can obtain a lease? That is so; they want some security.
40. I suppose that if a lease were not granted the club would fall through? We fear that that would be the result. There is great difficulty in getting anyone to become personally responsible for the large amount of money that we wish to expend upon the ground.
41. I believe that hitherto certain persons have been personally responsible? Yes.
42. Who are they? The trustees.
43. Do you know for what amount they were responsible? They have been responsible for the amount of about £1,000 at one time.
44. *Mr. Watson.*] For what purpose? For the purpose of making improvements.
45. That is in addition to what was expended by the Turf Club? No; it is expended by the Turf Club with the sanction of the trustees. The money formally goes through the hands of the trustees.
46. *Mr. Carroll.*] The trustees are always the responsible parties? Yes.
47. *Mr. MacMahon.*] Has the Agricultural Society ever held a show on the ground? No.
48. Has the ground ever been refused to any public body at all? No.
49. Who has been mainly instrumental in improving the course? The club and the trustees have always been working harmoniously together, and they have assisted each other in the matter. The money has been raised by profits on race-meetings.
50. Then, as a matter of fact, all the money comes from the Turf Club? Yes.
51. Have you any idea of the by-laws intended to be submitted to the Executive under the Bill? They are framed on the same principle as the A.J.C. All our meetings are under the rules of the A.J.C.
52. I suppose that the present trustees are the leading members of the club? Yes; they are members of the committee.
53. I suppose the club embraces all the leading people in the district of Cootamundra? Yes; all who take an interest in racing.
54. And of the town of Cootamundra too? Yes.
55. Do you know what number of paying members there are in the Turf Club? About 150.
56. What is the annual subscription? One guinea.
57. So far as you know, is the Cootamundra Turf Club the leading race club in that part of the country? We generally have the largest attendance at our meetings in that part of the country. I have known the attendance to be as high as 4,000. Cootamundra being a junction of railways running in four directions, people concentrate in that place. The club has a high reputation throughout the Colony, and I believe it is the only club in the country which has been accepted by the consultation people.
58. It is the only country club on the races of which Mr. Adams would have a sweep? It is the only one that I know of.
59. I think you said you were not aware of any instance in which the Turf Club has refused the ground to any public body? I am sure that they never did.
60. Was there any charge? No; we have not been able to make any charge.
61. From your knowledge of the objects of the club, do you think it is likely they would charge anyone except on race days? I think not.

62. Has this rule been approved of by the trustees? Yes, they have all seen it, and given their approval. I approve of it myself, and I know from conversation with others that they are all in favour of it.
63. The Bill, if passed, does not oblige the trustees to grant leases? No. It simply empowers them to grant leases.
64. You believe that it would not in any way be detrimental to the public interests if this power were given? I believe it would not be detrimental to the public interest in any way whatever.
65. Have you any idea how much more money the Turf Club will require to complete the contemplated improvements? If they carry out all the improvements in contemplation it will cost another £2,000. They would like to make this racecourse a grand centre. We contemplate running a siding on to the racecourse.
66. *Mr. Watson.*] It will not leave you much out of £2,000 if you are going to make those contemplated improvements? It would certainly cost £2,000 to make them.
67. *Mr. MacMahon.*] You told us that there were other places for recreation? Yes. There is abundant provision for recreation of all kinds. There are the park, the domain, a large reserve, the rifle-butts, and the show-ground. The town is well furnished with public grounds of all kinds.
68. How far is the racecourse from the town? It is an incorporated borough, comprising 9 square miles, and the racecourse is on the north-east boundary.
69. *Mr. Watson.*] How far from the post-office? I should say that it is within 2 miles.
70. Is the course within the corporation boundaries? No; the grant commences on the boundary-road of the borough.
71. Have the corporation made any objection to this Bill? None whatever.
72. The reserves that you spoke about in the town—do they come under the Public Parks Act? One is regulated under the Public Parks Act.
73. Which is that? The Albert Park.
74. That is the one that you said contained 12 acres? Twelve or thirteen acres. It is highly improved.
75. Is the racecourse higher than the park? The racecourse is on the northern end of the town, and Albert Park is in the centre of it. The large domain is on the southern end of the town. The Council are the trustees for the Park.
76. *Mr. MacMahon.*] Is the racecourse subject to floods? It was subject to floods, but we spent a lot of money in drainage.
77. *Mr. Watson.*] What is the method of electing persons members of the club. Is it open to anyone to become a member? Anyone is eligible to become a member.
78. There are no conditions? No.
79. Has a candidate to run the gauntlet of a ballot? No; he has to be proposed in committee.
80. Therefore it is not necessarily open to anyone to become a member? A candidate has to be proposed, seconded, and elected. I never heard of anyone being rejected.
81. Are there any other clubs in that district for the purpose of carrying on racing? There is a pony and galloway club.
82. *Mr. Carroll.*] Do they use the same course? Yes; by permission.
83. *Mr. Watson.*] Have they made any objection to the Bill? None whatever.
84. You say the Turf Club have spent £2,000. Did the trustees become responsible for the money on behalf of the Turf Club? The trustees have been responsible for all the money spent by themselves and the Turf Club. The overdraft was £1,000, that being the highest amount at any one time that the account was overdrawn.
85. I understood you to say that the club had spent £2,000 in all? Yes.
86. That has been spent on the racecourse? Yes.
87. Then how could the trustees become responsible? All the expenditure has been through the trustees. The members of the Turf Club have not generally been responsible for the overdrafts. It was the trustees.
88. *Chairman.*] Is it not a fact that the trustees were answerable to the banks for an overdraft of £1,000? Yes.
89. During that time did not the Turf Club pay in a certain amount of money to the trustees, which was spent, but they were always liable for that £1,000 overdraft? Yes.
90. *Mr. Watson.*] It is proposed to borrow moneys;—is it proposed to mortgage the ground? No; to mortgage the lease. The ground could not be made valid security.
91. I did not know whether the Bill might not give you power to mortgage the ground? We are not asking for that power.
92. You do not think that there is any danger in giving this club the exclusive right to this ground for twenty-one years? There is no danger to anyone.
93. *Mr. Travers-Jones.*] As regards this money for which the trustees are responsible to the bank—has it been paid back? There is still part of it remaining for which we are responsible to the bank.
94. I suppose that this Bill is asked for in the interest of the general public of Cootamundra? Yes, I am sure of that.
95. *Mr. Carroll.*] I understand that the trustees are always responsible for all moneys in country race-clubs? Yes.
96. *Mr. MacMahon.*] Have the Cootamundra Turf Club power to prevent trespassers on the land or to prevent anyone from doing damage? No, that is our difficulty.
97. *Chairman.*] This Bill is brought in mainly to give the trustees power to sue or to be sued? Yes; and to preserve our property generally.
98. So that they will be able to turn off the course anyone who misbehaves himself? Yes; men with travelling stock are a great nuisance. They break the locks and get on to the ground in spite of us. We shall have to put on a caretaker to watch the ground.

Mr. Solomon Cohen called in, sworn, and examined:—

99. *Mr. MacMahon.*] What is your occupation? I am a storekeeper residing at Cootamundra.
100. Were you present when Mr. Pinkstone was examined? I was.
101. Were his answers true in every respect? Yes; I should like to tell the Committee the difficulties that we have to contend with. A great deal of trespassing takes place on the racecourse. We have it all improved and fenced in; but only the other day somebody broke it open and put in a flock of sheep, but

Mr. F. A.
Pinkstone.
1 Nov., 1894.

Mr.
S. Cohen.
1 Nov., 1894.

Mr.
S. Cohen.
1 Nov., 1894.

we are powerless to act. We keep the door locked and we have duplicate keys for the trainers who want to go and gallop their horses, but people break the fences down. I heard it stated some time ago that people could go on to the course on race-days without paying anything under this dedication. If that got known we should be ruined.

102. I believe some people have done so? I would not say that they have, but they have threatened to do it. The whole of our revenue is derived from the gate-money.

103. On race-days it costs the Turf Club a considerable sum of money does it not? We give away between £500 and £600 for the two days' racing.

104. So the club stands to lose a considerable sum of money? We could not hold races. We should have to give it up. The gates bring us in about £100.

105. *Chairman.*] There are only two meetings a year? Yes; the spring meeting and the annual meeting.

106. It is not made a trade of? No, it is only for pleasure.

107. How many days racing are there in the two meetings? Three days.

108. *Mr. Travers-Jones.*] The course is required for training purposes at other parts of the year? Yes; we have no training track at present but we want to make one.

109. This Bill will give you power to deal with trespassers? Yes, that we want to do. If a person breaks through a fence we have no power to act.

110. *Mr. MacMahon.*] Have you anything further to say? I can only reiterate what Mr. Pinkstone has said. There is not any objection to the Bill or to the trustees granting leases to the racing club.

111. *Mr. Watson.*] There has been no move in opposition to the Bill on the part of other clubs? Not at all. We get on amicably with them.

112. *Chairman.*] There was a little difficulty with the pony club? Yes; they said they would race there in spite of us. They used our grand-stand and our track, and they said that if we did not almost give it them for nothing they would race there in spite of us.

113. *Mr. Watson.*] In spite of whom? They say that under that dedication the trustees cannot stop them from racing there.

114. *Mr. MacMahon.*] Did the galloway club ever spend money on the course? Not at all. They make us spend money.

115. They are really imposing upon the Cootamunda Turf Club? Certainly. We have purposed holding a race meeting in, say, September, but they have advertised one for August, and they have gone and cut in before us tearing up the track and doing a great deal of damage which we had to spend money in repairing.

116. For which they do not recompense the club? They give very small recompense and they say that if we do not let them go there for what they offer they will go for nothing. All they give us for racing there is £3, and they have the use of the course, the paddocks, the saddle-cloths, and everything. The money received for admissions comes to £25 or £30.

117. *Mr. Travers-Jones.*] Has a protest been made by any public body against the passing of the Bill? No.

118. *Mr. Carroll.*] Are the public of Cootamundra aware that the Bill is before the House? Yes; it has been well advertised, and no one has the slightest objection to it.

119. But there is no intention to prevent the pony club from using the land? No, we would help them; a great many of the members of the Turf Club are members of the pony club.

Mr. William Hall Matthews called in, sworn, and examined:—

Mr. W. H.
Matthews.
1 Nov., 1894.

120. *Mr. MacMahon.*] I believe you reside at Cootamundra? I do.

121. How long have you been there? Twenty years.

122. I suppose you are aware that a piece of land at Cootamundra has been dedicated to the purposes of a racecourse? Yes.

123. Are you also aware that there is a racing club at Cootamundra? Yes.

124. You are also aware that they are making application to Parliament for a Bill to enable them to deal with the racecourse? Yes.

125. I believe this fact has been advertised several times in the local papers? Yes.

126. Do you know whether any objection has been taken to this Bill? I have not heard of any.

127. As far as you know there has been no petition presented to Parliament against it? There has been no objection whatever to it.

128. I suppose there is a large population at Cootamundra? About 2,500.

129. Do you think it would be beneficial to Cootamundra if the Bill were passed? I can see no disadvantage.

130. Do you know whether the Cootamundra club have spent much money on the ground? They have spent a great deal of money, and it is very well improved indeed.

131. *Mr. Watson.*] Sufficiently improved to require no more in that direction? All the ordinary improvements are there; but further improvement might be done in the direction of clearing the ground and planting ornamental trees.

132. *Mr. MacMahon.*] As far as you know the Cootamundra clubs have no power to charge anyone to go on the course? So I have been told.

133. Do you know whether they have power to deal with trespassers? I understand that the same difficulty exists in that respect.

134. You are not one of the trustees? No.

135. Are you a member of the Turf Club? No.

136. *Chairman.*] You are aware that this Bill is to give the trustees more power? Yes.

137. So that they can sue and be sued, and keep their course in order? Yes.

138. You are aware that any money derived from the course is to be expended on the course only? Yes, that is what I understand.

139. *Mr. MacMahon.*] I suppose you do not know whether the trustees are personally responsible for the overdraft? I have been told so.

140. *Mr. Carroll.*] In your opinion the passing of the Bill will not have the effect of depriving the people in the district of any privileges that they now enjoy? I do not think so.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT FROM THE SELECT COMMITTEE

ON THE

PRESBYTERIAN CHURCH PROPERTY MANAGE-
MENT AMENDMENT BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE

AND

MINUTES OF EVIDENCE.

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,
28 *November*, 1894.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

1894.

1894.

(SECOND SESSION.)

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE
LEGISLATIVE ASSEMBLY.

VOTES NO. 40. THURSDAY, 22 NOVEMBER, 1894.

2. PRESBYTERIAN CHURCH PROPERTY MANAGEMENT AMENDMENT BILL (*Formal Motion*):—Mr. Storey moved, pursuant to Notice,—
- (1.) That the Presbyterian Church Property Management Amendment Bill be referred to a Select Committee for consideration and report.
- (2.) That such Committee consist of Mr. Carruthers, Mr. Affleck, Mr. Cameron, Mr. Hogue, Mr. Frank Farnell, Mr. O'Sullivan, Mr. Waddell, Mr. McGowen, and the Mover.
- Question put and passed.
-

VOTES NO. 42. WEDNESDAY, 28 NOVEMBER, 1894.

2. PRESBYTERIAN CHURCH PROPERTY MANAGEMENT AMENDMENT BILL :—Mr. Storey, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before the Select Committee for whose consideration and report this Bill was referred on 22nd November, 1894, together with a copy of the Bill as agreed to by the Committee.
- Ordered to be printed.

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1894.

(SECOND SESSION.)

PRESBYTERIAN CHURCH PROPERTY MANAGEMENT AMENDMENT BILL.

REPORT.

THE SELECT COMMITTEE of the Legislative Assembly, for whose consideration and report was referred on 22nd November, 1894, the "*Presbyterian Church Property Management Amendment Bill*,"—beg to report to your Honorable House :—

That they have examined the witnesses named in the list* (whose *See List page 4. evidence will be found appended hereto); and that the Preamble having been satisfactorily proved to your Committee, they proceeded to consider the Bill, in which it was not deemed necessary to make any amendment.

Your Committee now beg to lay before your Honorable House the Bill as agreed to by them.

DAVID STOREY,
Chairman.

No. 3 Committee Room,
Legislative Assembly,
27th November, 1894.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON THE

PRESBYTERIAN CHURCH PROPERTY MANAGEMENT
ACT AMENDMENT BILL.

TUESDAY, 27 NOVEMBER, 1894.

Present:—

MR. AFFLECK, MR. FRANK FARNELL,
MR. STOREY.

DAVID STOREY, ESQ., IN THE CHAIR.

John A. Aitken, Esq., appeared as solicitor for the Bill.

The Rev. William Scott Frackelton called in, sworn, and examined:—

1. *Chairman.*] What are you? I am a Presbyterian minister, at Randwick.
2. *Mr. Aitken.*] By virtue of your office, you are a member of the General Assembly of the Presbyterian Church of New South Wales? Yes.
3. So that you know all that the General Assembly has done in respect to the present Bill? Yes. I am also a member of the committee of the General Assembly entrusted with the carrying through of this Bill.
4. Is the Bill in the form in which it was approved by that committee? Yes; it is in the form approved of by the Committee and by the General Assembly.
5. Will you look at clause 1, in regard to the application of moneys arising from the sale of land held by the trustees. Do you know the reason of that clause being put in the Bill? Yes; the latter part of the clause contains these words:—"The proceeds arising from such sale in and towards the erection, improvement, or maintenance of a church, minister's dwelling-house, or school-house upon other lands vested in the said trustees in trust for the said congregation, or upon the unsold portion of any of the said first-mentioned lands." We already have an Act of Parliament, which gives us power to sell, called the Presbyterian Church Property Management Act, 1881. Under that Act we consider that we have this power in regard to the proceeds arising from the sale of land; but some are inclined to think that the wording of the Act is not sufficiently clear and distinct. There is no doubt as to the power of sale; but some thought that the power to use the money in this way might be doubtful, and the object in this clause is to make the point perfectly clear. The majority are satisfied with the provision in the existing Act, but one or two seem to think that it is not sufficiently explicit with regard to the point referred to.
6. Will you explain to the Committee why the power contained in clause 2, with regard to mortgage, which is one of the main provisions of the Bill, is being sought? A number of us, and also a number of solicitors, still think that the greater power, which consists in the ability to sell, covers also the power of mortgage.

The Rev
W. S.
Frackelton.
27 Nov., 1894.

The Rev.
W. S.
Frackelton,
27 Nov., 1894.

mortgage. There are others who say that in order to mortgage an explicit power must be given by Parliament. Acting, as in past years, on the power which we thought we possessed, and which numbers of us still think we possess under the greater power—the question never having been tested in Court—we found that this had been done in some cases, done in good faith and good feeling that we had the right. These mortgages have been taken and interest has been paid upon them; but now, some of the mortgages falling due, this question has arisen again, and in order that everything may be right, and that the mortgagees may have the power to receive the mortgages rightly, we wish that this clause should be inserted, which only gives us a right intended to be given to us under the original permission to sell.

7. Will you explain why these mortgages were given instead of the land being sold? If we sold the land it would pass from our possession, and the result would be that land which should be kept for the purposes of the Church would become alienated. But by mortgaging, we are able to raise the money and erect a congregation, and thus gain a valuable property for the Church, and for the good of the community, without having to alienate our lands, which we should be compelled to do if we had not the power to mortgage.

8. And these mortgages would be given for erecting improvements on the land directly in connection with the objects of the trust? Yes. It is not to divert the trust, but simply to carry out the provisions of the trust more effectively than could otherwise be the case.

9. *Mr. Affleck.*] Under the power of sale contained in clause 2, might not the trustees sell the land for a sum less than the amount of the mortgage? The power of sale is subject to the mortgage, and there could be no interference with the right of the mortgagees.

10. *Mr. Aitken.*] Will you explain clause 4, which validates mortgages executed before the passing of the Bill? This clause is simply to validate mortgages as to which some doubt might now exist. The trustees, in a *bona fide* manner, and believing they had the right under the power to sell, have effected certain mortgages; and so that there shall be no misinterpretation hereafter, we ask Parliament to validate those mortgages for the protection both of the mortgagees and the trustees. If these mortgages are not valid, the mortgagees have no claim upon the Church; and if they are valid, this clause will simply declare so in an Act of Parliament. It removes any doubt; it protects those who lent the money in good faith, and it also protects the Church in the rights which it now has. The clause does not affect any of the trusts which now exist regarding the property; these must be carried out in their entirety. It does not violate any trust, nor make any trust invalid, or change it in any way.

11. Then you are clearly of opinion that it validates mortgages contracted for carrying out the objects of the trust, which objects could not have been effected by a sale of the land? Yes. All these mortgages have been given with the sanction of the General Assembly and of the congregations, according to the provisions of the Presbyterian Church Property Management Act.

12. Was the provision in clause 5 in regard to the appointment of special trustees also before the General Assembly of the Church? It was before the General Assembly, and was fully discussed, and its necessity was such that at the meeting of the General Assembly it was unanimously approved of. We felt the need of it, because the *ex-officio* trustees, the Moderator and the Clerk of the General Assembly, did not become *de facto* trustees unless trustees had been duly elected by the congregation. If money were left to the Church at large, it not being a congregation, these *ex-officio* trustees could not, in the opinion of the judges, become trustees in respect of that money, unless other trustees were also appointed. Instead of having individuals specially appointed as trustees, it has been thought better to have a continuous trust, composed of the Moderator and the Clerk of the General Assembly and the Conveners for the time being of certain Standing Committees of the General Assembly elected year by year. In this way we have a continuous trust which is not broken.

13. Will you explain to the Committee who these officers are to whom reference is made in the clause? The Moderator is the chief head of our Church, and he is constitutionally elected from year to year. The "Clerk for the time being of the said General Assembly" is the official who communicates all actions of the Assembly, and attests all acts which are done, and he is elected for life, or during good behaviour. The "Chairman for the time being of the Treasurership Committee" is chairman of the committee which has control of the general funds of the Church, apart from the congregational funds, and he also is elected annually by ballot. The next officer is the "Convener for the time being of the Sustentation Fund Committee." This is a committee which receives and controls the money paid in to the officers in order to pay the different ministers of the Church, and to supplement their income in the smaller charges when there is an excess of money. This fund has received donations, and therefore we thought it proper that the chairman of the committee should be a member of the trust, as probably a large sum in gifts and donations will in future be given specially to this Sustentation Fund. It has received a large number of gifts already, by will and otherwise, amounting to a large sum of money. The other officer mentioned in the clause is the "Convener for the time being of the Church Property Law and Documents Committee of the said General Assembly." This is a committee which is elected by the General Assembly, and its duty is to look into all titles, to see that the Church property is carefully looked after, and to deal with every application for mortgage or sale before it comes to the General Assembly. The convener of this committee has a full knowledge of all Church property. Any property left to the church would pass into the control of this committee rather than into the control of any other committee of the Church. These were the reasons why the officers mentioned were specially chosen to administer the trust.

14. *Chairman.*] Is it a fact that as the law now stands, if money is left to the Presbyterian Church as a body, there are no trustees to receive it? There are no trustees to receive it, simply because the *ex-officio* trustees do not become trustees *de facto* until another body is elected, and we have no power to elect a body for the whole Church at large, but only for a congregation.

15. In a case of that kind, what would be the procedure; would it be necessary to apply to the Court of Equity to have trustees appointed? Either that, or to apply to Parliament to have a special Act. The officers who have been chosen form a perpetual trust, with power of removal on the part of the General Assembly in case of the non-election of any trustee who might not act in accordance with the judgment of the General Assembly. This matter has been most carefully thought out, and the provision in the Bill has the unanimous approval of the General Assembly.

Mr.

Mr. William Wood called in, sworn, and examined :—

16. *Chairman.*] What are you? I am at present acting secretary of the Presbyterian Church of New South Wales. Mr. W. Wood.
27 Nov., 1894.
17. *Mr. Aitken.*] You are an elder of the Church? I am an elder of the Church, and I hold a seat in the General Assembly by virtue of my appointment to represent a congregation there.
18. Will you explain to the Committee, briefly, the urgency which exists for the passing of the present Bill? I have a special set of documents here, including an application from one congregation, which affords a very good illustration of the extreme urgency for the measure. It is an application from a congregation at Kempsey for relief in this particular direction. They had a loan, by overdraft, from a Bank over their church property. One of the guarantors for this loan died, and the executors foreclosed. They said they must have this money repaid for which this particular executor had become responsible, and they now demand the money. The trustees for the congregation have succeeded in obtaining a provisional mortgage. It is really a friendly act by one of themselves to prevent trouble or litigation on the part of the trustees of the deceased person. Unless this Bill is made law before the meeting of our next General Assembly, about the 7th or 8th March, we cannot give relief in this particular case. We also desire, at the same time, to give relief to other congregations similarly situated.
19. Could you give the particulars of other cases if necessary? Yes. I might mention that I am in a position to assure the Committee that every step has been taken legally from a Church law point of view in regard to the introduction of this Bill. I have in my hand a formal extract, signed by the Clerk of the General Assembly, stating that a *pro re natâ* meeting was properly called, and giving the finding of the Assembly authorising the Church Property Law and Documents Committee to take all necessary steps for the introduction of this Bill.
20. Is it not also a matter of urgency for the protection of some of the properties? Yes; it is absolutely necessary for the protection of properties that this power should be obtained. For instance, where a mortgage has become due for renewal, the mortgagees refuse to renew, and threaten to take over the property from the Church entirely, and unless we are able to show them by virtue of this Bill that we have the power to renew, the mortgagees will not renew, but will foreclose on the property, which is a very valuable one in an inland town.
21. *Chairman.*] Is it a fact that under the Act of 1881, although the Church has power to sell, yet if it sells part of a Church property it has not power to build upon the remaining portion of that property? That is so. Under section 13 of the present Act, if we have a piece of land with a church upon it, and there is a heavy debt on the property, and if there is a valuable site with a frontage adjoining, and we sell it, we cannot apply the proceeds towards the liquidation of the debt on the building erected on the other portion of the land; but we must apply the proceeds to the purchase of another piece of land and build elsewhere. One of the objects of the Bill is to relieve the trustees from such an awkward position as that, and to enable them to do what is a businesslike and natural thing to do, namely, to liquidate the debt on the property on the remaining portion of land if they think fit to do so.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

REPORT FROM THE SELECT COMMITTEE

ON

HOLT'S WINGELLO ESTATE BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE

AND

MINUTES OF EVIDENCE.

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,

6 *December*, 1894.

SYDNEY : CHARLES POTTER, GOVERNMENT PRINTER.

1894.

1894.

(SECOND SESSION.)

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE
LEGISLATIVE ASSEMBLY.

VOTES No. 35. TUESDAY, 13 NOVEMBER, 1894.

3. HOLT'S WINGELLO ESTATE BILL (*Formal Motion*)—Mr Bavister moved, pursuant to Notice—
- (1.) That Holt's Wingello Estate Bill be referred to a Select Committee for consideration and report.
- (2.) That such Committee consist of Mr Carruthers, Dr. Hollis, Mr. Russell Jones, Mr. Fegan, Mr. Cann, Mr. Rose, Mr. Kidd, Mr. Waddell, Mr Hassall, and the Mover.
- Question put and passed.
-

VOTES No. 46 THURSDAY, 6 DECEMBER, 1894.

5. HOLT'S WINGELLO ESTATE BILL—Mr. Bavister, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before the Select Committee for whose consideration and report this Bill was referred on 13th November, 1894, together with a copy of the Bill, as amended and agreed to by the Committee.
- Ordered to be printed.
- * * * * *
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1894.

(SECOND SESSION.)

HOLT'S WINGELLO ESTATE BILL.

REPORT.

THE SELECT COMMITTEE of the Legislative Assembly, for whose consideration and report was referred on 13th November, 1894, "Holt's Wingello Estate Bill," beg to report to your Honorable House:—

That they have examined the witnesses named in the List* (whose *See List, p. 4. evidence will be found appended hereto) and that the Preamble having been satisfactorily proved to your Committee they proceeded to consider the Bill, in which it was deemed necessary to make an amendment.

Your Committee now beg to lay before your Honorable House the Bill as amended by them.

THOMAS BAVISTER,
Chairman.

*No. 2 Committee Room,
Legislative Assembly,
5th December, 1894.*

PROCEEDINGS OF THE COMMITTEE.

WEDNESDAY, 5 DECEMBER, 1894.

MEMBERS PRESENT :—

Mr. Bavister,	|	Mr. Hassall,
Mr. Russell Jones,	|	Mr. Rose.

Mr. Bavister called to the Chair.

Entry from Votes and Proceedings, appointing the Committee, *read* by the Clerk.

Printed copies of the Bill referred, together with original Petition to introduce same, before the Committee.

Present :—Cecil Cowper, Esq. (*Solicitor for the Bill*).

Cecil Cowper sworn and examined.

Witness produced lease, dated 3rd November, 1884, from Thomas Holt to Alfred William Holt, of the Wingello Park Estate; probate of will of Thomas Holt, deceased; disclaimer by Alfred William Holt, dated 31st January, 1889, of his life interest in the beforementioned will; indenture of assignment and counterpart assignment of rents from F. S. E. Holt and W. H. Holt to A. W. Holt; deed of appointment of new trustees of the will of Thomas Holt, appointing the Perpetual Trustee Company (Limited); copy of a decree of the Supreme Court of New South Wales in Equitable Jurisdiction, dated 2nd March, 1894.

Arthur John Mackenzie (*Manager of the Perpetual Trustee Company, Limited*) called in, sworn, and examined.

Witness withdrew.

Alfred William Holt called in, sworn, and examined.

Room cleared.

Preamble considered.

Question,—“That this Preamble stand part of the Bill,” put and passed.

Solicitor called in and informed.

Clauses 1 and 2 read and agreed to.

New clause to stand as clause 3 read and agreed to.

Schedule read and agreed to.

Title read and agreed to.

Chairman to report the Bill, with an amendment, to the House.

SCHEDULE OF AMENDMENT.

Page 3. Insert the following new clause to stand as clause 3 :—

Short title.

3. “This Act may be cited as the ‘Holt’s Wingello Estate Act of 1894.’”

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1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON

HOLT'S WINGELLO ESTATE BILL.

WEDNESDAY, 5 DECEMBER, 1894.

Present:—

MR. HASSALL,		MR. ROSE,
MR. RUSSELL JONES,		MR. BAVISTER.
THOMAS BAVISTER, Esq., IN THE CHAIR.		

Cecil Cowper, Esq., appeared as Solicitor for the Bill.

Cecil Cowper, Esq., sworn and examined:—

1. *Chairman.*] You produce the necessary documents in this case? Yes; first a lease dated November 3rd, 1884, from Thomas Holt to Alfred William Holt, of about 700 acres of freehold land, known as the Wingello Park Estate, for ninety-nine years, from the date of giving up possession by the then present tenant. That is practically the date of the lease; he gave up possession at once. The lease contains a clause that the lessee shall not assign or underlet the premises during the said term without the license of the lessor, in writing in that behalf first obtained. I also produce probate of the will of Thomas Holt, deceased, dated January 30th, 1889, the testator having died on 5th September, 1888. I also produce a disclaimer by Alfred William Holt of his life interest in the before-mentioned will, such disclaimer being dated 31st January, 1889. I also produce indentures assigning the rents, dated 5th March, 1889, from F. S. E. Holt and W. H. Holt to Alfred William Holt. I also produce deed of appointment of new trustees of the will of Thomas Holt, dated 10th March, 1893, appointing the Perpetual Trustee Company (Limited) to be trustees of the will. I also produce a copy of a decree of the Supreme Court of New South Wales in its equitable jurisdiction, dated 2nd March, 1894, and I can say that that is a true copy of the original decree.

C. Cowper,
Esq.
5 Dec., 1894.

Arthur John McKenzie, Esq., sworn and examined:—

2. *Mr. Cowper.*] You are manager of the Perpetual Trustee Company? Yes.
3. Do you know, as a trustee, of any objection to the passing of the Bill? No.
4. Would your company give a general waiver of restriction if they could do so? Yes. I know of no reason why they should not.
5. But, as a matter of fact, you are advised by the company's lawyer that they can give no consent, because they are the trustees? Yes.
6. And also, as a matter of fact, if they gave such consent it would only operate as regards the first tenant of the land? That is so.
7. Any subsequent tenant would have to come back to the Trustee Company? It would have to go through the same process again.
8. Can you say whether the interest of the beneficiaries under Thomas Holt's will will be in any way prejudicially affected? I should say not in any way at all.

A. J.
M'Kenzie,
Esq.
5 Dec., 1894.

Mr. Alfred William Holt sworn and examined :—

- Mr. A. W. Holt.
5 Dec., 1894.
9. *Mr. Cowper.*] Was the property comprised in the lease which has been put before the Committee the property of your father? Yes.
 10. Was the covenant contained in that lease to the effect that you were not to assign or underlet the premises contained in the lease during the term without the license of the lessor introduced into the lease by inadvertence and mistake? It was.
 11. Have you only recently ascertained the effect of the covenant? Yes.
 12. You know the property well? Yes.
 13. What is the nature of it;—what is it suitable for? For agricultural purposes—orchards and small farms.
 14. Is it a suitable property for subdividing and subletting to small tenant farmers? I think so.
 15. Can you say whether any interests under Thomas Holt's will will be prejudicially affected by the passing of the Bill? Not that I know of.
 16. Is it expedient that you should have power to assign or underlet the lands contained in that lease for the whole or any part of the term still subsisting without first obtaining the aforesaid license in writing? Certainly.
 17. And is it also expedient that the said indenture of lease should be rectified by striking out therefrom the covenant before mentioned? Certainly.
 18. You are a widower, and you have three children? Yes.
 19. That is to say, Claude Alfred Wallis Holt and two female children, all of whom are infants? Yes.
 20. Your brother, Walter Henry Holt, is married? Yes.
 21. And has issue one female child, and she is an infant? Yes.
 22. You can say that all the daughters of Thomas Hall are unmarried? Yes; so far as I know.
 23. *Mr. Rose.*] How many acres are there in the estate? 1,228.
 24. What is the real object of dividing the land; will it be leased to more advantage? I think it will, because there is no land available in the district. Nearly the whole of the available Crown lands are taken up for agricultural purposes.
 25. The estate is within 5 miles of the railway? Yes.
 26. And upon its adjacent position to the railway you base the opinion that small farms are more suitable than they would be if they were a distance away? Yes.
 27. *Mr. Russell Jones.*] Without getting this power the land is tied up for ninety-nine years? I am utterly powerless and cannot deal with it.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

REPORT FROM THE SELECT COMMITTEE

ON THE

NEPEAN COTTAGE HOSPITAL BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE

AND

MINUTES OF EVIDENCE.

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,

24 *April*, 1895.

SYDNEY : CHARLES POTTER, GOVERNMENT PRINTER.

1895.

1894-5.

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE
LEGISLATIVE ASSEMBLY.

VOTES No. 35. TUESDAY, 13 NOVEMBER, 1894.

2. NEPEAN COTTAGE HOSPITAL BILL (*Formal Motion*):—Mr. Lees moved, pursuant to Notice,—
- (1.) That the Nepean Cottage Hospital Bill be referred to a Select Committee for consideration and report.
- (2.) That such Committee consist of Mr. Carruthers, Mr. Martin, Mr. Frank Farnell, Mr. Stevenson, Mr. Barnes, Mr. Hawthorne, Mr. Law, and the Mover.
- Question put and passed.
-

VOTES No. 78. WEDNESDAY, 24 APRIL, 1895.

7. NEPEAN COTTAGE HOSPITAL BILL:—Mr. Lees, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before, the Select Committee for whose consideration and report this Bill was referred on 13th November, 1894, together with a copy of the Bill as agreed to by the Committee.
- Ordered to be printed.

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1894-5.

NEPEAN COTTAGE HOSPITAL BILL.

 REPORT.

THE SELECT COMMITTEE of the Legislative Assembly, for whose consideration and report was referred on the 13th November, 1894, the "*Nepean Cottage Hospital Bill*,"—beg to report to your Honorable House:—

That they have examined the witnesses named in the List* (whose * See list, page 4. evidence will be found appended hereto), and the Preamble having been satisfactorily proved to your Committee, they proceeded to consider the several clauses, and the Schedule of the Bill, in which it was not deemed necessary to make any amendment.

Your Committee now beg to lay before your Honorable House the Bill as agreed to by them.

SAM. E. LEES,
Chairman.

*No. 3 Committee Room,
Legislative Assembly,
Sydney, 24th April, 1895.*

1894-5.

PROCEEDINGS OF THE COMMITTEE.

WEDNESDAY, 24 APRIL, 1895.

MEMBERS PRESENT :—

Mr. Barnes,	|	Mr. Frank Farnell,
Mr. Law,	|	Mr. Lees,
	Mr. Stevenson.	

Mr. Lees called to the Chair.

Entry from Votes and Proceedings, appointing the Committee, *read* by the Clerk.

Printed copies of the Bill referred, together with original Petition to introduce same before the Committee.

Present :—G. C. K. Waldron, Esq. (*Solicitor for the Bill.*)

George Charles King Waldron sworn and examined.

Witness *produced* copy of *Government Gazette*, dated 13th September, 1892, containing the Proclamation of the Nepean Cottage Hospital under the Hospitals Act, 1847.

Witness withdrew.

John Kingdon Cleeve called in, sworn, and examined.

Witness *produced* Deed of Conveyance of the site of the Penrith District Hospital, dated 20th November, 1856, by Philip Gidley King to Robert Copland Lethbridge, George Cox, and James Riley.

Witness withdrew.

William Perritt (*Secretary of the Nepean Cottage Hospital*) called in, sworn, and examined.Witness *produced* Minute-books of the Nepean Cottage Hospital.

Witness withdrew.

Thomas Walter King Waldron called in, sworn, and examined.

Witness *produced* Certificates obtained from the Registrar-General's Office of the death of James John Riley, George Cox, and Robert Copland Lethbridge.

Room cleared.

Preamble considered.

Question,—“That this Preamble stand part of the Bill,” put and passed.

Clauses 1 to 4 read and *agreed* to.Schedule read and *agreed* to.Title read and *agreed* to.

Chairman to report the Bill, without amendment, to the House.

LIST OF WITNESSES.

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1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON THE

NEPEAN COTTAGE HOSPITAL BILL.

WEDNESDAY, 24 APRIL, 1895.

Present:—

MR. LEES,		MR. LAW,
MR. BARNES,		MR. FRANK FARNELL,
	MR. STEVENSON.	

S. E. LEES, ESQ., IN THE CHAIR.

Mr. George Charles King Waldron called in, sworn, and examined:—

1. *Chairman.*] Are you a solicitor of the Supreme Court, and do you appear for the promoters of this Bill? Yes. Mr. G. C. K. Waldron.
2. Will you state the objects of the Bill? The object is to enable the trustees of the present Nepean Cottage Hospital to deal with a parcel of land which was vested in trustees of a hospital in the Penrith district long since fallen into disuse. The committee of the present hospital have selected a new site, and commenced the building of an hospital which will be suitable for the requirements of the place. The site of the old hospital is now useless for all hospital purposes, and it is desirable that the proceeds of the sale or exchange of that site shall be devoted to the new hospital. Satisfactory arrangements have been made in the opinion of the trustees and subscribers of the Nepean Cottage Hospital, and those arrangements now merely require the passage of this Bill to be carried into effect. 24 April, 1895.
3. *Mr. Farnell.*] Do you know whether the land was a deed of gift or whether it was purchased originally? I will produce the deed; it expresses a consideration of £50; it is dated 1856.
4. Can you tell us by whom the original trustees were appointed? No; but the land was vested in them by this deed for an estate with which they could have dealt. I will show that they are dead, and that no successors have been appointed to them.
5. Has the new site for an hospital been purchased? Yes, and it has been duly conveyed, and a building is in course of erection.
6. *Chairman.*] Do you know that the old hospital building is in a dilapidated and dangerous condition? Yes.

Mr. John Kyngdon Cleeve called in, sworn, and examined:—

7. *Chairman.*] Are you a police magistrate in the Penrith district? Yes.
8. For how long? About eight or ten years; but I have been a resident at Penrith since January, 1868. Mr. J. K. Cleeve.
9. *Mr. Waldron.*] Have you been connected with Penrith for many more years than that? As a visitor only. I lived just outside the district, at my father's place, for a number of years before that. 24 April, 1895.
10. Between 1868 and 1871 were you appointed treasurer of an hospital then established at Penrith? Yes; I became treasurer in the latter part of 1868, and remained in that office until the closing of the hospital in 1870 or 1871.
11. In your capacity as treasurer did you hold a certain deed and papers connected with the hospital? Yes; I produce the deed referred to. 12.

- Mr. J. K. Cleeve.
24 April, 1895.
12. Does that deed purport to be a conveyance from Phillip Gidley King, of the one part, to Robert Copland Lethbridge, George Cox, and James Riley, all residents of the Penrith district, and for a consideration of £50 to vest in those gentlemen as trustees of a certain parcel of land, described in the deed, the trust being to apply the land as a site for an hospital and benevolent asylum, and generally subject to the trusts in the Act 11 Victoria, No. 59? Yes.
13. Do you know whether a building was erected for an hospital and benevolent asylum on that site? Yes.
14. Was it in connection with that building that you held your appointment as treasurer? Yes.
15. About the year 1870 did it become a matter of consideration as to whether further hospital operations should continue? Yes, for want of funds. The terminus of the railway was at Penrith until the latter end of 1867, and it was then removed to the mountains. A great many business people left Penrith, and we could not get sufficient subscriptions to carry on.
16. At that time were Mr. Lethbridge or Mr. Cox alive? When I first went there Mr. Lethbridge was dead, but Mr. Cox and Mr. Riley were both alive.
17. Was it after Mr. Cox's death that the question of closing the hospital arose? Yes.
18. In conjunction with Mr. Riley had you to formally consider the question? I used to take my instructions principally from Mr. Riley. I often had conversations with him.
19. Did you have a conversation with him about the destruction of papers connected with the hospital? That was seven or eight years ago, just prior to his death. I pointed out to him that having no private office they were an encumbrance in the office I was then using, and he ordered them to be destroyed.
20. Did you then destroy any records in your possession excepting that deed? Yes; they only consisted of receipts and things of that kind. The minute-book was destroyed.
21. Are any of the papers in existence now? No.
22. Since the year 1868 up to the present time have you personally known the old building and site? Yes.
23. Has it been used for hospital purposes? No; the poor people of the district were allowed to go and stop there.
24. Was it merely a question of not interfering with them when they went there? Yes. It was a large building and it was a good place for the poor people to take shelter, until we considered that it had become dangerous, and then we had to remove them for safety. I had to take the police up on two or three occasions to clear them out and to find places for them for fear of an accident. I also got all the clergymen of the district to warn their people not to go there as it was in such a dangerous state.
25. Was the building eventually taken down? Yes, and at present it is a vacant site.
26. Were successors to the trustees ever appointed? No. I often asked Mr. Riley to get others appointed, but he never would. They were the last trustees.
27. Do you know the site of the new hospital? Yes.
28. Do you know that a building is in course of erection there for hospital purposes? Yes.
29. *Mr. Farnell.*] What do you consider is the value of the old site? It would be hardly saleable just now. I daresay it would not bring more than £50, even if it were cut up.
30. Are you satisfied that it is not the most convenient site for an hospital as compared with the site secured lately? I was one of those who thought the old site was a good one, but I consider the new one is a good site.
31. *Mr. Stevenson.*] What is the area of the old site? About half an acre.
32. *Chairman.*] In the early days, when the old site was a good one, the railway was not so great a nuisance with regard to noise and vibration as it is to-day? There is a difference of opinion on that point. I thought that the haulage of material through Penrith up to the Mountains caused a great deal more noise than the running of goods.
33. Are you aware of the Government regulations as to the size of sites for hospital purposes? No.
34. *Mr. Barnes.*] Does the railway run near the site of the old hospital? There is just the width of the street and a few allotments.

Mr. William Perritt called in, sworn, and examined:—

- Mr. W. Perritt.
24 April, 1895.
35. *Chairman.*] What are you? I am an engine-fitter, residing at Penrith.
36. What connection have you with the Penrith Cottage Hospital? I was appointed honorary secretary to the committee three or four years ago, and I still hold the office.
37. *Mr. Waldron.*] Will you produce the minute-book of the meetings in connection with the hospital? Yes.
38. Will you read the minute of the meeting of 10th February, 1890, when the original trustees were elected? It states that at the adjourned meeting a ballot was taken, which resulted in the following gentlemen being appointed trustees:—Dean Mahony, George B. Besley, John Heron, and Thomas George Fuller Cadden.
39. Did Dean Mahony die on the 3rd January, 1892? Yes.
40. Do you produce a minute showing that Dean Mahony had died and that a successor had been appointed? Yes; the minute is dated 5th January.
41. Were you present at a meeting of the committee in 1891, when Mr. John Heron resigned? Yes.
42. Do you produce the minute of the 29th January, 1892, when the Rev. George Brown and John King Lethbridge were elected in the place of Dean Mahony and Mr. Heron? Yes.
43. As honorary secretary of the hospital can you say that Messrs. Cadden, Besley, Brown, and Lethbridge are the present trustees of the hospital? Yes.
44. Are those the gentlemen in whom it is proposed to vest the site of the old hospital? Yes.
45. Was there an old hospital in Penrith before your time? Yes.
46. Do you know of your knowledge that that has fallen into disuse? Yes.
47. Do you remember that in connection with the establishment of the new hospital several meetings were held of the public, and that committees were appointed to select a new site? Yes; meetings were held for over two years.
48. Did differences of opinion exist for a long time as to the sites? Yes.
49. Eventually was the site where the present building operations are going on selected? Yes.
50. Do you know that the site was generally approved of by the subscribers? Yes.
51. No objection was ever taken to the site itself, but the objections made were that other sites would have been more suitable? Yes.

ON THE NEPEAN COTTAGE HOSPITAL BILL.

52. Can you say that opinions are now quite at rest on the point that the present site is a good one? There is no objection now. Mr.
W. Perritt.
53. Do you consider that it is expedient to utilise the site of the old hospital for the purposes of the present one? Yes. 24 April, 1895.
54. *Chairman.*] What is the area of the old site? About 1 acre.
55. What is the area of the new site? 3 acres.
56. Do you know that Dr. Ashburton Thompson, on behalf of the Government, insisted on a larger site than 1 acre? Yes; he sent to me as secretary to the committee an intimation that in future it was desirable that no hospital should have less than 3 acres adjacent to the hospital.
57. Do you know that the new site is much higher than the old one? Yes.

Mr. Thomas Walter King Waldron called in, sworn, and examined :—

58. Mr. Waldron ;—are you a law student? Yes.
59. Do you produce the certificates obtained by you from the Registrar-General's Office of the death of James John Riley, George Cox, and Robert Copland Lethbridge, the two trustees named in the documents before the Committee? Yes. Mr. T. W. K.
Waldron.
24 April, 1895.

1894-5.

NEW SOUTH WALES.

FISHERIES OF THE COLONY.

(REPORT OF THE COMMISSIONERS OF FISHERIES FOR THE YEAR 1893.)

Presented to Parliament, pursuant to Act 44 Vic. No. 26, sec. 69.

The Acting Secretary to The Commissioners of Fisheries to The Principal Under Secretary.

Sir,

Department of Fisheries, Sydney, 1st March, 1895.

I have the honor, by direction of, the Commissioners of Fisheries of New South Wales, to transmit under separate cover, for the information of the Chief Secretary, the Report of the Commissioners of Fisheries for the year 1893.

* * * * *

I have, &c.,

FRED. W. SMITHERS,

Acting Secretary.

Report of the Commissioners of Fisheries for New South Wales on the Fisheries of the Colony, for the year ending the 31st December, 1893.

Sir,

We have the honor to submit our report on the Fisheries of the Colony for the year 1893.

Finance.

The revenue of the Department shows an increase of £696 4s. 6d. over that of 1892, due principally to the special pressure brought to bear on the holders of oyster culture leases to pay up rents which had fallen into arrears. There has been recovered in this way £1,606 14s. 4d.

In the issue of fishermen's licenses we record an increase of 225 upon the number taken out in 1892, increasing the revenue by £120 10s.

We show a slight decrease in the amount recovered in fines for breaches of the fisheries laws. We regard this as a healthy sign, showing that the fishermen are awakening to the importance of observing the laws which are being administered in the best known way for conserving the industry which they follow.

In the matter of expenditure, the amount placed on the original Estimates-in-Chief was £4,985. Later on in the year it became evident that very substantial retrenchment must be effected in the Civil Service generally, and in devising the scheme for carrying this into effect the Government instructed us that the expenses of the Department must not exceed £3,000. It therefore became imperative upon us to recast the staff on new and very reduced lines. How we accomplished this somewhat difficult task will be found explained at length in the succeeding paragraph.

Official Staff.

The necessity for a very substantial reduction in our staff became at once apparent. The fisheries at the various outposts on the coast, such as the Rivers Tweed, Richmond, Clarence, and other waters along the coast line southward to Cape Howe had hitherto been supervised by the pilots or other Government officials severally stationed at those waters. We decided as a first step to dispense with the services of these officers—some ten in number—thereby at once effecting a saving of £200. Also we

considered that we could dispense with some of our Inspectors, and arranged to retire the following:—Mr. Thomas Mullhall, Assistant Inspector at Sydney; Andrew Gylor, Assistant Inspector, Manning River; Henry Curran, Assistant Inspector, Hunter River; W. N. Cain, Assistant Inspector, Brisbane Water; Henry Laman, Acting Assistant Inspector, Port Stephens; also the following Acting Assistant Inspectors and boatmen—John F. Hespe, Botany and George's River; John Cain, Brisbane Water; James Massingham, Clarence River.

In addition, we terminated the services of the two inspectors of inland water fisheries, Messrs. Osborne Wilshire and John A. Manton. Thus of the staff of twenty-seven inspectors, with which we commenced the year, we retained only seven. Consequent upon this substantial reduction of the inspectorial staff we found it would be possible to lessen the clerical staff, and so terminated the services of Mr. E. J. Ellis, the first clerk.

We have the pleasure to record that of the inspectors retrenched Messrs. Henry Laman, at Port Stephens, and Messrs. Wilshire and Manton, at the Murray River, offered their services to us gratuitously. These we gladly accepted, and they now form part of our honorary staff. We also thankfully record the gratuitous services rendered by Mr. Paget Bayley, at the Manly and Narrabeen Lagoon, Mr. Chudleigh H. Gorrick, at Lake Macquarie, and Mr. Learoyd, at the Upper George's River.

The extent of our efforts in the direction of retrenchment will be more clearly apprehended by reference to the following tabulation:—

Name.	Designation.	Length of Service.	Yearly.	Monthly Salary.			Compensation.			
				£	£ s. d.	£ s. d.				
E. J. Ellis	Chief Clerk									
Thos. Mullhall	Assistant Inspector	19 Aug., 1881, to 7 July, 1893	11 11	200	16 13 4	198 12 0				
Andrew Gylor	"	19 Aug., 1881, to 7 July, 1893	11 11	150	12 10 0	148 19 2				
Hy. Curran	"	19 Aug., 1881, to 7 July, 1893	11 11	150	12 10 0	148 19 2				
W. W. Cain	"	9 Dec., 1884, to 7 July, 1893	8 7	150	12 10 0	107 5 10				
O. Wilshire	"	20 Mar., 1883, to 7 July, 1893	10 4	75	6 5 0	64 11 8				
J. A. Manton	"	1 Sept., 1889, to 7 July, 1893	3 10	75	6 5 0	23 19 2				
H. Laman	"	1 Nov., 1889, to 7 July, 1893	3 8	50	4 3 4	15 5 6				
Jas. Massingham	"	1 Aug., 1886, to 7 July, 1893	6 11	140	11 13 4	80 14 0				
Geo. Sutherland	"	21 May, 1884, to 7 July, 1893	9 1	20	1 13 4	15 2 9				
W. M'Gregor	"	16 Aug., 1881, to 7 July, 1893	11 11	20	1 13 4	19 17 3				
J. A. Jamieson	"	16 Aug., 1881, to 7 July, 1893	11 11	20	1 13 4	19 17 3				
A. H. Kendall	"	15 Nov., 1883, to 7 July, 1893	9 1	20	1 13 4	16 2 2				
W. J. Whites	"	16 Aug., 1881, to 7 July, 1893	11 11	20	1 13 4	19 17 3				
R. A. Fraser	"	1 Mar., 1891, to 7 July, 1893	2 4	20	1 13 4	3 17 9				
John Cain	"	1 Aug., 1892, to 7 July, 1893	1 0	20	1 13 4	1 13 4				
Thos. Radcliffe	"	1 Aug., 1892, to 7 July, 1893	1 0	20	1 13 4	1 13 4				
Peter Newton	"	1 Sept., 1892, to 7 July, 1893	0 10	20	1 13 4	1 7 6				
W. Champion	Acting Inspector	1 April, 1893, to 7 July, 1893	0 3	20	1 13 4	0 8 4				
Wm. Boyd	"	1 May, 1882, to 25 Aug., 1893	11 3	150	12 10 0	140 12 6				
John Hespe	"	3 May, 1885, to 25 Aug., 1893	8 3	140	11 13 4	96 5 0				
Total							£1,125	0	11	

All the above received compensation at the rate of one month's pay for each year of service.

We have also to intimate the subsequent retirement of Mr. William Boyd, Assistant Inspector at Lake Macquarie, owing to advancing years and failing health. Mr. Boyd was one of the first appointed inspectors, and has rendered good service to the Department.

We have referred to the reductions which the Government, in their general retrenchment scheme, imposed on all officers in the Civil Service of the Colony having salaries over £200 per annum. In addition to this, we imposed a further special reduction varying from £20 to £10, irrespective of salary, on every person remaining in employment in our Department. By all these means we have been enabled, after great consideration, to reconstruct the Department on fairly efficient lines, and to bring its cost within the limit of the £3,000 allotted to us by the Government, and afterwards voted by Parliament.

Oysters.

We report a decrease of 1,886 bags in the supply from our own waters, and of 5,396 bags from places outside the Colony, thus disclosing a falling off in the total quantity brought into consumption of no less than 7,282 bags. Queensland has supplied less than half of her usual quantity, while New Zealand is short 680 bags. The enumeration of the take from the principal coastal waters is as follows:—From the Clarence River, 567 bags as against 1,716 bags last year; Richmond River, 199 bags as against 707 bags last year; Hawkesbury, 454 bags as against 688 bags last year; Camden Haven, 302 bags as against 474 bags last year. Wallis Lake shows an increase of 128 bags; Clyde River shows

an

an increase of 283 bags ; Manning River shows an increase of 487 bags ; Hunter River shows an increase of 130 bags ; while the Hastings River and Port Stephens have maintained their average. From other waters, as will be seen in the appendices, oysters have arrived in smaller quantities. Owing to the withdrawal of inspectors from so many of our rivers, we are not in a position to supply reports as heretofore. Oyster thieving, however, still flourishes, especially in the Hawkesbury River ; nor can we expect much abatement of this evil until effective law to check it has been enacted.

Notwithstanding the insecurity afforded by the existing law, and the tendency to disease which has so generally exhibited itself amongst the oysters there has been a larger demand for areas for culture ; no less than 6,400 yards of shore have been applied for, as against 3,550 yards in 1892. We record totals of 1,200 yards in Camden Haven ; 1,600 yards in the Manning River ; 2,000 yards in Botany, George's River, and lesser areas in other waters of secondary importance.

We invite attention to the report in the appendices by the Chief Inspector of Fisheries on the oyster prospects at the Clarence River. It will be seen from it that some of the oyster culture lessees are bestowing considerable attention upon the matter. Much of the disease prevalent there is said to be due to absence of attention on the part of lessees. It was very noticeable that on unleased land, on the oyster reserve, and on leases quite uncared for, the oysters have suffered wholesale from the ravages of the worm and the crabs.

A novel appliance has been adopted by N. Cusack, an enterprising lessee. It consists of a platform built so as to be awash at low water. On this Cusack lays the oysters dredged from his beds ; they improve in quality in this position, and the action of the tide clears the shells to a considerable extent of the mud and filth, which envelopes them while in their beds, the result is that when shipping for market he has a comparatively clean oyster to bag up, and in the process he is enabled to examine and discard all unsound stuff.

The oyster industry in the Hawkesbury and George's River is in a very impoverished condition, and the reports from the local inspectors are not at all encouraging—the impediments related are the mud disease, thieving, and insufficient legislative prohibitions. In Woollaware, Toura, and Quibra Bays the mangroove oysters have certainly escaped disease, but the supply has been scarce, and only sufficient to meet the demands of picnic parties.

The reports from Port Stephens show no improvement in the oyster supply, as stated already. The average is kept up, but that average is a bagatelle compared with the yield of former years ; taking this into consideration, and the vast extent of water which that port encloses, we are compelled to admit its absolute failure as a producing factor.

Of our other waters we have no official reports ; we have, however, reliable information that at Camden Haven and Wallis Lake the beds are in excellent condition, and that the supplies are being wisely husbanded by the lessees. Mr. Dick, who owns extensive layings at Port Macquarie is prosecuting his work in a very intelligent manner, as also Mr. Barclay, on the Clyde River. It is to the efforts of these lessees, together with Mr. H. Woodward and Mr. F. Gibbins, and some others, who are working their holdings on intelligent and systematic lines, that our oyster supply has not actually died out.

Fish Acclimatisation.

We have not been in a position to accomplish anything in this direction ; the necessity for special economy in our expenditure preclude us from making the attempt. We hope, under more favourable circumstances, to be in a position next year to resume work in this direction.

The Fishing Industry.

The quantity of fish forwarded to the Eastern Fish Market has been less than usual, owing to a considerable portion of the supply finding its way into consumption through other sources. The largest supply has come from Lake Macquarie—the Tuggerah Lakes taking the second place, the Hawkesbury River, the Hunter River, and Lake Illawarra contributing in their respective usual proportions.

Owing to the recent reduction in the number of the inspectors we are not able to furnish detailed reports concerning the respective fisheries, but we have with the more limited means at our disposal maintained as strict a supervision over them as has been possible. The closed waters of Lake Macquarie have been a most useful aid in maintaining the supply, and we think the retention of them is beginning to be appreciated by the fishermen themselves.

The

The Inspector at the Hawkesbury River reports the fisheries there to be in a fairly prosperous condition. The net fishing gives profitable employment to quite a number of persons, while line fishing affords fair returns and is largely indulged in by amateurs and others following the employments as a means of recreation. During the year sharks have been very plentiful in the lower parts of the river.

The local Inspector furnishes a satisfactory report of the yield from George's River. In addition to the supply sent to the markets he says that fully 2,000 baskets of fish have been sold locally during the year.

In April last the Woronora River became open to netters; the usual tale of the wanton destruction of small fish by the nets of the fishermen has to be told. This result always follows the termination of the closure of every water, and it points to the insufficiency of the provisions of the law respecting these closures and the necessity which exists for its amendment.

Of George's River itself the Inspector reports that when the closure expired all fish with the exception of whiting were plentiful, but from that date they showed a steady decrease, and remained scarce for a considerable time. While whiting are reported to be thus scarce, black bream, on the other hand, have been more plentiful than has been the case for a number of years in all parts of the river as well as in Botany Bay and Cook's River.

In the Appendices will be found a report from the Chief Inspector recommending certain reductions in the areas at Tuggerah Lakes to be closed against net fishing.

Inland Waters Fisheries.

The returns from Moama and Koondrook, two principal centres on the Murray River from which Victoria draws her principal supply of freshwater fish, we note a substantial falling off in the quantity captured of nearly 4 tons on the take of 1892. We have no account of the distribution made from numberless points along the extensive course of this river, or of the supply obtained on the Victorian side, so that we are quite unable to estimate whether the lessened quantity reported from the two sources named represents actual diminution of the fish supply or not.

Applications for such protection as the Inland Waters Fisheries Act affords have been made to us from various quarters. In response thereto we have secured the closure against netting of the undermentioned rivers for a distance of 5 miles on either side of the following towns:—The Lachlan and the South Circle Park Lagoon at Forbes; the Murrumbidgee River at Narrandera, Wagga Wagga, and Hay; the whole of the Edwards River within the Counties of Wakool, Townsend, and Cadell; and the Murray River at Albury. We hope that this action, about the only one we are able to take under the existing law for the preservation of our freshwater fish will have the effect anticipated for it. We are sure that so far as the voluntary services offered by our late Inspectors, Messrs. Manton and Wilshire, can be made available, the waters in their respective districts will have every possible attention.

JAMES C. COX,
President.

APPENDICES.

COMMISSIONERS of Fisheries for New South Wales, 1893 :—

James C. Cox, M.D., President.

E. P. Ramsay, F.R.S.E., LL.D., &c.,
Jas. R. Hill, Esq.,Hon. S. H. Hyam, M.L.C.,
Hon. W. R. Campbell, M.L.C.*Staff.*

Lindsay G. Thompson, Secretary and Chief Inspector.

Edward J. Ellis, First Clerk.
(Services dispensed with 7th July, 1893.)Livingston F. Mann, Draftsman.
(Now Clerk and Draftsman.)

John A. O'Grady, Second Clerk.

W. Lannen, Messenger.

F. W. Smithers, Travelling Inspector of Fisheries.

These officers were retired on 7th July, 1893, under retrenchment.

Thomas Mulhall, Assistant Inspector of Fisheries, Sydney.	
Andrew Gylar, " " Manning River.	
Henry Curan, " " Newcastle.	
Wm. Boyd, " " Lake Macquarie.	
(Services dispensed with 31st July, 1893.)	
J. F. Hesse, " " Botany and George's River.	
Wm. N. Cain, " " Brisbane Water and Gosford.	
Henry Laman, " " Port Stephens Heads.	
(Appointed Assistant Inspector without salary.)	
William McGregor, Acting Assistant " Tweed River.	
Thos. Radcliffe, " " Bellinger River.	
W. J. Whaites, " " Nambucca River.	
John A. Jamieson " " Macleay River.	
A. H. Kendall, " " Cape Hawke.	
P. S. Newton, " " Twofold Bay.	
John Cains, " " Brisbane Water.	
Angus Sutherland, " " Moruya.	
F. Aldrich, " " Tuggerah Lakes.	
(Services dispensed with 7th July, 1893. Re-appointed 1st August, 1893.)	
R. A. Fraser, " " Richmond River.	
James Massingham, " " Clarence River.	
W. Champion, " " Broken Bay.	
Chas. Gordon, Assistant Inspector of Fisheries, Sydney.	
John D. Grant, " " George's River.	
David W. Benson, " " Wollongong.	
Peter Smith, " " Hawkesbury.	
George Glading, " " Sydney.	
R. Hellings, " " Sydney.	
Richard Seymour, " " Fish Market, Sydney.	
P. Bayly, honorary Actg. Asst. Insptr. of Fisheries, Manly.	
W. E. Learoyd, " " Liverpool.	
C. H. Gorrick, " " Lake Macquarie.	

Inland Waters.

Osborne Wilshire, Assistant Inspector of Fisheries, Deniliquin.

John A. Manton, " " Moama.

Services dispensed with 7th July, 1893, but re-appointed without salary, 10th October, 1893, and 18th August, 1893.

REVENUE of the Department of Fisheries for the year ending 31 December, 1893.

	£	s.	d.	£	s.	d.
Fishermen's licenses, 994 at 10s.	497	0	0			
Do 228 at 5s.	57	0	0			
Fishing-boat licenses, 447 at 20s.	447	0	0			
Do 127 at 10s.	63	10	0			
Rent on leased areas				1,064	10	0
Deposits on applications for areas for oyster culture.....	1,606	14	4			
Deed fees	24	0	0			
Transfer fees	13	0	0			
Fines, forfeitures, &c.	2	0	0			
	102	5	0			
				1,747	19	4
Total	£2,812	9	4			

EXPENDITURE

EXPENDITURE of the Fisheries Department for the year ending 31 December, 1893.

	£	s.	d.	£	s.	d.
Salaries as per Estimates-in-Chief	4,085	0	0			
Unexpended of this Vote	1,072	5	8			
Actually expended in Salaries				3,012	14	4
Contingencies as per Estimates-in-Chief—						
Travelling expenses	500	0	0			
Incidental expenses	100	0	0			
Rent of offices	150	0	0			
Marine Fish Culture	100	0	0			
Purchase of trout ova	50	0	0			
	900	0	0			
Unexpended of this Vote	214	18	8	685	1	4
Total amount of Fisheries Vote	4,985	0	0			
Unexpended of this Vote	1,287	4	4			
Total amount of expenditure.....				3,697	15	8
Total amount of expenditure.....	£3,697 15s. 8d.					

RETURN showing the Amount realised for Fish sold at the Fish Market, Woolloomooloo, January to December, 1893.

	£	s.	d.		£	s.	d.
January	2,673	10	6	August	2,485	2	9
February	2,645	6	6	September	2,355	5	0
March	2,777	7	9	October	2,046	6	6
April	2,909	11	0	November	2,071	2	0
May	2,654	14	0	December	2,161	11	9
June	3,115	14	3				
July	1,751	9	3	Total	£29,647	1	3

FISH EXPORTED FROM NEW SOUTH WALES TO VICTORIA.

RETURN showing the Quantity of Fish exported from the Murray River to Victoria, *via* Moama, during the year ending 31 December, 1893.

	lb.		lb.
January	1,736	August	3,400
February ... ..	.....	September	3,693
March	1,008	October	6,172
April	1,568	November	2,800
May	1,680	December	3,186
June	1,900		
July	700	Total	27,843

RETURN showing the Quantity of Fish exported to Victoria, *via* Koondrook tram, during the year ending 31 December, 1893.

	lb.		lb.
January	1,800	August	1,700
February	1,000	September	3,400
March	500	October	4,100
April	1,200	November	2,500
May	1,600	December	600
June	1,000		
July	800	Total	20,200
Total amount exported <i>via</i> Moama		27,843	lb.
„ „ <i>via</i> Koondrook		20,200	„
Grand Total		48,043	lb.

SCHEDULE of Applications for Leases of Shore for Oyster Culture in 1893.

Name.	Yards.	Locality.	Name.	Yards.	Locality.
Dick, W. B. A.	100	North Bank, Hastings River.	Selmon, Amos.....	500	Towra Bay, George's River.
Do	100	do do	Guy, G., and Peters, G.	200	Cullendulla Creek, Clyde River.
Templeman, Thomas ...	100	Mundarlow Creek, Clyde River.	Comino, A.	300	South Channel, Manning River.
Do do	100	do do	Kendall, A. H.	100	Cockatoo Island, Wallis Lake.
Dick, John S.	100	Big Bay, Hastings River.	Baalman, P. J.	500	Towra Bay, Botany.
Do	200	Mud Creek do do	Do	1,000	Woolooware Bay, George's River.
Gibbins, F. J.	100	Camden Haven.	Comino, A.	100	South Channel, Manning River.
Do	600	do do	Gyler, Andrew	500	do do
Do	300	do do	Woodward, Henry, and Templeman, Thomas	200	Clyde River.
Kaiser, George	200	South Channel, Manning River.	Marshall, R.	100	Brunswick River.
Woodward, Henry	400	Scott's Creek, Manning River.	Ravel, George.....	200	Wallis Lake.
Southwell, J. H.	100	North Channel, Manning River.	Total		
Gibbins, F. J.	100	Queen's Lake, Camden Haven River.			
Do	100	do do			
Dick, J. S.	100	Hastings River.			

RETURN showing quantity, in bags, of Oysters taken from the Tidal Waters of the Colony, January to December, 1893.

Locality.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Hastings River.....	82	59	56	37	18	...	...	14	...	18	84	20	388
Richmond River	70	33	66	30	...	...	...	...	...	...	...	...	199
Clarence River.....	226	94	30	6	4	32	24	12	47	41	21	30	567
Bellinger River	36	25	25	19	15	...	...	...	...	...	...	...	120
Teranora Creek	1	1	1	...	1	...	2	...	1	...	1	...	8
Evans River	34	11	41	3	...	...	...	...	3	40	17	38	187
Bermagui .....	...	8	6	...	...	...	...	...	...	...	...	...	14
Camden Haven	5	6	4	5	10	1	2	3	63	40	40	123	302
Manning River.....	245	267	179	172	85	54	23	62	108	67	115	59	1,436
Wallis Lake (Cape Hawke)..	60	81	36	70	85	90	64	2	21	87	130	154	880
Port Stephens	48	38	76	42	57	40	23	31	18	36	21	35	465
Hunter River	28	34	13	2	...	4	1	6	...	...	1	1	90
Hawkesbury River	63	63	86	35	21	28	7	12	22	29	59	29	454
Brisbane Water	7	4	8	2	5	4	...	...	...	...	...	2	32
Myall River .....	...	12	23	...	7	1	6	...	...	...	...	...	49
Clyde River	58	103	64	24	4	...	15	8	...	5	25	45	351
Totals.....	963	839	714	447	312	254	167	150	283	363	514	536	5,542

RETURN showing quantity, in bags, of Oysters received from places outside the Colony for year 1893.

Where from.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Victoria.....	bags.	bags.	bags.	bags.	bags.
Queensland	970	979	1,001	1,111	4,061
South Australia .....	.....	.....	.....	76	76
Tasmania .....	.....	.....	.....	2	2
New Zealand .....	.....	1,246	1,121	841	3,208
Totals	970	2,225	2,122	2,038	7,355

RETURN showing the quantity of Fish, in baskets, brought to the Eastern Fish Market, Woolloomooloo, January to December, 1893.

Locality	Jan	Feb	Mar	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Totals.
Harbour	365	356	300	296	401	322	122	131½	113½	263	171	353	3,293
Botany	344	301	450	500	518	281	103	195	334½	266	269	298	3,859½
Broken Bay	157	140	155	230	257	135	202	274	398	345	255	230	2,778
Bateman's Bay	...	...	16	8	33	29	86	101	22	56	46	19	416
Jervis Bay	...	8	6	13	27	20	12	...	...	...	...	...	86
Terrigal Lake	...	15	...	52	...	...	...	...	3	6	...	12	88
Tuggerah Lake	408	257	278	187	464	689	82	84	223	459	386	357	3,874
Port Stephens	7	71	213	354	398	555	239	110	82	18	38	12	2,097
Hawkesbury	147	229	187	353	358	...	59	84	200	195	240	135	2,187
Illawarra	...	...	...	...	...	...	...	...	95	66	...	...	161
Narrabeen	57	...	...	...	4	...	...	...	...	2	...	...	63
Coogee	...	...	...	...	...	...	...	...	...	...	...	...	...
Wollongong	299	282	229	276	232	177	45	65	53	104	147	137	2,046
Ulladulla	...	6	...	8	11	55	...	24	33	12	17	2	168
Newcastle	...	20	56	22	48	29	10	10	...	...	...	...	195
Shoalhaven	52	57	87	274	378	364	249	307	210	167	38	76	2,259
Richmond River	20	...	44	91	77	67	30	9	40	93	116	33	620
Lake Macquarie	465	771	820	937	848	775	271	456	575	803	344	228	7,293
Clarence River	104	74	93	366	178	155	100	58	57½	86	51	56	1,378½
Long Reef	...	...	...	...	...	...	...	...	6	11	1	8	26
Wyong	42	...	9	25	...	31	76	170	226	26	...	...	605
George's River	...	...	...	...	...	...	...	61	4	5	...	...	71
Macleay River	55	48	49	78	42	69	86	110	84	74	15	106	816
Woy Woy	...	61	11	...	...	...	32	54	57	35	54	75	379
Sydney Heads	...	...	...	...	...	...	...	...	...	3	...	...	3
Tathra	26	...	...	...	...	...	...	...	...	...	...	...	26
Port Macquarie	...	6	...	...	...	22	13	32	...	...	...	...	73
Manning River	24	4	6	11	11	...	...	...	...	...	...	...	56
Moruya	...	...	...	...	...	...	98	30	12	...	...	...	140
Kiama	...	...	5½	10	17	...	3½	...	...	...	...	...	36
Gosford	...	...	...	...	17	...	...	...	6	3	...	...	26
Bermagui	66	...	...	...	...	...	...	...	51	13	...	...	130
Nowra	...	...	...	...	...	...	...	12	...	...	...	...	12
Cape Hawke	...	...	...	...	117	910	1,153	1,468	1,114	259	245	293	5,559
Manly Beach	...	...	...	...	...	...	...	...	2	5	...	...	7
Camden Haven	...	...	...	...	...	...	...	197	...	...	...	...	197
Totals	2,638	2,706	3,113½	4,091	4,436	4,685	3,071½	4,042½	4,001½	3,376	2,445	2,418	41,024

RETURN showing the number of different varieties of Fish brought to the Fish Market, during 1893.

Locality.	Jan.	Feb.	March	April	May.	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
SCHNAPPER.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.
Harbour	...	1	5	10	...	...	17½	24½	14½	22	33	31½	158½
Botany	15½	21½	21	34½	21	8	20	12	28½	20½	42	36½	281
Broken Bay	49	39½	24½	20½	19	30	93½	61½	43	35	37	18	470½
Bateman's Bay	...	...	...	...	...	4	...	...	...	4	2	...	10
Jervis Bay	...	...	...	142	6	16	...	...	...	...	...	...	164
Terrigal Lake	...	...	14	...	181	25	...	...	2	...	6	...	228
Tuggerah Lake	...	...	...	17½	...	13	...	...	...	...	...	...	30½
Port Stephens	...	...	...	3	...	...	...	4	...	...	...	...	7
Bird Island	...	...	...	...	...	...	35	...	...	...	...	...	35
Hawkesbury	...	...	...	...	...	...	...	...	...	...	...	10	10
Wollongong	...	...	5	20	45	80	11	7	...	...	1	5	174
Ulladulla	...	...	...	...	...	56	...	32½	54½	23	29	8	203
Barrenjoey	...	...	...	...	...	...	...	18	...	...	...	...	18
Newcastle	...	...	...	...	15	...	...	...	...	...	...	...	15
Shoalhaven	...	...	...	38	10	...	...	...	2	...	...	8	58
Richmond River	...	...	...	...	...	...	...	3	...	...	2	...	2
Shellharbour	...	...	...	...	...	...	...	...	...	...	...	...	3
Lake Macquarie	6	2	...	4	...	...	7	...	2	...	4	...	24
Nowra	...	...	...	...	...	...	...	2	...	...	...	...	2
Clarence River	...	...	...	...	10	...	...	...	...	27	...	...	37
Long Reef	9	9½	56½	109	74	47	16	29	20	...	6	8	384
Wyong	...	...	...	...	...	...	3	7	11	...	...	...	21
Manly Beach	¼	...	...	...	...	...	...	...	...	...	...	...	¼
Kiama	...	...	...	...	...	22	...	36	...	...	...	...	58
Woy Woy	...	...	...	1	...	...	...	...	2	...	...	...	1
Sydney Heads	...	...	...	...	...	...	...	...	...	...	...	...	2
Coogee	...	...	...	6	23½	...	...	...	...	...	...	...	29½
Manning River	...	...	3	19	4	...	...	...	...	...	...	...	26
Narrabeen	...	...	...	...	4	...	...	...	...	...	...	...	4
Gerringong	...	...	...	...	...	5	...	...	...	...	...	...	5
Cape Hawke	...	...	...	12	48	25	...	2	2½	3	...	...	92½
Camden Haven	...	...	...	...	...	12	...	19	...	...	...	...	31
Totals	79½	73½	129	436½	460½	343	203	259½	178	138½	158	126	2,585

RETURN showing the number of different varieties of Fish brought to the Fish Market, 1893—*continued*.

Locality	Jan	Feb	March	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec	Totals
TERAGLIN.													
	doz	doz.	doz.	doz	doz.	doz	doz.	doz.	doz.	doz.	doz.	doz.	doz.
Harbour	23	16	...	...	...	...	...	41	15	20	16	22	153
Botany	9	43	8	...	...	...	5	55	116	239	186	126	787
Broken Bay	8	41	25	.	..	..	9	5	18	.	17	6	129
Bateman's Bay .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Terrigal Lake .....	...	...	65	...	...	...	...	...	...	...	...	...	65
Tuggarah Lake .....	..	...	6	..	..	..	..	..	2	..	..	..	8
Port Stephens .....	..	...	...	...	...	...	...	...	4	...	...	...	4
Wollongong .....	...	...	...	...	...	...	...	..	1	...	...	...	1
Ulladulla .....	...	...	...	...	...	...	...	3	1	..	..	..	4
Shoalhaven .....	...	..	...	...	...	...	...	5	...	...	...	..	5
Richmond River .....	...	...	...	...	...	...	...	...	2	...	...	...	2
Lake Macquarie.....	1	...	...	...	...	...	...	...	2	...	...	...	3
Clarence River .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Long Reef	24	6	93	265	99	25	9	21	1	47	36	18	644
Wyong .....	...	...	...	...	..	..	..	4	13½	...	...	...	17½
Macleay River .....	..	...	...	...	...	...	8	...	...	..	..	..	8
Woy Woy .....	...	...	...	...	...	...	...	1	..	..	..	..	1
Coogee .....	...	...	...	...	...	24	..	..	...	...	...	...	24
Sydney Heads .....	..	...	..	..	..	..	..	20	...	...	...	...	20
Cape Hawke .....	...	...	..	..	..	..	6	6	...	...	...	...	12
Camden Haven .....	...	..	..	..	..	..	..	6	..	...	...	...	6
Totals	65	106	197	265	99	49	37	167	176½	307	255	172	1,895½
NANNEGAI.													
Harbour	38	24	...	...	..	..	..	26½	18½	...	..	...	107
Botany	19	18	...	...	..	..	..	22	45½	64	51	28½	248
Broken Bay	3	5	2	..	..	..	..	2½	10	...	1	...	23½
Tuggarah Lake .....	..	..	..	..	..	..	..	..	..	11	..	..	11
Port Stephens .....	..	..	..	..	..	..	..	..	3	...	...	...	3
Wollongong .....	..	..	..	..	..	..	..	..	2	..	..	..	2
Shoalhaven .....	..	..	..	..	..	..	..	1	..	..	..	..	1
Richmond River .....	...	...	...	...	...	...	...	..	1½	..	..	..	1½
Lake Macquarie .....	...	...	...	...	...	...	...	..	1½	..	...	...	1½
Clarence River .....	..	..	..	..	..	..	..	..	1	...	...	...	1
Long Reef .....	...	14	..	..	10	..	4	5	..	..	4	2	39
Wyong .....	..	..	..	..	..	..	..	6	5	...	..	..	11
Woy Woy .....	..	..	..	..	..	..	..	..	1	..	..	..	1
Coogee .....	...	..	..	10	..	13	9	..	..	..	..	..	32
Sydney Heads .....	...	..	..	..	..	..	..	½	..	..	..	..	½
Manning River .....	..	..	..	..	2	..	..	..	..	..	..	..	2
Camden Haven .....	..	..	..	..	..	..	..	6	..	..	..	..	6
Totals	60	61	2	10	12	13	13	69½	89	75	56	30½	491
WHITING.													
Harbour	143	77	48	22	2	12	4	7	54½	83	75	58	585½
Botany	109	83	89	68	30	82	44	38	80½	151½	158	187	1,120
Broken Bay	59	62	34	18	34	21	29	10	76	93½	32	42	510½
Bateman's Bay .....	...	..	..	..	..	11	8	...	1½	..	3	...	23½
Jervis Bay .....	..	4	..	12	8	4	3	..	..	..	..	..	31
Terrigal Lake .....	..	..	2	18	20	9	..	..	8½	..	..	..	57½
Tuggarah Lake	86	66	16	28	12	23	11	13	8	7	20	4	294
Port Stephens	8	29	18	48	25	96	92	29	4½	...	9	9	367½
Hawkesbury	29	63	..	..	..	..	..	..	..	..	4	..	96
Narrabeen	28	..	..	..	8	..	..	..	8	..	..	..	44
Wollongong	59	51	..	17	20	9	6	6	3	..	5	..	176
Ulladulla .....	..	..	..	4	..	13	1	..	..	..	..	..	18
Newcastle .....	..	9	..	..	..	..	4	..	2	..	..	..	15
Shoalhaven	15	6	..	10	13	..	4	14	1½	..	..	..	63½
Richmond River	15	..	..	..	..	5	4	3	22½	5	67	27	148½
Lake Macquarie.....	86	90	..	24	30	37	..	9	9½	43	57	23	408½
Clarence River	41	35	..	8	..	..	5	..	1	85	86	108	369
Long Reef .....	..	10	..	36	11	3	7	..	15	1	..	..	83
Wyong	24	..	..	..	..	..	3	6	..	11	..	..	44
George's River .....	..	..	..	..	..	..	3	..	2½	..	..	..	5½
Macleay River	12	24	..	..	..	..	..	..	18	15	13	9	91
Tathra	8	..	..	..	..	..	..	..	..	..	..	..	8
Woy Woy .....	..	19	..	..	..	..	..	..	..	11	78	127	243
Sydney Heads .....	..	..	..	..	..	..	..	..	..	..	16	..	16
Port Macquarie	37	..	..	..	..	..	..	..	..	..	..	..	37
Manning River	15	..	..	..	..	..	..	..	..	..	..	..	15
Gosford	4	..	..	..	..	5	..	..	..	..	..	..	9
Bermagui	36	..	..	..	..	9	..	..	2	..	..	..	47
Cape Hawke	13	..	..	..	4	..	..	..	29	20½	..	14	80½
Camden Haven	24	8	..	..	..	..	..	..	..	..	..	..	32
Totals	851	636	207	813	217	339	228	135	347½	526½	623	608	5,031

RETURN showing the number of different varieties of Fish brought to the Fish Market, 1893—*continued*.

Locality.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
FLATHEAD.													
Harbour	59	37½	54	18	5	9	5	...	82	94	128	175	666½
Botany	40	34	105	53	39	73	25	27	83	128	144	125	876
Broken Bay	10	11	20	4	20	16	15	6	37	106	35	78	358
Bateman's Bay .....	...	...	...	...	...	4	6	...	½	...	4	2	16½
Jervis Bay .....	...	...	...	11	14	6	1	...	...	4	...	...	36
Terrigal Lake .....	...	...	3	15	21	1	...	...	...	24	...	...	64
Tuggerah Lake	30	14	10	29	7	9	6	8	12	4	10	8	147
Port Stephens	2	5	27	30	31	60	32	17	6½	5	2	...	217½
Coogee .....	...	...	...	...	2	6	6	...	...	...	...	...	14
Hawkesbury	8	25	...	...	...	...	...	...	3	...	16	10	62
Narrabcen	11	...	...	...	...	...	...	...	...	...	...	...	11
Wollongong	15	12	...	8	11	5	1	...	4½	5	15	1	77½
Ulladulla .....	...	...	...	2	...	7	3	...	...	...	...	...	12
Newcastle .....	...	3	...	...	...	...	...	...	...	...	...	...	3
Shoalhaven	1	5	...	1	4	...	...	8	4½	7	...	...	30½
Kiama .....	...	...	...	...	...	5	...	...	...	...	...	...	5
Richmond River	5	...	...	...	...	4	...	...	...	...	...	...	10
Lake Macquarie	47	25	...	7	13	21	...	10	8	29	29	1	190
Clarence River	7	6	...	...	...	...	2	...	2	...	...	...	17
Long Reef .....	...	2	...	14	14	2	5	...	2	...	...	...	39
Tathra	3	...	...	...	...	...	...	...	...	...	...	...	3
Wyong .....	...	...	...	...	...	...	...	2	5	1	...	...	8
Macleay River	2	7	...	...	...	...	...	...	2	1	5	...	17
Manly Beach	6	...	...	...	...	...	...	...	...	...	...	1	6
Woy Woy .....	...	6	...	...	...	...	...	...	2½	...	...	1	9½
Manning River	1	...	...	...	2	...	...	...	...	...	...	...	3
Long Island .....	...	...	...	...	...	...	1	...	...	...	...	...	1
Gosford	2	...	...	...	...	...	...	...	...	...	...	...	2
Bermagui	12	...	...	...	...	...	...	...	...	...	...	...	12
Cape Hawke	6	...	...	...	...	...	...	...	1	...	...	...	7
Camden Haven	7	2	...	...	...	...	...	...	...	...	...	...	9
Totals	274	194½	219	192	183	223	108	78	256½	408	388	402	2,931
EELS.													
Harbour	18	19½	38	54	39	57	27	22½	18	47	53	46	439
Botany	11½	14½	42	55	25	38	13	4½	14	43	35	12	307½
Broken Bay .....	...	5½	4	2	...	...	...	...	4½	5	8	6	35
Bateman's Bay .....	...	...	...	...	...	...	1	1	...	...	...	...	2
Jervis Bay .....	...	...	...	1	...	...	...	...	...	...	...	...	1
Terrigal Lake .....	...	...	...	...	1	...	...	...	...	½	...	...	1½
Tuggerah Lake	22	23	2	...	...	...	...	...	1½	...	2	...	50½
Port Stephens .....	...	5	...	6	...	3	...	...	1	...	...	...	15
Hawkesbury	2½	5	...	...	...	...	...	...	1½	1	1	...	11
Wollongong	2½	7	...	...	...	...	...	...	...	4	...	...	13½
Illawarra .....	...	1	...	...	...	...	...	...	½	...	...	...	1½
Shoalhaven	2	1	...	...	...	...	...	...	...	...	...	...	3
Lake Macquarie	22½	42	...	...	...	2	...	...	...	...	3	...	69½
Clarence River	1	...	...	...	4	...	...	...	1	...	...	...	6
Wyong .....	...	...	...	...	...	...	...	3	3	...	...	...	6
Macleay River .....	...	1	...	...	...	...	...	...	...	...	...	...	1
Bermagui	1½	...	...	...	...	...	...	...	...	...	...	...	1½
Cape Hawke	1	2	...	...	...	...	...	...	...	...	...	...	3
Camden Haven	1	...	...	...	...	...	...	...	...	...	...	...	1
Totals	85½	126½	86	118	69	100	41	31	45	100½	102	64	968½
SWEEPS.													
Harbour	3	...	...	2	1	23	6	9	19	28	39½	23	153½
Botany	1	...	...	42	39	70	10	17	26	16	25½	2	248½
Broken Bay .....	...	...	...	6	13	9	7	5	12	6	...	...	58
Bateman's Bay .....	...	...	...	...	6	3	4	1	...	...	...	...	14
Jervis Bay .....	...	...	...	...	2	4	3	...	...	...	...	...	9
Terrigal Lake .....	...	...	...	3	9	...	...	...	...	...	...	...	12
Tuggerah Lake .....	...	...	...	...	13	18	15	...	...	...	...	...	46
Port Stephens .....	...	...	...	14	8	31	...	7	4	...	...	...	64
Hawkesbury .....	...	...	...	...	...	...	...	...	2	1	...	...	3
Wollongong .....	...	...	...	...	3	...	...	...	...	...	3	...	6
Ulladulla .....	...	...	...	...	...	2	...	...	...	...	...	...	2
Shoalhaven .....	...	...	...	...	3	...	...	5	6½	...	...	...	14½
Richmond River .....	...	...	...	...	...	4	...	...	1	...	...	...	5
Lake Macquarie .....	...	...	...	...	6	4	...	...	10	2	...	...	22
Coogee .....	...	...	...	...	3	...	...	...	...	...	...	...	3
Wyong .....	...	...	...	...	...	...	...	5	2	...	...	...	7
Bermagui .....	...	...	...	...	...	4	...	...	4	...	...	...	8
Cape Hawke .....	...	...	...	...	6	...	...	...	9	...	...	...	15
Totals	4	...	...	67	112	172	45	49	95½	53	68	25	690½

RETURN showing the number of different varieties of Fish brought to the Fish Market, 1893—*continued*.

Locality.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
JEW-FISH.													
	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.	doz.
Harbour	36	4½	5	9	2	10	19	88	54	202	225	255	859½
Botany	36	55	83	5	2	16	13	10	149	241	243	...	853
Broken Bay .....	...	10	53	43	...	...	10	32	95	143	107	102	595
Bateman's Bay .....	...	...	...	...	...	...	3	14	1	11	20	4	53
Jervis Bay .....	...	1	...	...	...	...	...	...	...	...	...	...	1
Terrigal Lake .....	...	...	...	...	...	...	...	...	31	109	4	...	144
Tuggerah Lake	64	77	25	2	22	130	31	21	...	9	166	92	639
Port Stephens	1	8	...	23	10½	114	8	4	12	56	...	...	330
Hawkesbury	34	33	25	...	...	...	...	...	10	...	80	46	228
Narrabeen	5	...	...	...	...	...	...	...	...	...	...	...	5
Wollongong	17½	3	...	28	6	...	6	...	4	48	39	21	172½
Ulladulla .....	...	...	...	...	...	...	...	...	8	...	...	...	8
Newcastle .....	...	2	...	...	...	...	25	...	3	...	...	...	30
Shoalhaven	4	4	...	20	16	...	...	...	2	34	...	13	93
Richmond River .....	...	...	...	...	...	...	...	4	1	15	5	11	36
Lake Macquarie	83½	103	161	239	143	350	60	...	8	141	153	65	1,506½
Clarence River	2	34	10	59½	10½	...	6	30	4	13	...	1	263½
Long Reef	43	64	...	4	21	...	...	...	...	...	...	...	132
Wyong .....	...	...	...	64	...	...	...	2	5	3	...	...	74
Macleay River	2	6	...	...	...	...	...	...	1	...	5	18	32
Woy Woy .....	...	...	...	...	...	...	10	...	4	3	...	6	23
Tathra	2	...	...	...	...	...	...	...	...	...	...	...	2
Illawarra .....	...	...	...	...	...	...	...	...	...	5	...	...	5
Manning River	2	...	...	...	...	...	...	...	...	...	...	...	2
Bermagui	4	...	...	...	...	...	...	...	...	...	...	...	4
Cape Hawke .....	...	...	...	...	...	190	575	...	11	...	...	15	791
Camden Haven .....	...	...	...	...	...	...	13	...	...	...	...	...	13
Totals	336	404½	362	496½	420	810	779	155	403	1,033	1,047	649	6,895
KINGFISH.													
Harbour	17	4½	...	...	3	2½	...	5	...	7½	16	34½	90
Botany	7	31	7	3	...	...	...	5	...	12	22	161½	248½
Broken Bay	2	6	...	...	...	...	...	4	...	8	...	...	16½
Tuggerah Lake .....	...	...	8	...	...	...	...	...	...	...	...	...	8
Hawkesbury .....	...	7	...	...	...	...	...	...	...	...	...	...	7
Narrabeen	1	...	...	...	...	...	...	...	...	2	...	...	3
Shoalhaven .....	...	1	...	...	...	...	...	...	...	...	...	...	1
Lake Macquarie .....	...	3	4	...	...	...	...	...	...	...	...	...	7
Clarence River .....	...	...	...	...	...	...	...	...	...	1½	...	...	1½
Long Reef	4	...	6	2	3½	2	...	...	...	6	...	...	23½
Cape Hawke .....	...	...	...	...	...	1½	...	2	...	...	...	...	3½
Totals	31	52½	25	5	6½	6	...	12½	...	37	38	196	409½
ROCK COD.													
Harbour	56	...	1	...	8	1½	...	13	16½	17½	11	9	133½
Botany	29	22½	2	...	11	3	2	5	9	9	5	10	107½
Broken Bay	2	11	...	3	...	1	½	3	8	1	...	...	29½
Bateman's Bay .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Jervis Bay .....	...	...	...	...	2	...	...	...	...	...	...	...	2
Tuggerah Lake .....	...	1	...	...	...	...	...	...	½	...	...	...	1½
Port Stephens .....	...	...	...	...	3	1	...	2	2½	...	...	...	8½
Long Reef	1	1½	...	...	4	3	...	...	...	...	...	...	9½
Wyong .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Bourke .....	...	...	...	...	3	...	...	...	...	...	...	...	3
Woy Woy .....	...	...	...	...	...	...	...	...	3½	...	...	...	3½
Totals	88	36	3	3	31	9½	2½	25	30	27½	16	12	309½
CRABS.													
Harbour	30	45½	41	62	36	58	37	40	22½	51	67	131	621
Botany	10	14	41	58	40	56	9	4	15	35	21	15	318
Broken Bay .....	...	...	2	5	...	3	1	3	15½	23½	6	1	60
Bateman's Bay .....	...	...	...	...	...	...	...	2	...	½	...	...	2½
Terrigal Lake .....	...	...	...	4	2	...	...	...	...	4	...	...	10
Tuggerah Lake .....	...	...	4	...	...	4	...	1	1½	...	...	...	10½
Port Stephens .....	...	...	...	1	...	1	...	6	5½	...	...	...	13½
Hawkesbury .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Narrabeen .....	...	...	...	...	...	...	...	...	½	...	...	...	½
Wollongong .....	...	...	...	...	...	...	...	...	...	...	1	...	1
Ulladulla .....	...	...	...	...	...	...	...	...	½	...	...	...	½
Illawarra .....	...	...	...	...	...	...	...	...	½	...	...	...	½
Shoalhaven .....	...	...	...	...	...	...	...	...	½	...	...	...	½
Lake Macquarie .....	...	...	...	...	...	...	...	...	1	1	2	...	4
Clarence River .....	...	...	...	...	...	...	...	...	1½	...	...	1	2½
Wyong .....	...	...	...	...	...	...	...	...	2	¼	...	...	2½
Macleay River .....	...	...	...	...	...	...	...	...	1½	...	...	...	1½
Woy Woy .....	...	...	...	...	...	...	...	...	½	...	...	...	½
Cape Hawke .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Totals	40	59½	88	130	78	122	47	56	69½	116½	97	148	1,051½

RETURN showing the number of different varieties of Fish brought to the Fish Market, 1893—*continued.*

Locality.	Jan	Feb.	March.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov	Dec.	Totals
CRAYFISH.													
Harbour	doz	doz.	doz.	doz	doz	doz.	doz	doz.	doz	doz.	doz.	doz.	doz
Harbour .....	...	3	1½	36	16	...	...	15½	37½	...	...	...	109½
Botany .....	...	...	8	15½	...	...	...	6	...	...	...	6	35½
Broken Bay	38	...	...	12	...	6	70½	11½	10½	...	...	9	156½
Bateman's Bay .....	...	...	...	14	23	...	25	3½	23	16	10	15	129½
Jervis Bay .....	...	...	...	...	...	16	6	...	...	...	...	...	22
Tuggerah Lake .....	...	...	...	...	...	28	...	...	...	...	...	...	28
Port Stephens	28	6	...	...	...	466	494	553	564½	757	464	309	3,641½
Hawkesbury .....	...	...	...	...	...	6½	...	...	185	...	80	...	271½
Wollongong .....	...	...	...	...	...	...	...	...	...	...	...	3	3
Ulladulla .....	...	...	...	12	...	11	...	5	...	...	...	...	28
Newcastle .....	...	...	...	...	...	...	3½	...	...	...	...	...	3½
Lake Macquarie .....	...	...	...	...	...	...	4	...	...	...	32	...	36
Wyang .....	...	...	...	...	...	...	...	...	30	...	...	...	30
Coogee .....	...	...	...	...	11	...	...	...	...	...	...	...	11
Long Island .....	...	...	...	...	...	...	28	...	...	...	...	...	28
Woy Woy .....	...	...	...	...	...	...	6	...	...	...	...	...	6
Long Island .....	...	...	...	...	...	...	...	47½	64½	...	...	7	119
Shellharbour .....	...	...	...	...	...	...	...	2½	...	...	...	...	2½
Cape Hawke .....	...	...	...	...	...	50	...	368	21	...	6	24	469
Totals	66	9	9½	89½	50	583½	637	1,012½	936	773	592	373	5,130½
SOLES & FLOUNDERS													
Harbour	83	84	34	44	40	40	32	30	28½	39½	78	55	588
Botany	42	47	45	85	38	57	27	5	16	29½	32	17	440½
Broken Bay	4	6	18	14	...	6	...	1	11	22	7	3	92
Bateman's Bay .....	...	...	...	...	1	...	...	...	1	...	...	...	2
Jervis Bay .....	...	...	...	5	...	...	...	...	...	...	...	...	5
Terrigal Lake .....	...	...	...	...	...	...	...	...	1	...	1	...	1
Tuggerah Lake	4	3	10	...	...	...	...	...	7½	...	...	...	25½
Port Stephens .....	...	11	1	6	1	...	...	...	7½	...	...	...	26½
Hawkesbury .....	...	...	...	...	...	...	...	...	5	...	...	...	5
Wollongong .....	...	...	...	...	...	...	...	1½	...	4	...	...	5½
Ulladulla .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Newcastle .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Shoalhaven .....	...	...	...	...	...	...	...	1	1	...	...	...	1
Lake Macquarie	4	29	...	4	...	...	...	1	...	7	...	...	45
Clarence River	2	...	...	...	...	...	...	...	...	...	...	...	2
Wyang .....	...	...	...	...	...	...	...	1	½	1½	...	...	3
Totals	139	180	108	158	80	103	59	37	70	106	129	75	1,244
MULLET.													
Harbour	167	128	8	...	...	12	6	25	31½	68	36	...	481½
Botany	148	176	162	116	101	107	39	121	201	202	248	312	1,933
Broken Bay	69	59	64	181	91	78	56	31	173	190	119	97	1,208
Bateman's Bay .....	...	...	8	...	19	10	9	10	4	5	16	35	116
Jervis Bay .....	...	4	...	65	20	20	3	...	...	5	...	...	97
Terrigal Lake .....	...	...	...	20	63	10	...	...	...	...	...	...	93
Tuggerah Lake	233	135	103	119	43	90	46	30	17	12	75	156	1,059
Port Stephens .....	...	59	43	175	76	86	154	25	43	3	...	...	669
Hawkesbury	95	87	...	...	...	...	...	...	...	22	9	4	217
Narrabeen	25	...	...	...	4	...	...	...	...	...	...	...	29
Wollongong	142	122	20	45	52	39	8	19	10	9	16	19	501
Ulladulla .....	...	...	...	...	...	8	...	...	9	...	...	...	17
Newcastle .....	...	16	...	...	...	...	...	...	...	...	...	...	16
Shoalhaven	26	12	...	41	36	...	15	33	3	11	...	1	168
Richmond River	11	...	...	...	...	...	5	3	...	...	...	...	23
Lake Macquarie	227	279	32	139	36	18	38	30	29	46	24	22	920
Clarence River	46	36	...	...	...	...	...	...	9	...	...	4	95
Long Reef .....	...	...	...	66	28	10	4	...	...	...	...	...	108
Wyang .....	...	...	...	...	...	...	3	12	22	...	...	...	37
Long Island .....	...	...	...	...	...	...	5	...	...	...	...	...	5
Macleay River	36	13	...	...	...	...	...	5	4	11	...	19	88
Woy Woy .....	...	50	...	...	...	...	...	...	11	...	...	...	61
Sydney Heads	8	...	...	...	...	...	...	...	...	...	...	...	8
Manning River	13	3	...	...	...	...	...	...	...	...	...	...	16
Coogee .....	...	...	...	8	...	14	...	...	...	...	...	...	22
Kiama .....	...	...	...	...	...	16	...	...	...	...	...	...	16
Bermagui	39	...	...	...	...	...	...	...	...	...	...	...	39
Cape Hawke .....	...	...	...	...	...	...	...	156	306	96	18	96	672
Camden Haven	25	...	...	...	...	...	...	...	11	...	...	...	36
Totals	1,310	1,179	445	975	549	518	391	500	883½	680	561	769	8,760½
SMOKED FISH.													
Harbour .....	...	152	...	83	78	148	85	41	13	...	...	...	600
Botany .....	...	...	...	...	...	...	6	...	...	...	45	...	51
Broken Bay .....	...	...	...	...	...	...	...	...	...	...	46	...	46
Lake Macquarie .....	...	...	...	...	...	...	...	...	...	...	9	...	9
Clarence River .....	...	...	...	...	...	...	...	...	...	...	3	...	3
Long Reef .....	...	...	...	...	...	...	...	...	...	...	2	...	2
Tuggerah Lakes .....	...	...	...	...	...	...	...	...	...	...	21	...	21
Totals .....	...	152	...	83	78	148	91	41	13	...	126	...	732

RETURN showing the number of different varieties of Fish brought to the Fish Market, 1893—*continued.*

Locality.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
GARFISH.													
Harbour	40½	42	12	8	...	4	40	20	37½	71	59	23	357
Botany	27	41	55	34	14	56	45	52	149	115	104	41	733
Broken Bay	9	13	10	...	25	11	6	3	27	...	11	...	115
Bateman's Bay .....	...	...	...	...	4	9	5	2	...	...	4	...	24
Jervis Bay .....	...	...	...	18	...	4	2	...	...	...	...	...	24
Terrigal Lake .....	...	...	...	...	8	5	...	...	...	...	...	...	13
Juggarah Lake	32	31	8	25	16	7	30	...	2	1	...	4	156
Port Stephens	1	6	6	36	...	63	19	17	9	...	...	...	160
Hawesbury	11	27	...	...	...	...	...	...	9	4	...	3	54
Narrabeen	3	10	...	...	9	2	...	...	...	...	...	...	14
Wollongong	13	10	...	15	7	4	2	...	...	4	7	...	62
Ulladulla .....	...	...	...	5	...	6	...	...	10	...	...	...	21
Newcastle .....	...	5	...	...	...	...	5	...	9	...	...	...	19
Shoalhaven	3	3	...	6	8	...	2	2	...	...	...	...	24
Richmond River	3	...	...	...	...	3	...	...	...	3	...	...	9
Coogee .....	...	...	...	...	3	4	3	...	...	...	...	...	10
Lake Macquarie	47	52	4	15	23	7	...	2	18	...	23	...	199
Clarence River	4	5	...	...	...	8	3	...	...	...	...	8	20
Long Reef .....	...	...	...	5	9	4	...	...	...	...	...	...	17
Wyong .....	...	...	...	...	...	...	...	...	12	...	...	...	12
Macleay River	2	3	...	...	...	...	...	...	...	...	...	...	5
Woy Woy .....	...	8	...	...	...	...	...	...	...	...	...	...	9
Tathra	2	...	...	...	...	...	...	...	1	...	...	...	2
Kiama .....	...	...	...	...	...	4	...	...	...	...	...	...	4
Manly Beach .....	...	...	...	...	...	...	...	...	2	...	...	...	2
Bermagui	9	...	...	...	...	...	...	...	...	...	...	...	9
Cape Hawke	3	3	...	...	...	...	...	...	...	...	...	...	6
Camden Haven	2	...	...	...	...	...	...	...	...	...	...	...	2
Totals	211½	249	95	166	126	201	162	99	285½	198	208	82	2,082
PRAWNS.													
Harbour	470	374	306	373	206	120	35	61	104½	289	471	573	3,382½
Botany .....	...	...	...	69	33	1	10	9	6½	16	...	...	144½
Broken Bay .....	...	...	...	...	...	...	...	...	1½	...	25	16	42½
Hawkesbury .....	...	...	...	...	...	...	...	...	...	21	...	19	40
Narrabeen .....	...	...	...	...	...	...	...	...	...	4	...	...	4
Newcastle .....	...	6	...	...	...	...	...	...	...	...	...	...	6
Shoalhaven .....	...	3	...	...	...	...	...	...	...	2	...	...	5
George's River	4	...	...	...	...	...	...	...	...	4	16	...	24
Macleay River .....	...	...	...	...	...	...	...	...	6	...	...	...	6
Cape Hawke .....	...	...	...	...	...	...	293	...	2	...	...	...	295
Totals	474	383	306	442	239	121	338	70	120½	336	512	608	3,949½
MACKEREL.													
Harbour .....	...	...	44	47	33	...	12	2	...	125	...	...	263
Botany .....	...	...	...	...	7	...	...	...	...	46	...	...	53
Broken Bay	2	...	...	...	2	...	...	...	...	30	...	...	34
Bateman's Bay .....	...	...	...	...	...	...	4	...	...	...	...	...	4
Terrigal Lake .....	...	...	...	...	...	...	...	...	...	5	...	...	5
Port Stephens .....	...	...	...	...	4	...	...	...	...	...	...	...	4
Shoalhaven .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Wollongong .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Totals	2	...	44	47	47	...	16	2	...	207	...	...	365

RETURN showing the quantity, in baskets, of Fish seized under the Fisheries Act, and sent to Charitable Institutions, January to December, 1893.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
...	2	...	...	4½	...	...	...	...	6½

RETURN showing the quantity, in baskets, of Fish condemned as unfit for food, January to December, 1893.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
...	...	177	112	26	25	9	7½	32	115	173	77	753½

RETURN showing Range in Prices obtained for Fish at Fish Market, Woolloomooloo, January to December, 1893.

Names of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December
Schnapper, per dozen	4/3 to 84/	5/ to 108/	4/6 to 100/	6/ to 95/	6/ to 75/	6/ to 60/	5/ to 60/	4/ to 90/	9/ to 72/	5/ to 96/	5/ to 120/	5/ to 120/
Squire "	2/ to 18/	2/6 to 20/	2/ to 25/	1/6 to 24/	1/ to 22/	1/ to 15/	1/ to 15/	1/ to 8/	1/6 to 8/	1/ to 9/	1/3 to 8/	1/ to 7/6
Flathead "	1/6 to 24/	1/3 to 30/	1/ to 25/	1/6 to 23/	1/ to 23/	2/ to 23/	2/ to 22/	2/ to 22/	2/ to 22/	2/6 to 30/	1/ to 36/	1/6 to 42/
Whiting "	1/6 to 15/	1/6 to 9/6	1/ to 12/6	1/ to 11/	1/ to 10/6	1/ to 10/6	1/ to 18/6	9/ to 10/6	1/ to 8/6	1/ to 8/6	1/ to 5/6	1/ to 7/6
Flounder "	1/3 to 12/	1/ to 10/6	1/ to 10/6	1/ to 10/	1/ to 10/	1/ to 9/6	1/ to 10/	1/ to 10/	1/ to 8/	1/ to 9/	1/ to 9/	1/ to 8/6
Soles "	1/3 to 15/	1/ to 12/6	1/ to 12/6	1/ to 10/6	1/ to 10/6	1/ to 9/	1/ to 9/	1/ to 10/	1/3 to 10/	1/3 to 9/	1/3 to 10/6	.....
King-fish "	1/ to 72/	1/ to 24/	1/ to 60/	1/ to 16/	.....	.....	.....	.....	.....	.....	1/ to 48/	.....
Jew-fish "	1/3 to 96/	1/ to 75/	1/ to 85/	1/ to 80/	1/6 to 80/	1/ to 75/	1/ to 80/	1/ to 75/	6/ to 54/	6/ to 54/	6/ to 54/	1/ to 162/
Teraglin "	1/3 to 18/	1/6 to 24/	1/ to 15/	1/ to 14/	1/ to 14/	1/ to 14/	1/ to 15/	1/ to 14/	1/ to 5/6	1/ to 9/	1/6 to 5/6	1/ to 5/6
Nannegai "	1/ to 10/	1/ to 7/6	1/ to 7/6	.....	.....	1/ to 3/6	1/ to 4/	1/ to 6/	1/ to 6/	1/ to 9/	1/ to 5/6	1/ to 5/6
Salmon "	.....	.....	.....	.....	.....	.....	.....	.....	1/ to 3/	1/ to 3/	1/ to 2/6	6/ to 1/6
Mullet (sea) "	1/ to 9/3	1/ to 6/6	1/ to 8/6	1/ to 4/9	1/ to 4/6	1/ to 4/6	1/ to 5/	6/ to 4/6	6/ to 2/6	6/ to 4/	6/ to 2/6	6/ to 4/9
Long Toms "	1/ to 7/6	1/ to 4/	1/ to 4/	.....	.....	.....	.....	.....	.....	6/ to 4/	6/ to 2/6	1/ to 3/6
Parrot-fish "	1/ to 3/	1/3 to 3/	.....	.....	.....	.....	.....	1/6 to 3/6	.....	.....	.....	.....
Rock cod "	1/ to 15/	1/ to 13/6	1/ to 12/6	1/ to 13/	1/ to 12/	1/ to 12/	1/ to 12/	1/ to 12/	1/ to 12/	1/ to 4/	1/ to 5/	1/6 to 3/6
Leatherjacket "	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eels "	1/3 to 24/	1/6 to 22/	1/ to 18/	1/ to 17/	1/ to 16/	1/ to 16/	1/ to 16/	6/ to 16/	6/ to 3/	4/ to 6/	6/ to 3/6	6/ to 3/6
Bream (black), per basket	7/ to 70/	6/9 to 48/	6/ to 50/	7/ to 45/	5/ to 45/	7/ to 45/	7/ to 50/	5/ to 45/	5/ to 42/	4/ to 42/	6/ to 36/	6/ to 60/
Bream (red) "	.....	7/6 to 48/	7/ to 48/	6/ to 45/	7/ to 45/	.....	.....	4/6 to 40/	4/ to 36/	4/ to 36/	5/ to 36/	5/ to 60/
Garfish "	4/6 to 30/	4/ to 30/	5/ to 36/	4/ to 36/	4/ to 45/	7/ to 50/	7/ to 45/	7/ to 45/	6/ to 45/	6/ to 51/9	7/6 to 50/	6/6 to 60/
Pike "	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blackfish "	1/6 to 9/6	1/ to 9/	1/ to 10/	3/ to 20/	4/ to 22/	4/ to 20/	4/ to 25/	1/ to 20/	1/ to 10/	3/6 to 25/	3/ to 30/	1/6 to 9/6
Silverbellies "	3/3 to 18/	2/ to 12/6	3/ to 24/	3/ to 10/6	3/ to 10/	3/ to 10/	3/ to 10/6	3/ to 10/	.....	.....	1/6 to 5/6	1/ to 3/6
Tarwhine "	.....	2/6 to 4/6	.....	.....	.....	.....	.....	2/6 to 5/6	.....	.....	.....	.....
Salmon trout, per dozen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mullet (sand) per basket	1/ to 9/6	1/ to 8/6	1/ to 12/6	1/6 to 10/	3/ to 20/	3/ to 24/	2/6 to 22/	2/ to 20/	2/ to 22/	3/ to 22/	3/ to 20/	3/ to 30/
Trevally "	4/5 to 22/6	1/6 to 18/	3/ to 20/	3/ to 20/	3/ to 16/6	3/ to 16/	1/ to 14/	1/ to 12/	4/ to 6/	4/ to 7/	4/ to 6/6	4/ to 6/
Porch (sea) "	8/3 to 36/	9 to 7/6	4/ to 5/	2/6 to 8/	2/ to 12/6	.....	.....	6/ to 30/	3/ to 10/6	.....	6/6 to 30/	.....
Yellowtail "	3/6 to 16/	1/6 to 14/	2/ to 11/	3/ to 10/6	3/ to 10/6	3/ to 10/6	3/ to 10/6	3/ to 10/6	.....	4/ to 5/6	2/ to 7/	2/ to 8/
Tailer "	4/ to 20/	.....	4/ to 20/	2/ to 19/6	2/3 to 20/	1/ to 15/	1/ to 13/	1/ to 14/	4/ to 8/6	4/ to 6/	4/ to 9/6	4/ to 12/6
Mackerel "	6/	.....	4/ to 16/	.....	.....	.....	1/ to 9/6	9/	.....	.....	4/ to 10/6	4/ to 11/
Crayfish, per dozen	10/ to 21/	9/ to 16/6	.....	.....	6/6 to 80/	3/ to 15/	1/ to 18/	1/ to 8/6	1/ to 10/	1/ to 10/	1/ to 10/6	4/ to 12/6
Prawns, per basket	25/ to 105/	25/ to 105/	13/6 to 105/	25/ to 100/	.....	25/ to 95/	25/ to 90/	20/ to 85/	15/ to 90/	10/ to 90/	10/ to 60/	4/ to 60/
Dried fish, per dozen	2/ to 5/	2/ to 5/	2/ to 5/6	2/ to 4/6	2/ to 4/6	2/ to 4/6	2/ to 5/6	1/6 to 4/6	1/3 to 5/	1/6 to 3/6	1/ to 3/6	1/ to 5/
Sweeps "	.....	.....	.....	.....	.....	.....	.....	1/	1/ to 2/6	1/ to 3/	1/ to 3/6	1/ to 2/6
Crabs, per basket	5/ to 25/	6/ to 30/	6/ to 25/	.....	.....	6/ to 24/	2/ to 23/	2/ to 22/	1/6 to 22/	3/ to 6/	1/6 to 7/	4/ to 12/
Murray cod, per lb	.....	.....	.....	.....	1/ to 7/ each	1/ to 6/ each	.....	.....	2 to 6/	9 to 8/6	1/6 to 5/6 each	1/ to 5/6 each
Turtle, each	10/	.....	.....	.....	.....	.....	.....	4/6	.....	.....	.....	.....

PARTICULARS of Prosecutions for infringements of the "Fisheries Act, 1881," and the "Oyster Fisheries Act, 1884," during the year 1892."

Name.	Nature of Offence.	Result of Prosecution.
R. Duncan	Having unlawful net	Fined £2.
E. Newman.....	" "	" £2.
A. Gee.....	" "	" £2.
F. Martin	Fishing in closed waters.....	" £1.
I. Bogan	" "	" £1.
A. Collier	Fishing without a license	" £1.
T. Shakeshaft.....	" "	" £1.
A. White	Having undersized fish	" £1.
D. Bowles	9 Oyster Act—unlawfully dredging.....	" £5.
H. Blanch	Fishing in closed waters.....	" 10s. Net confiscated.
S. Blanch	" "	" 10s. "
W. Laman	" "	" 10s. "
E. Bull	Stalling	" £1.
H. Bull	" "	" £1.
E. Bull	" "	" £1.
H. Bull	" "	" £1.
W. J. Halston	Removing oysters from recreation reserve	" 10s.
T. Ward	Fishing in closed waters.....	" £5. Net confiscated.
W. Edwards	" "	" £1. "
C. Parker	Having unlawful net	" £2.
A. Blackmore.....	" "	" £2.
J. Bishop	" "	" £2.
I. Duncan	" "	" £2.
G. Roberts	" "	" £2.
I. Hicks	" "	" £2.
P. Scully.....	Fishing without license	" 10s.
C. Catley	" "	" 10s.
T. Gee.....	" "	" £1.
W. Wilson	" "	" £1.
P. Capiluti	Omitting to notify consignments	" 10s.
— Carrado	" "	" 10s.
T. Dunn	Fishing in closed waters.....	" £3. Net confiscated.
T. Dunn, jun.....	" "	" £1.
J. Marks	" "	" £1.
D. Belze	Having unlawful net	" £2.
W. Mannering	" "	" £2.
I. Young	" "	" £2.
P. Barclay	" "	" £2.
P. Ventura	" "	" £2.
G. Buscott.....	Fishing in closed waters.....	" £1. Net confiscated.
G. Dennis	" "	" £1. "
I. Duncan	Having unlawful net	" £2.
I. Murray	" "	" £2.
W. Johnson	" "	" £5.
W. Williams	" "	" £2.
Edwardson	" "	" £2.
P. Peterson.....	" "	" £2.
I. Glover.....	Fishing in closed waters.....	" £1.
J. Glover	Refusing to give name	" £1.
E. Holbert	Fishing in closed waters.....	" £1.
H. Holbert	" "	" £1.
G. Love	Fishing without license	" 5s.
W. Johnson	Having unlawful net	" £2.
T. Bagnall	" "	" £2.
C. Wacey	" "	" £2.
H. Parker	" "	" £2.
W. Clouton	" "	" £2.
A. Campbell	" "	" £2.
E. Clouton	" "	" £2.
G. Loutitt	" "	" £2.
S. Merritt	Assaulting Inspector on duty	" £5.

FISHERIES INSPECTORS' REPORTS.

Chief Inspector of Fisheries—Report upon his visit to Clarence River.

MEMO.—In furtherance of instructions, I visited the fisheries on the Clarence River.

Fish.	For the size of the river I find that the take of fish has been comparatively small, and in the Lake Channel particularly so. Only about six boats are working at present, with an average of two men to each boat. A small consignment is sent from Palmer's Island to Sydney by each steamboat. The fish is packed in boxes about 4 feet square by 3 feet deep; ice is spread over (say) each third layer of fish; but the system seems to me very crude and ill-considered. The superincumbent weight of the upper layers must have a very deteriorating effect on the bottom layers of fish, and as there is no provision for the outflow of the melted ice, these bottom fish, on arrival at Sydney, must be immersed in a liquid composed of water, blood, and other foul discharges; indeed, this has been the case, except in certain instances where a hole has been bored in the box to allow the escape of the liquid.
Ice-packed fish.	
Use of trays suggested.	I suggested to the fishermen whom I saw packing these fish that it would be an improvement if he provided trays at intervals so as to prevent the crushing; but he did not seem to value the suggestion, simply remarking that the fish travelled very well as they were.
Iluka Canning Company.	I visited the Iluka canning factory; it is conveniently situated at the wharf. The factory was not in operation. Filewood and Sons are the new proprietors, and they are about to start work, but they fear the scarcity of fish will prove a check to their operations. It was unfortunate that the proprietor, Mr. Filewood, senior, was absent. I saw only one of the sons, and he was not able to give me the particulars I sought as to mode of curing the fish; all he could say was that the cans were heated only to boiling point, and that no chemicals were used to bring up the temperature. I can scarcely believe this to be correct; but if it be so, canning fish becomes a very simple operation—so simple, indeed, that they could be preserved in the ordinary fruit-preserving jars; but that is a matter which can easily be determined by experiment.
Closure of channel against net-fishing.	Something ought to be attempted in order to increase the fish supply in The Clarence. Massingham, the late Inspector, a very intelligent and observant man, is most anxious that the Lake Channel should be closed against net-fishing; it certainly is a great breeding ground, and I think the attempt might be made, at any rate, for a short period, and results noted for future guidance.
Oyster fisheries.	Passing on to the oyster fisheries, I find that considerable attention is being paid to them by some of the lessees, while others are just content to take from the bed whatever nature supplies and not attempting anything like improvement or culture. It is neglect of this kind which to a large extent allows the worm to increase as it does, and to take control of and destroy beds which once had considerable value. This is in evidence from the fact that, not only the unworked oyster leases, but also the public oyster reserves in the channel are bare of oysters, not alone from the ravages of the worm, but also of the crabs, which have destroyed the oysters wholesale; while, on the other hand, beds, which have been carefully tended and worked, show the worm in but limited quantity. As an instance, I take N. J. Cusack's leases, No. 2,176 and 2,212, though the oysters occur in water of a depth from 12 to 30 feet, yet the disease is scarcely present; the oysters are sound and open well, and produce about a bushel to a haul. A large proportion of these are of so young growth that each haul requires careful and extensive culling, so extensive, indeed, that not more than twenty-five to fifty marketable oysters are obtained out of a haul. I find that Cusack has in operation a plan which I had recommended for use on other rivers, and it proves wonderfully successful. It is a platform built so as to be awash at low water; on this, which he has opposite his house, he lays the oysters dredged from his beds; the action of the tide clears the shells from their accumulation of mud and filth so that when bagging he has not only a clean oyster, but is enabled to examine and discard anything unsound. This is a system which I have always advocated, and from the result as recorded by Cusack, I should like to see it practised by every lessee who holds a worm infested area.
Neglect of lessees.	
Worm disease.	
Advantages of keeping beds worked.	
Platform for oysters.	
Origin of worm in Clarence.	It will be in recollection, perhaps, that the worm first manifested itself in the Clarence, after some cultch shells had been laid down in a lower part of the channel lease 83-64; from this the disease spread over the whole of the beds. In one bed, No. 258, which I saw dredged, where the men were getting a tin-full to the haul, 75 per cent. were affected; notwithstanding, however, the oysters were being sent to market. They were until recently sent to supply a saloon at Maclean, but the oysters would not keep; the saloon is now closed. It is regrettable that the existing law has not provided some means by which oysters so affected can be kept out of the market. It should be possible to compel the lessees to work their areas, and to take means to prevent the public estate in their control being wasted and destroyed as it is at present. There is a regulation threatening forfeiture as the result of mismanagement, but it does not reach this worm trouble. In the new Act a remedy will be provided.
Diseased oysters in consumption as food.	Many of the leases in the channel besides those mentioned are deep water beds; such a one is McKinnon's lease, No. 260; it is not being worked just now. The shore is all soft mud, the bed in mid-channel, confined to a space of 300 yds. by 50 yds., being in a depth of 15 ft. of water. Ross' lease, No. 223, is also a deep bed. Like the former, the oysters occur on the outer boundary and extend to Philp's lease, No. 258, opposite, already referred to. Cusack's lease, 2,181, is of the same character as his other leases, 2,176 and 2,212; indeed, the worm on this area is even less destructive. Oysters are found in a depth of from 4 ft. to 15 ft. of water. Cusack has spent much pains in clearing this lease from mud, and hopes to gain good results from it. He will commence work at the New Year, by which time he expects that the naere will have sufficiently hardened over the few oysters which contain the worm to allow of their being turned over. I took the opportunity to examine lease No. 860, which H. Woodward has asked to have surrendered. I find there is nothing whatever on this lease, and was advised that there never had been. Why Woodward ever took up this area was always a mystery to the local oyster-getters. Lease No. 166 is of a similar character; its surrender has already been recommended.

I had some oysters dredged from lease No. 519, locally known as the "mud patch." They opened well, and showed but little sign of the worm, evidencing the good results of keeping a bed well worked.

Joseph Barber, a local oyster-getter, sought from me information as to working oyster beds in the open sea,—he told me he knew of a bank, and hoped to find it. I told him that the existing law did not offer any concessions to the discoverer of new deposits, but that doubtless the matter would not be lost sight of when new legislation was enacted.

I visited the Oyster Reserve at Yamba. It includes about a mile and a-half of the training wall, the irregular shaped stones composing which are literally hidden from view by the compact masses of oysters of all sizes, from marketable to spat, plastered over them. I went to the wall at dead low tide, and I confess that I never saw such an extent or wealth of growth—it would be difficult to estimate the quantity, but the wall must contain thousands upon thousands of bushels. Yamba is the watering place for all parts of the Upper Clarence, and on holidays people flock to the Reserve for their day's enjoyment, and a very great value is set upon it.

LINDSAY THOMPSON,
Chief Inspector of Fisheries.

George's River Fisheries.

2 January, 1894.

I HAVE the honor to submit the following report of the fisheries under my supervision during the year ending 31st December, 1893.

This fishery has again contributed largely to the metropolitan supply, but owing to the various places from which the fishermen forward their fish to market being so extensively scattered, it is a matter of impossibility for me to obtain even a fair idea of the quantities shipped to either the Eastern or Redfern Markets; but there are, irrespective of this supply, on an average fully 2,000 baskets of mixed fish sold annually in and around this district.

In the open waters of Botany Bay and George's River, during the early part of the year, up to the end of April, sea-mullet were plentiful, some of the fishermen obtaining very large hauls. During January and February the majority of the fishermen caught good freights of bream and other fish also, which were driven out of the closed waters by the freshets. On the 18th April the waters of the Woronora and George's Rivers were opened to net fishing for thirty days, about fourteen boats taking advantage of this opportunity, and killing over 100 baskets of mixed fish, being an average of about eight baskets per boat for the first days work. From that time to the month of September fish of all kinds were very scarce, many of the boats deserting these waters for the Lakes and Cape Hawke, others working the coast, principally Curranulla beach, where they obtained nice hauls of blackfish, also fair quantities of garfish and other fish. From September to the end of the year the quantity of fish, but principally mullet and bream, steadily increased; but owing to the vast quantities of blubber fishermen found it very difficult in obtaining a clear haul in many instances after shooting, being unable to land.

In the closed waters, from January to the middle of April, when the river was opened to net fishing, all fish, with the exception of whiting, were plentiful; but during the short period the waters were open they showed a steady decrease, and remained scarce for some considerable time after the waters were again closed. From July to the end of the year there was noticeable a material increase in the quantities of fish—all varieties, excepting whiting, being very plentiful. Small whiting are plentiful on all the bars and flats, but for marketable whiting I consider this the worst season I remember for a considerable number of years. I am at a loss to account for the scarcity of these fish. The same cannot be said of black bream, however, as I believe there have been more killed this year than for a considerable number of years previous, anglers catching grand lots at night in different parts of the river.

Of prawns I may say this has been a very prosperous season, nice lots being caught all through the year at Cook's River, Lady Robinson's Beach, Kogarah, Oyster, Oatley, and Double Bays, while in the closed waters they are to be seen in fair quantities, but principally about the Salt-Pan Creeks.

During March I visited Cook's River and Shea's Creek, and reported upon the pollution of these waters from refuse flowing from boiling-downs, &c., in the vicinity.

There have been eight prosecutions during the year—four for fishing in closed waters, three for stalling, and one for fishing without a license. The net in the first instance being confiscated, while in the second case, it being a first offence, the net was returned.

Oyster Fisheries.

I am sorry to state that the oyster fisheries of George's River are still in a very bad way, due principally to the mud or worm disease, and I find no improvement whatever in the oysters. The mangrove oysters of Wolloware, Toura, and Quibra Bays, have, however, escaped the disease, but they are very scarce, owing to the quantities removed by the public under the fifteenth section, as I am unable to prove sale. There have been three applicants for oyster areas during the year, viz., W. J. Goldsmith, 1,000 yards, Quibra Bay; A. Selmon, 500 yards, Inner Toura Bay; and P. J. Baalman, 500 yards, Inner Toura Bay, also 1,000 yards Wolloware Bay, all of which areas I have measured and reported upon. During the month of July seven bags of oysters were removed from lease No. 1,972, Port Hacking, the removal of which I reported.

D. GRANT,
Assistant Inspector Fisheries.

Hawkesbury River Fisheries.

Sir,

25 January, 1894.

I have the honor of placing before you my annual report on the condition of the fisheries and oyster fisheries of the Hawkesbury River for the year 1893.

The net and line fisheries have been in fairly prosperous condition, giving employment, on the average, to about sixty persons.

The total quantity of fish caught and sent to market has been 5,737 baskets, which quantity also includes occasionally a few baskets of sea-caught fish, schnapper, &c.

The kinds of fish caught with the net have consisted principally of mullet, bream, whiting, perch, and blackfish, whilst the line fishermen contributed jewfish, flathead, and also a few schnapper. Line-fishing has also been an everyday pastime for the many picnic parties. Prawns also have been very plentiful.

Cowan Creek, and also the Lower Hawkesbury River, have again been infested with sharks, whilst turtle have often been seen in the entrance and in the lower part of the river.

The kinds of fish enumerated have been fairly plentiful in all the lower part of the river and tributaries, but on the approach of winter these fish will migrate upwards, say, to about 50 miles from the heads, and will continue in the deep waters there during the winter months, unless driven down by freshets.

Of the oyster fisheries of the Hawkesbury River, which not many years ago gave employment to several hundreds of men, I am very sorry to state that they are now in a very unsatisfactory, neglected, and, I may also say, dormant condition.

Of the many oyster leases granted under the provisions of the Oyster Act of 1884, for the express purpose of oyster culture, I beg to state that not one lessee has even attempted culture, and the whole Act may now be said to have been a total failure so far as the Hawkesbury River is concerned. There is also the old worm disease, which has not yet wholly disappeared, but at the same time it need not frighten any lessee from going on with oyster culture. A large number of leases have been cancelled through the non-payment of rent, and the few leases still in existence are mostly denuded of oysters, and are held by unscrupulous persons for points of vantage in stealing oysters off Crown lands, and also afterwards in shipping oysters.

Oyster-stealing has now taken a fresh turn. A lessee, in order not to run any risk of being caught, will be very careful for himself, but he will perhaps have a dozen poor starving men in his employ, and will buy their oysters under cover of darkness, and will afterwards brand those oysters as coming off his own lease, and will, if required, swear to it in Court. It may be said, why don't I catch them. I beg to state that I would very willingly catch them if I could. These men would upon my approach take to the bush. Again, some of these men, if not lessees, would stand their ground, and say that the oysters so gathered were for their own consumption and not for sale: and I am at once disarmed. The 15th section of the Oyster Act is responsible for much of this mischief.

I would again most respectfully urge that there cannot be any rest or improvement for the recovery of the oysters on Crown lands so long as there remains one of the present leases in existence.

I beg to call your attention to the fact that the deposits of oysters of this fine river should and would bring in a fine revenue under a different system of leasing and management, whereas now the revenue derived from it is next to nothing. I have on former occasions endeavoured to draw the attention of the Department to this fact and the importance of the subject, and the welfare of the oyster fisheries must be my excuse for again mentioning it.

P. SMITH,
Assistant Inspector of Fisheries.

Chief Inspector of Fisheries—Proposing New Closures against Net Fishing at Tuggerah Lakes.

Memo.—

I visited Tuggerah Lakes in order to be in a position to make recommendations as to new closures in those waters against net fishing.

I consider the existing closures are too extensive, and that without detriment to the lakes as a fishery more of the water might be left open to netting. I append a tracing showing what in my opinion the future closures should be.

In Tuggerah Lake I propose to dispense with the closures at Ourimbah and Saltwater Creeks; to reduce that at the entrance to Budgewoi Lake so as to confine it to little more than the entrance itself, and while amending the opening to the sea closure by making its boundary lines rectangular, to dispense altogether with the closure on the coast line.

In Budgewoi Lake I propose to relinquish the existing closures at Wallerah Creek, and to amend that embracing the large flat on the eastern portion of the lake, by starting its western boundary at the extreme southern point on the northern shore of the lake, to run about south-south-westerly to a point on the opposite shore, about 200 yards north-westerly from the western head of entrance.

In Munmorah Lake I propose to retain the entrance closure, but to reduce its northern boundary to a straight line from point to point, as shown on the tracing, and to abandon the existing closures at Calangra and Elizabeth Creeks.

I submit these proposals for the consideration of the Commissioners.

LINDSAY THOMPSON,
Chief Inspector of Fisheries.

11th April, 1893.

1894-5.

NEW SOUTH WALES.

FISHERIES OF THE COLONY.

(REPORT OF THE COMMISSIONERS OF FISHERIES FOR THE YEAR ENDING 31 DECEMBER, 1894.)

Presented to Parliament, pursuant to Act 44 Vic. No. 26, sec. 69.

The Acting Secretary to the Commissioners of Fisheries to The Principal Under Secretary.

Sir,

Department of Fisheries, Sydney, 3rd April, 1895.

I have the honor, by direction of the Commissioners of Fisheries of New South Wales, to transmit under separate cover, for the information of the Chief Secretary, the Report of the Commissioners of Fisheries for the year 1894.

I have, &c.,

FRED. W. SMITHERS,

Acting Secretary.

Report of the Commissioners of Fisheries for New South Wales on the Fisheries of the Colony, for the year ending the 31st December, 1894.

Sir,

We have the honor to submit our report on the Fisheries of the Colony for the year 1894.

Finance.

The revenue of the Department shows a decrease of £203 8s., showing a falling off in the revenue of fishermen and boat licenses of £199 5s.

In the issue of fishermen's and fishing boat licenses we record a decrease of 198 and 165.

We show an increase in the amount received in fines and forfeitures by £122 8s.

Official Staff.

To keep our expenditure within a certain limit we did not deem it necessary to increase our working staff, but reduced the number by dispensing with the honorary services of Mr. C. H. Gorrick, Assistant Inspector, stationed at Lake Macquarie, and Mr. Paget Bayly, stationed at Manly.

Consequent upon the removal of Mr. John A. O'Grady, first clerk in the Department, it became necessary to rearrange the indoor staff, without additional expenditure, viz. :—

Mr. Travelling Inspector Smithers, during the absence at any time of the Chief Inspector, to perform the duties relating to the offices of Chief Inspector and Secretary.

Mr. Livingston Mann to rank next to Mr. Smithers, and to have the general supervision of the clerical and drafting work of the office.

Mr. O'Meagher to rank next to Mr. Mann, and to take charge of the accounts and oyster culture lease registers, and to assist in the clerical work.

Oysters.

We are able to report a marked improvement in the supply of oysters which have been taken from the beds and deposits under lease for the purpose of oyster culture during the year, the number of bags removed being 8,086, showing an increase of 2,544 upon that of last year, whilst the quantities imported from Queensland was 1,536 bags as against 4,061; from New Zealand, 5,137 as against 3,208; Victoria, 52 as against 8; South Australia, 240 as against 76; Tasmania, 11 against 2; in all 6,776 bags against 7,355 of the previous year.

The

The following figures show the quantities taken from the principal leased areas :—

Clarence River, 69 bags as against 567 bags for previous year; Richmond River, 400 as against 199; Tweed River, 138 as against 8; Camden Haven, 749 as against 302; Hastings River, 216 as against 388; Manning River, 1,843 as against 1,436; Wallis Lake, 2,012 as against 880; Port Stephens, 728 as against 465; Hunter River, 302 as against 90; Hawkesbury River, 660 as against 454; Bellinger River, 56 as against 120; Evans River, 192 as against 187; George's River, 12; Shoalhaven River, 250; Clyde River, 405 as against 351; Bermagui, 24 as against 14; Twofold Bay, 30.

Notwithstanding the very limited protection at present afforded to lessees by the existing laws, there has been a greater demand for areas for oyster culture. No less than 4,650 yards of foreshore were applied for, out of which number application was made for 1,100 yards at Clyde River, 500 at Wallis Lake, 500 at Botany, 500 at Twofold Bay, and the remainder in smaller areas at other places.

We are unable to report on all the oyster-bearing waters in consequence of having no inspectors located in the districts near them. In many instances we can only obtain reports relative to the oyster-bearing waters when our travelling inspector visits them.

There certainly has been an increase in the output from some of the leases, but the increase from others must be looked upon as doubtful, for we fear that the alleged increase has been caused by overstripping the leases and robbing Crown lands. (See report from Inspector Smith in letter attached hereto.) This abuse is caused by the want of proper supervision over such leases owing to the recent retrenchments in the inspectorial staff. Being aware that such an evasion of law was being resorted to, the Commissioners issued a circular drawing attention to Regulation 28, which provides for cancellation of leases for overstripping. This being as far as the law empowers us to go, or in other words, according to the present defective Act the beds must be denuded of oysters before we can put the law in motion. Cancellation, therefore, throws back on our hands a useless bed, whilst the unprincipled lessee is not penalised. Other lessees wilfully neglect oyster culture, simply contenting themselves by working their leases bare; here, again, we are powerless to interfere under the present Act. We find it preferable to resume such denuded areas and leave them as Crown lands rather than continue to lease to such a class of lessees. We have had, and still have, lessees who systematically rob Crown lands, who, when detected, say the oysters are for their own consumption, thereby leaving us without power, under the 15th section of the Act, to prevent such plundering. Such persons use their leased grounds as a depository for their spoil, and put the number of their leases upon the bags for shipment, as required by law, whereas the oysters in the first instance actually come from Crown lands. Here, again, we have no power to act. Other instances occur in which the lessee may apply for the surrender of his lease on the ground that disease has appeared amongst the oysters, but we find that these excuses, as a rule, are on a par with the cases abovementioned—that it is not the disease that has ruined the lease but the lessee himself, as already pointed out, by overstripping. In other cases, lessees take up areas, then after almost stripping them they vacate the place; yet we have no power to interfere until the lease has attained its three years currency.

It will be seen from the foregoing that our powers are very limited under the existing Act, and that we are unable to take the necessary steps to conserve the supply or to prevent further denudation of the oyster areas of the Colony. For this unsatisfactory state of affairs we do not hold ourselves responsible, for, as far back as 1891, we submitted to the Government a draft Bill setting forth what was required to make the law effective, with a request to have it passed into law; and the difficulty is intensified owing to the Government not seeing their way to allow us funds to employ inspectors to supervise the working of leased areas and the protection of those not leased.

In the near future it may be asked what will be the value of the oyster-bearing Crown lands for leasing purposes, as owing to the very unsatisfactory manner in which the law that we are called upon to administer is framed, owing to the depredations which are being daily committed, as already referred to, some considerable time must elapse, even should a new Act be passed dealing with the oyster-bearing Crown lands for oyster culture, before the waters of the Colony can be replenished with a fresh stock of oysters fit for use, which would not have been the case if the authorities had taken the advice of the Commissioners.

Fish Acclimatisation.

The introduction of trout into several inland streams and the reservoir at Prospect, has, it is to be hoped, been successfully accomplished during the year. Through the courtesy of the Victorian Government and the New South Wales Railway Commissioners, aided by the Committee of the Ballarat Acclimatisation Society, we were able to obtain, free of cost, 250 yearling brown trout, which arrived in Sydney without the loss of a fish, and were at once placed in a small pond at the Prospect Reservoir, with the exception of twenty-five which were liberated at Gunrock Streams, Moss Vale, and we are pleased

to

to note that the experiment has been so far successful, they having grown with great rapidity, and appear thoroughly at home in the ponds. Since their liberation, the death of two of these fish only having been recorded.

We also have, through the assistance of Mr. Rutherford, the Honorary Secretary, Acclimatisation Society at Wellington, New Zealand, been successful in obtaining from that society 48,000 ova, viz., 25,000 brown trout, 22,000 ferox, and 3,000 of the rainbow varieties, which the Union Steamship Company, with their usual courtesy, carried over free of charge, and landed everything in good order, and we desire again to express our thanks to the company for their liberal aid.

The ova arrived on the 7th August, and were at once sent to the troughs specially prepared for them by this Commission at the Prospect Reservoir.

The consignment opened out in good order, and not in such an advanced stage as we have hitherto received them in, and it was not till about fourteen days that the fry appeared, and progressed favourably till October, when unseasonably hot weather set in, and, to save the fry, we found that no time was to be lost in getting them out of the troughs. The Commissioners decided to distribute a portion of them into the inland waters of the Colony, which was done between the 9th and 11th of the same month.

The fry hatched were placed in the following waters:—Picton Lake, the river near Woolbrook, the lake at Uralla, the Gara, Commissioners' Water, Tom's Gully, and the Reservoir near Armidale, the waters of the Cooma district, and the Grose River. The balance were placed in the ponds at Prospect specially provided for them by the Water and Sewerage Board. The fry of the brown trout were liberated in Picton Lakes and in the waters at Waldon Station, and that of the ferox in Woolbrook, Uralla, Gara, Commissioners' Water, Reservoir at Armidale, and Tom's Gully; that of the rainbow trout in the Unincambene, Umaralla, and other waters near Cooma.

Our hatching troughs referred to were, by permission of the Water and Sewerage Board, erected just below the Prospect Reservoir, where an abundant stream of water was placed at our disposal, so essential for the hatching of the ova. The ponds, in which some 30,000 young trout are being reared, were constructed on the south-west shore of the reservoir.

This series of miniature ponds, which have been carefully designed, are supplied with water coming through a pipe from the canal to the top pond, then a fall of about a foot in the next pond, whilst, in some instances, two ponds are on the same level, and wire screens prevent the young fish passing from one pond to another. Each pond, with the exception of four at the end near the reservoir, have fish in them, the two top ones having the yearling trout imported from Ballarat and the others the fry hatched.

The fry, up to the present, appear to thrive far above our expectations, and have grown considerably, the yearlings appearing for their food at a certain hour each afternoon.

We have to record our grateful acknowledgments to the members of the Water and Sewerage Board, and to Mr. Bloxsome, for the assistance and interest displayed in the hatching and welfare of the trout.

Whilst we are doing our utmost with the means placed at our disposal, in the matter of hatching and distributing fry throughout the Colony, since the year 1888, we seldom receive evidence as to the success or otherwise of the undertaking, and even the persons who clamour for the fry are backward in forwarding information which would enable us to judge of the success or otherwise of the experiments.

Mr. Rose, near Cooma, has forwarded a large brown trout lately, weighing 7 lb., and measured 25 inches long, and 15½ inches in girth, which we had sent to the Australian Museum, where it is preserved and exhibited.

It is probable that the large fish referred to was one of the fry sent to Cooma District in October, 1889.

We have also received another trout weighing 5 lb., caught at Bibbenluke, where fry were distributed in 1890 and 1891.

In Currumbene Creek we have been informed that several trout were caught recently.

It is to be hoped that the result of the efforts of this and previous years in the hatching and distribution of trout will in time be crowned with success in stocking the waters of the Colony.

We will not relax our efforts in promoting this object, provided the Government place funds at our disposal for the purpose.

We regret to state that we have not been able to obtain a supply of Murray River cod and golden perch for distribution in waters adjacent to the metropolis, especially in the Nepean, at Penrith and Camden, where it was our intention to place them.

Inland

Inland Waters Fisheries.

The returns from Moama and Koondrook, two centres on the Murray River, from which Victoria draws her principal supply of freshwater fish, show an increase in the quantity captured. During the year 28,806 lb. of fish were sent to Victoria *via* Moama, against 27,843 lb. for the previous year, thus showing an increase of 963 lb.; and the fish forwarded *via* Koondrook amounted to 25,512 lb. as against 20,200, showing an increase of 5,312 lb.

We are of opinion that the increase as shown is to a great extent caused through the closures of certain portions of this river. We have also made closures in various rivers, generally proclaiming a distance of 5 miles in a straight line on each side of a certain town to be exempt from net fishing, and have found the plan largely beneficial.

We have before drawn attention to the inland fisheries being so imperfectly protected, there being only two inspectors to control them, and as their services are entirely honorary it must be apparent that these waters do not get a fair amount of supervision. Although knowing this, we are unable to give the desired oversight on account of insufficient funds.

The Inland Fisheries Act is very defective, as was pointed out by the Commissioners in 1891, and up to the present our suggestions have not been carried out.

We feel ourselves greatly indebted to Messrs. Wilshire and Manton for their honorary services in supervising the Murray and other waters in the districts for which they are rangers under the Forest Department, for by their energy they have protected the fisheries there to such an extent as to increase the supply of fish by 6,275 lb., as previously stated. Moreover, their efforts in putting a stop to the use of illegal nets, and so arresting the destruction of immature fish, have been most praiseworthy.

The Fishing Industry.

The record of fish forwarded to the Eastern Market, Woolloomooloo, during the year has increased by 1,248 baskets—42,272 baskets were received, as against 41,024 last year.

There was also a large increase in the schnapper received this year, no less than 4,711 dozen having arrived as against 2,585 dozen last year, being an increase of 2,126 dozen. This is exclusive of red bream, which totalled 7,000 dozen, thus showing a total of large and small schnapper of 11,711 dozen. Of black bream 9,453 dozen were received; of flathead 9,021 dozen, as against 2,931 last year; of whiting 8,181 dozen, as against 5,031 last year, being an increase of 3,150 dozen; of soles and flounders 1,746 dozen, as against 1,244 dozen last year, being an increase of 502 dozen; of king-fish 1,095 dozen, as against 409, showing an increase of 686 dozen for this year; of jew-fish 17,529 dozen, as against 6,895 of last year, being an increase of 10,534; of groper 23 dozen; of trevally 1,422 dozen; of nannegai 1,396 dozen, as against 491 dozen last year, being an increase of 905 dozen; of salmon 343 dozen; of sea mullet 19,138 dozen; and mullet of kinds 12,494 dozen were received; of long toms 113 dozen; rock-cod 167 dozen as against 309 dozen for previous year; of garfish 3,062 baskets, as against 2,082 baskets received previous year; of blackfish 3,254 dozen; teraglin 3,501 dozen; of crayfish 4,845 dozen; of prawns 5,678 baskets were received, as against 3,949 baskets for previous year.

It will be seen that the market returns for the past year amount to £25,367 15s. 2d., against £29,647 13s. for previous year, although the quantity of fish in baskets received during the year number 42,272, against 41,024 of previous year, thus showing a decrease of £4,279 7s. 10d., with an increase of 1,248 baskets of fish. Out of this number of baskets received, 1,076 were condemned as unfit for food, as against 753 for previous year, and 14 seized under the Fisheries Act, against 6 for 1893.

The Woolloomooloo Fish Markets received 42,272 baskets. Hudson's Fish Market, at Redfern, claims to have received 20,000 baskets, and also to have obtained a fair price for them.

We cannot conclude this report without expressing our strong opinion at the apathy on the part of the different Governments in not passing into law the Bills submitted by us in 1891, and in our report for that year we drew special attention to the defects in the Act of 1881, and expressed a hope that the Bill submitted by us would be passed into law during the first session. We explained that unless a radical change was made in the legislation for regulating the fisheries of the Colony, it would be impossible for them to flourish under the existing laws, one of which has been in force for ten years and to some extent proved a failure.

Although the Commissioners submitted the Bill, of which no notice has been taken, they cannot help drawing attention to the fact that since that time three Acts have been passed, viz.:—Inland Waters Fisheries Act, Sunk Nets Act, and an Amendment Act.

The Commissioners regret having to point out that the complaints made about the public sale of fish in the markets is outside their jurisdiction. They would like to point out also that the crayfish require urgent preservation which the present Act does not provide for.

JAMES C. COX,
President.

APPENDICES.

APPENDICES.

COMMISSIONERS of Fisheries for New South Wales :—

James C. Cox, M.D., President.

E. P. Ramsay, F.R.S.E., LL.D.
Jas. R. Hill, Esq.Hon. S. H. Hyam, M.L.C.
Hon. W. R. Campbell, M.L.C.*Staff.*

Lindsay G. Thompson, Secretary and Chief Inspector.

F. W. Smithers, Travelling Inspector of Fisheries.

John A. O'Grady, First Clerk.

(Removed, 26th February, 1894.)

Livingston F. Mann, First Clerk and Draftsman.

(By rearrangement of Staff.)

Percival H. O'Meagher, Clerk.

(Appointed, 17th March, 1894.)

W. Lannen, Messenger.

Inspectors.

Chas. Gordon, Assistant Inspector of Fisheries, Sydney.

John D. Grant, " " George's River.

David W. Benson, " " Lake Illawarra.

Peter Smith, " " Hawkesbury.

Richard Hellings, " " Sydney.

George Glading, " " "

F. Aldrich, " " Lake Macquarie.

Richard Seymour, " " Fish Market, Woolloomooloo.

Henry Laman, Acting " " Port Stephens.

W. E. Learoyd, " " Liverpool.

C. H. Gorrick, " " Lake Macquarie.

(Resigned, 19th January, 1894.)

P. Bayly, Acting Assistant Inspector of Fisheries, Manly Lagoons.

(Appointment revoked, 1st June, 1894.)

REVENUE of the Department of Fisheries for the year ending 31 December, 1894.

	£	s.	d.	£	s.	d.
Fishermen's licenses, 799 at 10s.	399	10	0			
Do 225 at 5s.	56	5	0			
Fishing-boat licenses, 363 at 20s.	363	0	0			
Do 93 at 10s.	46	10	0			
				865	5	0
Rent on leased areas	1,488	3	4			
Deed fees	25	0	0			
Transfer fees	6	0	0			
Fines, forfeitures, &c.	224	13	0			
				1,743	16	4
Total	£2,609	1	4			

EXPENDITURE of the Fisheries Department for the year ending 31 December, 1894.

	£	s.	d.	£	s.	d.
Salaries as per Estimates-in-Chief	2,120	0	0			
Unexpended of this Vote	10	6	11			
Actually expended in Salaries				2,108	13	1
Contingencies as per Estimates-in-Chief—						
Travelling expenses	500	0	0			
Incidental expenses	90	0	0			
	590	0	0			
Unexpended from this Vote	5	18	11			
				584	1	1
Total amount of Fisheries Vote	2,710	0	0			
Unexpended of this Vote	17	5	10			
				2,692	14	2
Total amount of expenditure.....	£2,692	14s.	2d.			

RETURN showing the Amount realised for Fish sold at the Fish Market, Woolloomooloo, January to December, 1894.

	£	s.	d.		£	s.	d.
January	2,221	9	6	August	1,837	15	6
February	2,098	17	0	September	2,406	11	9
March	3,009	13	11	October	2,073	1	6
April	2,003	0	9	November	1,939	12	3
May	1,968	15	9	December	1,981	14	9
June	1,943	5	1				
July	1,883	17	6	Total	£25,367	15	2

RETURN

RETURN showing the quantity, in baskets, of Fish seized under the Fisheries Act, and sent to Charitable Institutions, January to December, 1894.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
...	...	1	...	...	...	...	...	...	...	10	3	14

RETURN showing the quantity, in baskets, of Fish seized under the Fisheries Act, and condemned as unfit for food, from January to December, 1894.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
130	88	144	204	28	9	29	48	69	90	132	105	1,076

FISH EXPORTED FROM NEW SOUTH WALES TO VICTORIA.

RETURN showing the Quantity of Fish exported from the Murray River to Victoria, *via* Moama, during the year ending 31 December, 1894.

January	lb.	672	August	lb.	900
February ...	...	...	...	...	672	September ...	...	...	...	...	...	2,300
March ...	...	...	...	...	2,000	October ...	...	...	...	...	...	5,712
April ...	...	...	...	...	2,600	November ...	...	...	...	...	...	6,200
May ...	...	...	...	...	1,450	December ...	...	...	...	...	...	4,200
June ...	...	...	...	...	2,100	Total ...	...	...	...	...	...	28,806
July ...	...	...	...	...	Nil							

RETURN showing Quantity of Fish exported to Victoria, *via* Koondrook tram, during the year ending 31 December, 1894.

January	lb.	1,600	August	lb.	2,800
February ...	...	...	...	...	1,300	September ...	...	...	...	...	...	2,900
March ...	...	...	...	...	1,200	October ...	...	...	...	...	...	5,712
April ...	...	...	...	...	1,300	November ...	...	...	...	...	...	3,600
May ...	...	...	...	...	600	December ...	...	...	...	...	...	2,300
June ...	...	...	...	...	1,600	Total ...	...	...	...	...	...	25,512
July ...	...	...	...	...	600							
Total amount exported <i>via</i> Moama						...	...	...	...	...	...	28,806 lb.
" " <i>via</i> Koondrook						...	...	...	...	...	...	25,512 "
Grand total ...						...	...	...	...	...	...	54,318 lb.

SCHEDULE of Applications for Leases of Shore for Oyster Culture in 1894.

Name.	Length of Foreshore.	Locality.	Name.	Length of Foreshore.	Locality.
Comino, A.	Yards. 100	South Channel, Manning River.	Dangar, H. C.	Yards. 450	Hawkesbury River.
Marshall, R.	100	Brunswick River.	White, H. J.	500	Botany Bay.
Wray, T.	100	Clyde River.	Smith, W., and Ainsworth, W. J.	500	Nambucca River.
Archer, E.	200	Bellinger River.	Anderson, A.	500	Fishery Creek, Twofold Bay.
Wray, T.	200	Clyde River.	Archer, E.	300	Bellinger River.
Do	300	do	Woodward, W.	200	Wallis Lake.
Do	200	do	Woodward, C.	200	do
Do	200	do	Woodward, H.	100	do
Hanley, N., and Johnson, Chas.	100	Bellinger River.	Woodward, H., and Templeton, T.	100	Clyde River.
Haiser, G.	100	Crookhaven River.			
Do	200	do			

RETURN showing quantity, in bags, of Oysters received from places outside the Colony for year 1894.

Victoria	bags.	52
Queensland ...	...	...	...	...	1,536
South Australia ...	...	...	...	...	240
Tasmania ...	...	...	...	...	11
New Zealand ...	...	...	...	...	5,137
Total ...	...	...	...	...	6,976

RETURN

RETURN showing the supply of Fish received at the Fish Market, Woolloomooloo, for year 1894.

Total number of baskets	...	...	...	...	...	...	42,272
"	"	Schnapper	...	...	...	...	4,711 dozen.
"	"	Red-bream	...	...	...	...	7,000 "
"	"	Black-bream	...	...	...	...	9,453 "
"	"	Flathead	...	...	...	...	9,021 "
"	"	Whiting	...	...	...	...	8,181 "
"	"	Flounders	...	...	...	...	966 "
"	"	Soles	...	...	...	...	780 "
"	"	Kingfish	...	...	...	...	1,095 "
"	"	Jewfish	...	...	...	...	17,529 "
"	"	Groper	...	...	...	...	23 "
"	"	Trevally	...	...	...	...	1,422 "
"	"	Nannegai	...	...	...	...	1,396 "
"	"	Salmon	...	...	...	...	343 "
"	"	Sea-mullet	...	...	...	...	19,138 "
"	"	Mullet of kinds	...	...	...	...	12,494 "
"	"	Long Toms	...	...	...	...	113 "
"	"	Rock-cod	...	...	...	...	167 "
"	"	Black-fish	...	...	...	...	3,254 "
"	"	Teraglin	...	...	...	...	3,501 "
"	"	Tailer	...	...	...	...	1,052 "
"	"	Garfish	...	...	...	...	3,062 baskets.
"	"	Crayfish	...	...	...	...	4,845 dozen.
"	"	Prawns	...	...	...	...	5,678 baskets.

The rivers Richmond, Clarence, and Hunter, as well as Camden Haven and Wallis Lake are all fish-producing waters, more especially the last-mentioned, yet we are unable to furnish returns of the output, being without inspectors on the several waters.

Wallis Lake.

We are of opinion that netting should not be permitted in this water during the hot months. This restriction would prevent a large waste of fine fish during the transit to market.

Port Stephens.

Port Stephens, which is energetically supervised gratuitously by Inspector Laman, has, during the past year, shipped 6,593 baskets of fish. This take was largely comprised of bream and whiting, and, upon perusal of that officer's interesting report, it will be seen that fish are plentiful in his district. He draws particular attention to the quantity of prawns in Myall Lakes, and, from other reports which we have also received, we find that very much more might have been caught could sale have been obtained for them. Even the small amount shipped apparently did not pay, as the catchers contented themselves for a short period in drying fish for the Chinese market, at a remuneration of 5d. per lb.; but as no large quantities were required, even this industry soon became extinct, solely for want of a proper market to dispose of the supply. We are convinced that Myall Lakes, if properly worked, are capable of yielding immense supplies of fish, but, on account of the remoteness of the locality from a market, and through lack of proper boats provided with cooling chambers wherein the fish might be carried, even to Newcastle, the supply is only to a very small extent availed of. By the Inspector's report it will be seen that cray-fishing is largely carried on, but mostly by foreigners.

Lake Macquarie.

Lake Macquarie has, during the year, produced 11,574 baskets of fish, whereas Tuggerah Beach Lakes produced 13,888.

We attribute this decrease to the want of supervision of the closed and open waters during the latter part of 1893. Upon our finding that the closed waters were worked continuously, and that nets of any length and mesh were used, we decided to remove the inspector from Tuggerah Lakes to this lake, and from his report it will be seen that our determination to send him there was none too soon, although by so doing we were aware that Tuggerah would be unprotected, having no officer to locate there. However, whilst trying to protect one lake we unfortunately had to leave the other without protection for the want of funds.

The closed waters here are now in a fair way to keep up the supply of fish in the lake, as by strict supervision those previously closed, though denuded of fish, were entirely stocked with a vast amount of all kinds at the close of the year.

Large quantities of schnapper, both adult and small fish, have been taken by diving nets during the year, and amongst the different catches we regret to note that numbers of adult fish were full of roe.

Tuggerah Beach Lakes.

Tuggerah Beach Lakes leads with the quantity of fish caught during the year, taking no less than 13,888 baskets, or 2,314 in excess of Lake Macquarie. We attribute the increased supply to the waters which had been previously closed being thrown open to the fishermen, and they appear to have made the most of it. From this lake large quantities of fish are sent direct to country towns, and the balance to the markets. We note that on Wyong Creek there is a large primitive cool room, into which fish intended for country use are put; it is nothing more than a large room built with hardwood, and having on the outside a wall composed of turf about a foot thick; the floor is of concrete, and for the purpose it has answered its owner fairly well. As we have no funds available to employ an inspector to supervise the lake, we fear, therefore, that our efforts to protect it will be futile. This lake is largely used by line-fishers, and with splendid results, the pleasure parties taking away large quantities of bream, flathead, and whiting, and we regret to say that by this means many small and immature fish are caught. The

The Hawkesbury.

Both net and line fishing are carried on in this river and its tributaries, more especially in the lower parts, where in the hottest weather fish can be carried fresh to Sydney.

The supply during the past year has been 5,740 baskets, as against 5,536 the previous year, being an increase of 204 baskets.

The mullet, bream, and whiting are the principal fish sent, and are on the increase.

There is no record obtainable as to the quantity of fish caught by line, which, in our opinion, must have been large.

With a view of protecting the fish supply of the river, we decided to close against the use of fishing-nets the whole of Mullet Creek, the upper portions of Mooney Mooney, Mangrove, and Berowra Creeks, the whole of Marra Marra Creek, and Cowan Creek from Jerusalem Bay upwards.

Port Jackson.

These waters take fourth place in the order of productiveness. They show a large increase in the quantity of fish and prawns taken during the year, to secure which there has been no less than 119 licensed fishing-boats used for that purpose within the harbour. We cannot express ourselves as satisfied on the score of the quantity of fish and prawns caught, for we know that great destruction has been caused to fish life owing to the use of sunken nets, which we hoped to prevent by the clause relating to the sunk nets suggested by us in 1890.

The tributaries of the port we regard to be of very great importance as nurseries for spawning fish, but, although we keep them constantly closed against net-fishing, yet the great traffic and pollution of these waters by noxious trades and sewage and dredging operations are fast making useless what were good breeding grounds or nurseries.

We regard with disfavour the vast amount of pollution to which the waters are subjected, and which is emptied into the upper portions of the harbour from tanneries, &c. ; but, as the law now stands, we are powerless to take action in the matter.

We are also of opinion that the offal and other matter which is discharged outside the Heads should be taken very much further seaward than is the general rule, in order that it might be borne from the land by the tidal currents.

With regard to line fishermen, we cannot speak too strongly against the manner in which they wantonly destroy immature fish, our opinion being that such persons are the means of destroying more small fish than even the net fishermen. This subject also requires special attention, with a view to having some provision made for protecting the smaller fish.

In consequence of the large number of sharks within the waters of Port Jackson we have decided to recommend the Government to offer a reward for the destruction of these pests, on the following scale, viz. :—5s. for sharks from 8 feet to 10 feet in length, and 10s. for those over 10 feet, measured from snout to end of tail, which was approved of.

Botany Bay and George's River.

These waters have produced a little over 10,000 baskets of fish during the year. As fish-producing waters their value cannot be over-estimated, more especially during the summer months—when fish are sent to the markets or are sold in the suburbs perfectly fresh—from their adjacency to the city.

The class of fish caught appears chiefly to have been mullet and blackfish, whilst the catch of jewfish has exceeded the quantity obtained during any previous year.

As to the finer fish we cannot report any large increase in quantity caught by the net-fishermen, yet we have it on good authority that the line-fishers have been remarkably successful amongst them, their catches of whiting, red and black bream, being very large, but, considering that there are as many as 400 boats used for this purpose, we can hardly estimate the quantity so caught.

We are of opinion that the line-fishermen, here and elsewhere, destroy an incalculable number of immature fish, both in the open and closed waters, yet under the existing law we are powerless to prevent it.

We cannot pass on without drawing attention to the destruction of small fish through the constant use of the garfish net, which is used for general working.

The closed waters, which commence at the railway bridge and run upwards, were opened to the use of fishing nets by the expiration of the proclamation closing the same, with the result that the fish were "worked out." We therefore felt compelled to recommend a reclosure for a period of two years, which has had a marked effect on the quantities of fish now to be seen, clearly showing the beneficial results of such closures, as they are without doubt the backbone of all our fisheries.

Prawns.

These waters have produced large quantities of prawns during the year, more especially upon Lady Robinson's Beach. During the months of March and April the fishermen were catching up to 15 hampers of large sea prawns at a haul, and at Cook's River the average catch of smaller prawns was well kept up.

Lake Illawarra.

This lake is not alone important as a breeding ground and nursery for fish, but is valuable for its output, having during the year yielded no less than 6,189 baskets for Sydney consumption, and at least 1,000 baskets more for use at Wollongong and other places along the line. The catch for the previous year was 8,125 baskets, thereby showing a decrease of 936. We, to a great extent, attribute this to the want of closed waters. The previous closure expired in November, 1893, and not until August, 1894, were we able to have fresh closures made. For this vexatious delay we do not hold ourselves responsible, as the Act which we have to administer provides that only when the natural supply of fish has been exhausted by net-fishing or otherwise, to such a degree as to require rest for the recovery of such natural supply, we are then empowered to recommend the closure of such waters. It can be seen that we are placed at a disadvantage by having to patiently look on until the fish supply is exhausted before the law permits us to interfere, instead of allowing us the power to conserve when we see it is required.

The

The Inspector states that of the quantities caught, mullet, blackfish, bream, flathead, jewfish, and tarwhine, provide the most of the supply. With regard to black bream it is reported that the quantity caught exceeded that of any previous year, and from reports gathered elsewhere it appears that most of them were obtained upon the flats and channel at the lake's entrance, showing that they were caught when attempting to get into the lake.

Prawns.

Fairly large quantities of prawns have been caught in the lake during the year.

Shoalhaven River and Tributaries.

Although not great fish-producing waters, yet a fair catch was sent therefrom during the year, viz., about 2,000 baskets.

Jervis Bay.

We have no record of fish sent from here, but are informed that a fair quantity were sent to Sydney. The fish caught were garfish, bream, and schnapper.

Vast quantities of schnapper have been caught during the year here, both by licensed fishermen and pleasure parties, and it is only the long cartage that prevents it becoming a fair fishing station.

Berrewherè or Sussex Inlet and St. George's Basin.

This lake has produced about 1,000 baskets of fish during the year. We do not at present place much value upon it as a fish-producing water, on account of its remoteness from the markets. The fish require to be caught during the morning and delivered to the carters by 1 p.m. for transit to Nowra, a distance of 18 miles by 5-10 in the afternoon, where it leaves for Sydney to be sold the following morning.

We observe that a fair quantity of the finer fish are caught.

Upon report that the natural supply was exhausted we decided to close a portion of this water, and did so by recommending the whole of its channel from the sea entrance upwards and portion of the lake to be closed against the use of fishing nets for a period of two years. This will protect the lake considerably.

PARTICULARS of Prosecutions for infringements of the "Fisheries Act, 1881," and the "Oyster Fisheries Act, 1884," during the year 1894."

Name.	Nature of Offence	Result of Prosecution
S. Hibbs	Omitting to notify consignment of oysters	Five charges; £1 each.
R. Milduater	Unlawful net	Fined £2. Net returned.
R. Stewart	"	" £2. "
T. Gascoigne	"	" £2. "
G. Sly	Stalling	" £2. "
W. Sly	Taking licensed fisherman's haul	" £2. "
T. Pashley	"	" £2. "
F. Cameroux	Unlawful net	" £2. Net returned.
W. McClure	"	" £2. "
C. Gilson	"	" £2. "
A. Baxter	Fishing without a license	" 5s. "
R. Baxter	"	" 5s. "
"	"	" 5s. "
T. Green	"	" 5s. "
Joass Green	"	" 5s. "
John Green	"	" 5s. "
James Smith	"	" 5s. "
Joseph Smith	"	" 5s. "
C. Astley	Unlawful net	" £2. Net returned.
W. Burton	"	" £2. "
J. Parker	Fishing in closed waters	" £2. Net confiscated.
J. Taffe	"	" £2. "
J. Smith	"	" £2. "
J. Parker	Unlawful net	" £2. "
J. Taafc	"	" £2. "
J. Smith	"	" £2. "
T. Kelly	Fishing in closed waters	" £1. Net confiscated.
C. Brown	"	" £1. "
W. Gossland	"	" £1. "
G. Roberts	Taking licensed fisherman's haul	" £2. "
P. Scully	"	" £2. "
P. Higgs	"	" £2. "
F. McMillan	Unlawful net	" £2. Net returned.
A. Budge	"	" £2. "
A. Machmel	"	" £2. "
T. Holbert	"	" £2. "
C. Jennings	"	" £2. "
H. Boyles	"	" £2. "
H. Bagnall	"	" £2. "
E. Kennard	"	" £2. "
J. Roguo	Fishing without license	" 10s. "
H. Hyde	"	" 2s. 6d. "
J. Christie	"	" 2s. 6d. "
P. Hannell	"	" 2s. 6d. "
F. Mortrum	"	" 2s. 6d. "
E. Mortrum	"	" 1s. "
A. Mortrum	"	" 1s. "
T. Smith	"	" 2s. 6d. "

Name.	Nature of Offence.	Result of Prosecution.
J. Davis	Fishing without license	Finced 2s. 6d.
W. Glover	" "	" 2s. 6d.
F. Lange.....	" "	" 2s. 6d.
H. Sparkes	" "	" 2s. 6d.
Wm. Hollis	" "	" 2s. 6d.
H. Stammells.....	" "	" 12s. 6d.
W. Olive.....	" "	" 12s. 6d.
J. Riddle.....	" "	" 10s.
H. Maudsley	Fishing in unlicensed boat.....	" £2.
J. Beasley	Fishing without license	" 5s.
L. Young	" "	" 5s.
J. Gambuil.....	" "	" 5s.
W. Clouton	" "	" 5s.
F. Katoof	" "	" 5s.
Fat Choy.....	" "	" 5s.
Ah War	" "	" 5s.
Ah Charley.....	" "	" 5s.
Tom Toy.....	" "	" 5s.
Ah Lang	" "	" 5s.
T. Allen	" "	" 5s.
Fat Choy	Fishing in unlicensed boat.....	" 5s.
W. Clouton	" "	" 5s.
E. Brandt	" "	" 5s.
W. Bull	" "	" 5s.
E. Brandt	Unlawful net	" £2. Net returned.
W. Bull	" "	" £2. "
T. Dunn, junr.	Fishing in closed waters.....	" £2. Net confiscated.
F. Mosher	" "	" £2. "
A. Emerson	" "	" £2. "
H. Auguston	" "	" £2. "
J. Richards.....	" "	" £2. "
T. Dunn, junr.	Obstructing Inspector	" 10s.
F. Mosher	" "	" 10s.
A. Emerson	" "	" 10s.
H. Auguston	" "	" 10s.
J. Richards.....	" "	" 10s.
R. Frere	Fishing in closed waters.....	" £1. Net confiscated.
F. Christenson	" "	" £1. "
R. Frere	Giving Inspector wrong name	" 10s.
F. Christenson	" "	" 10s.
C. Woods	Fishing in closed waters.....	" 10s. Net confiscated.
T. Walker	" "	" 10s. "
D. Cotter	" "	" 10s. "
W. Ross	Unlawful net	" £2. Net returned.
G. Ross	" "	" £2. "
T. Parks	" "	" £2. "
W. Taylor	" "	" £2. "
J. Smith	" "	" £2. "
R. Smith	" "	" £2. "
J. Woods	" "	" £2. "
C. Hastie	Unlicensed boat	" 10s.
J. Hastie.....	" "	" 10s.
T. Taylor.....	Small fish	" 10s.
W. Johnson	Illegal net.....	" £1. Net returned.
R. Bowden	Inland Fisheries Act	" £3. Net confiscated.

Fisheries Inspectors' Reports.

Report on Port Stephens Fisheries for 1894.

Net Fish.

The past year has been marked by an increased output of fish, as compared with the last few years, the total being 6,593 baskets.

During the winter months considerable quantities of bream and whiting were obtained from Smith's Lake, and in the early part of the summer (1894-5) large hauls of mullet, fresh water eels, and perch, were made in the Broadwater, Myall Lake.

There is every reason to believe that immense quantities of marketable mullet and blackfish have been destroyed by the fishermen in the lakes named, as there has been no supervision of those waters. From time to time the work of salting and smoking fish on a limited scale has been carried on in the lakes, but the industry has not, I believe, been a payable one, for the lack of a market.

A number of fishermen have been prosecuting their calling during the year in the upper waters of the harbour, and supplying Stroud and Clarence Town with fish, but I have no record of the quantity thus dispatched, nor have I any record of the quantity conveyed overland *via* Tellegherry Creek. If it were possible to obtain these quantities it could be shown that the total output from Port Stephens would compare favourably with that from any of the fishing stations along our seaboard.

Forty-eight baskets of green prawns have been dispatched during the year, mostly caught in Broadwater, Myall Lake, although several baskets of sea prawns of large dimensions were caught in a gar-fish net at Narragut (outside the Heads) during the month of May. Their advent at the time rather surprised the fishermen concerned, and it is said, that had they had a prawn net ready at the time, some excellent catches might have been made.

In the early part of the year large quantities of young schnapper, about 3 inches long, were met with by fishermen when hauling their nets on the outer beaches.

Prawn drying was commenced for the first time in Myall Lake during the month of February, but heavy rains coming on about that time caused the prawns to suddenly disappear, and they did not reappear in quantity until about November.

Net

Net fishing became so unprofitable towards the end of the year, that many of the fishermen were forced to abandon their calling and seek other employment.

On an average thirty-eight men and fourteen boats were employed throughout the year.

The following calendar shows the ordinary varieties of fish caught and when in season:—

January,	{	Hard gut and sand mullet and black fish plentiful; travally fairly so; bream scarce about the harbour, but fairly plentiful in the upper tributaries, and on the outside sea beaches; sand whiting plentiful; trumpeter whiting scarce during February and March; prawns of large size plentiful in Myall Lake; smaller sized prawns fairly plentiful in upper waters of harbour; crayfish season ends about middle of January.
February,		
March.		
April,	{	Sea mullet were more plentiful than for several years past. During May several baskets of sea prawns were obtained on the outer beaches; the crayfish season commences about the 10th June.
May,		
June.		
July,	{	Sea mullet became scarce in July, none about in August and September; garfish plentiful; trumpeter whiting commenced to school in latter part of September; hard-gut mullet fairly plentiful; flathead plentiful; bream scarce; schnapper plentiful.
August,		
September.		
October,	{	Trumpeter whiting abundant; bream plentiful during November and December; sand whiting plentiful from November; prawns plentiful in Myall Lake during November and December; squire (young schnapper) plentiful.
November,		
December.		

Crayfish.

Crayfishing is an industry carried on exclusively outside the Heads. I am unable to give particulars of the catch for the year, but consider the quantity far exceeds that of some years past. In former years the industry was pursued by local and Hunter River fishermen, but, during the past year or so the Greeks and Italians (the latter encamped at Broughton Island) have gained a complete monopoly, and they now practically control the market. The system of using wire traps, set in bunches of ten to the bunch, introduced by the Italians, is a great improvement on the old style of hoop-nets formerly used in the catching of crayfish. There is reason to believe that many of the Greeks and Italians during the crayfish season evade taking out licenses, and thus defraud the revenue of a considerable sum. It is impossible, in many instances, to bring the law to bear upon them, as numbers of the men never come inside the Heads. It would be well if a close season for the protection of the female crayfish were proclaimed during about two months of the spawning season. The female fish predominates and is generally regarded as a greater delicacy than the male.

Oysters.

I have not a correct record of the output of oysters during the year, as some of the lessees forward their removal notices direct to the Department, but those that passed through my hands indicate that 388 bags were despatched. The oyster worm, which has created such havoc amongst the oysters, is still in existence, but to a lesser extent than formerly. It is possible that should dryer seasons ensue, the disease may ere long be entirely eliminated.

During the year seven leases were forfeited, ten surrendered, and one declared void.

Fisheries Office, Nelson's Bay, Port Stephens,
16 January, 1895.

H. LAMAN,
Acting Assistant Inspector of Fisheries.

Sir,

1 January, 1895.

I have the honor to submit the following report of the fisheries under my supervision during the year ending 31st December, 1894:—

In the closed waters, during January and February, mullet and jewfish were very plentiful; other varieties of fish were in medium quantities. During March the heavy freshets caused the greater part of these fish to leave the upper parts of the river. On the 19th April these waters were thrown open to net-fishing, and remained so till the 6th August. From September to the end of the year mullet and jewfish were very plentiful in all parts of closed waters. Anglers have had beautiful catches of black bream, whiting, flathead, and jewfish this year.

In the open waters, during January and February, fair quantities of mullet were to be caught about Oyster, Kogarah, and Woollooware Bays; while about Botany nice hauls of sea-garfish, trevally, and other fish were obtained. In March and April sea-mullet were in great abundance, several fishermen having from five to ten boat-loads penned up inside wire netting along the shores of Botany Bay. From the latter part of May to the end of June fish of all kinds were very scarce, several boats and crews deserting these waters for the Lakes, Cape Hawke, and Shoalhaven. July was notable for its great increase of fish, some of the largest freights of whiting and other fish I have seen caught in the river for some time being obtained just above the railway bridge at Como (these waters being open to net-fishing at this time). From August to the end of the year fish of all varieties were in fair quantities about all parts of the river and bay, but, owing to the blubber, fishermen were unable to obtain large hauls.

I may state that I consider the method now practised by the Botany fishermen in saving their mullet during the season—viz., a stockyard of wire netting fixed upon stakes in about 3 feet of water at low tide—a great improvement on the old style, as it enables them to keep their fish alive for weeks, and they can forward a supply of fresh fish to market daily instead of killing all at once and allowing them to lay on the beaches, as they have done previously.

Of prawns this has been a very prosperous season, they being very plentiful during January and February about the Salt-pan Creeks; but they dropped off in quantity from that time to the end of September, when they began to improve, and remained plentiful to the end of the year. In Cook's River, also, they have been plentiful, from seven to ten boats' crews making a living throughout the year; while about Lady Robinson's Beach, during April, they were very plentiful, about twelve boats working it regularly.

Oyster Fisheries.—I am sorry to state there is no improvement in the oysters of my district, the mud or worm disease still being very bad.

I have, &c,

J. D. GRANT,

Assistant Inspector of Fisheries.

George's River,
Liverpool,

Liverpool, 21 January, 1895.

Sir,

There is very little to report about the fishing in the upper reaches of the tidal waters of George's River. Fish have been very scarce this season, and I am of opinion that unless the sewerage from the factories on the banks of this river is purified in some way before it is discharged into the water, this splendid breeding ground for fish will be destroyed. It is of no use of the Government spending large sums of money yearly for the preservation of our fisheries if private firms are allowed to pollute the breeding grounds the same as is being done in this river. I have written to the press, I have called the attention of the Health Officer to the matter, and in my position as an alderman of the borough, I have spoken about it in my place at the council meetings until I have incurred the displeasure of the proprietors of these works. I would like the Commissioners to come and view this river for themselves.

In the fresh water above the dam the trout fry that were put in some time ago by Mr. Warby are doing well. I have heard that trout have been caught in the river at Glenfield, and also at the back of Minto station, but I have not seen them, but it is quite possible, for they may have come down from up above Campbelltown, where I put some in several years ago.

I am of opinion that the part of George's River from Mr. P. F. Adam's residence to Glenfield Farm, is one of the finest places in the Colony for the establishment of a Fish Hatchery, the water is pure and fresh, running over stony shallows to deep sandy bottoms, similar to the river at Clarke's Ford, close to Launceston, Tasmania, which is one of the best trout streams in that colony.

I have, &c.,

WILLIAM E. LEAROYD,

Hon. Inspector Fisheries.

Sir,

Wollongong, 25 January, 1895.

I do myself the honor to submit my annual report for the year ending 31st December, 1894.

During the year 7,189 baskets of fish have been taken from Lake Illawarra, of which 6,189 were sent to Sydney and 1,000 consumed locally. Ninety-seven baskets of prawns were taken during the last two months of the year. This is the first year prawns have been taken from the lake during my nine years supervision.

The varieties caught were mullet, black fish, bream, flathead, jewfish, and a fair quantity of whiting and tarwhine. Larger quantities of black bream and jewfish were taken last year than in previous years.

The lake is becoming a popular place of resort for amateur fishermen, and great quantities, principally black bream, are caught by line.

During the months of August, September, and October large quantities of black bream were caught in Mullet Creek, and other streams running into the lake. All the fish were large, from 2½ lb. to 6 lb. in weight, and all contained full roes and melts during those months.

The entrance at the sand-bar at the mouth of the lake still continues to be good, favouring the free ingress and egress of shoal and ground fish. Jelly-fish still continue to be a source of trouble, and greatly impede hauling operations. Deep sea fishing has been carried on with varying success, principally for local consumption. The channel is fairly well stocked with oysters, and there is no disease amongst them. Tom Thumb Lagoon and Para Creek have been closed, the former for a further period against net fishing, and the supply of fish is fair in these creeks. The oyster beds at the former place are in good condition.

I have, &c.,

D. W. BENSON.

Dear Sir,

Parliament House, Sydney, 31 October, 1894.

Enclosed please find letter from Mr. Edwards, of Bibbenluke, *re* trout, which may be of interest to you. I shall be glad if you will give him the directions asked for, should he have an opportunity of sending you a sample of the trout.

Faithfully yours,

GUS. T. C. MILLER.

Dear Sir,

Bibbenluke, 27 October, 1894.

I duly received your letter of 24th instant *re* fish. The trout I got here in the river at the house was a fine specimen of an English trout, silver-sides and belly, and dark red small spots on sides and belly, length 22 inches, girth 13 inches, weight a little under 6 lb. It was a female fish and had come into the shallow water to spawn; it had spawned but a little roe was left and found when the fish was opened. The male fish was seen about the same place two days after, it was much larger and more active. Some of the boys about the station had been pelting the fish; I caught and bruised it, or I would have let it go again. Several trout have been seen in this river some miles higher up, and also lower down, and some in the Delegate River 20 miles from here, so no doubt they are widely spread and increasing. I shall be glad to send Mr. Thompson the next one I get if he can tell me how to send it. We have not got ice here, and it would require to be put in spirits and I have no glass jars large enough to hold a moderately sized specimen. You did not send me the young fish you promised.

Yours, &c.,

HENRY B. EDWARDS.

Dear Sir,

Bibbenluke, 6 November, 1894.

I have the honor to acknowledge receipt of your letter of 3rd instant *re* trout.

Several fine fish have been seen in the river here lately, and some 20 miles lower down in the Delegate River, where I put in 100 young fish some two or three years ago.

I have seen a fine trout every evening this week in the river here, jumping at the flies, and it could be easily caught by anyone understanding angling, which I do not. I fear if I succeed in capturing one that I could not get the ice in time from Cooma to preserve it and send it to you, as we are 46 miles from the train.

Fish are constantly seen rising at the flies by my men who go fishing on an evening for cels.

I think there can be no doubt but that the trout are doing well in these streams and increasing.

I am, &c.,

HENRY B. EDWARDS.

Sir,

Sir,

Sydney, 6 November, 1894.

I have the honor to report for your information, I received instructions from the President to visit the trout ponds at Prospect reservoir. So on Monday, November 5th I went up to the ponds. I found the trout fry doing remarkably well, although the temperature of the water was 78 degrees in the ponds; the fry seemed to be strong and healthy.

I beg to call your attention to the temperature of the water in the reservoir. At a depth of 66 feet I found the temperature to be 67 degrees. On the surface, 78 degrees; at a depth of 40 feet, 66 degrees. In eight feet of water, near the outlet of the ponds, the thermometer recorded 78 degrees.

Considering the high temperature of the water, it was surprising to see the fry in such good health and condition.

I have, &c.,

GEORGE GLADING,
Boatman and Assistant Inspector.

Sir,

19 January, 1895.

I have the honor to report the following with reference to the waters of Lake Macquarie, which was under my supervision during the year 1894.

In the first place when I was sent here, just twelve months ago, the Lake Macquarie fishery as a whole was in a very bad state, fishermen were using long nets, besides doing pretty well as they liked in the closed waters, as a result it was some months after I came here that fish of any kinds could be seen in the closed waters, it was also some time before I could keep the fishermen within bounds, but eventually, a good number when they found that they could not do as they liked left here for other localities where no Inspector was stationed. During the months of March and April fish of all kinds were very plentiful about the Lake, particularly mullet, shoals of which could be seen everywhere, one shoal which I consider extended over five acres of water laid about for a week in the closed waters of the Lake entrance waiting for a favourable opportunity to travel.

Bream and whiting were very plentiful right through the months of June and July in the closed waters of channel entrance, they were travelling up channel to the Lake where some fine hauls were made by fishermen. Schnapper, jewfish, and soles were also plentiful during the winter months. Towards Christmas anglers were catching in the Lake entrance fine lots of bream, whiting, and flathead, their principal bait being prawns, a plentiful supply of which could be caught at night on the sand flats south of the entrance closure.

There was on an average seventy fishermen and twenty-five boats engaged in fishing, and the total number of baskets of fish sent to market and direct to different parts of the country was 11,574.

A number of fishermen were fined during the year for breaches under different sections of the Fisheries Act, some of them paying the fines, others being committed to gaol, while in some two or three cases the offenders took advantage of the time allowed them to pay the fines and cleared out to different parts of the world. I might state that the last-named were runaway sailors.

F. ALDRICH,

Assistant Inspector of Fisheries, Swansea.

Sir,

Hawkesbury River, 7 January, 1895.

I have the honor to submit my annual report on the Fisheries and Oyster Fisheries of the Hawkesbury River, the district under my charge. The fisheries of this large and important river I shall divide into the net and line fisheries and the oyster fisheries. I shall, with your permission, first deal with the net and line fisheries.

The net and line fishing industry is carried on all the year through, being principally confined to the lower part of the Hawkesbury River, and Pittwater, Cowan Creek, and all the large tributaries being at present closed against the use of fishing-nets. The waters mentioned give employment to from sixty to seventy men, and using from twenty to twenty-five boats and nets, more or less. The principal fish which resort these waters are mullet, bream, jewfish, blackfish, perch and whiting, and flathead.

The total quantity of fish sent to the Sydney market and suburbs during the past year is 5,991 baskets. Considerable line fishing is carried on by the licensed fishermen, and also by a large number of pleasure parties, with jewfish, bream, flathead, and an occasional schnapper, a fair supply of which has been caught during the summer months. Of the fishing-nets now chiefly used in the Hawkesbury River, I beg to report that the garfish-net, a most destructive net among small fish, is now generally used, and although garfish are seldom seen in this river, these nets are used all the year through.

It may not be known that these nets destroy small fish daily by the thousands; it is therefore idle to speak of protecting the fisheries, so long as these nets are allowed to be used. I beg also to state that pleasure parties destroy large quantities of immature fish, which, of course, they are allowed to do by the Act.

I beg further to state, for your information, that rumours have reached me that quantities of small, strange fish have been seen in Upper Colo Creek some months back; that several strange fish had been caught by certain residents, but I have not yet seen any. A resident from Colo informed me that he had not seen these fish since last winter. It is possible that these fish may be trout placed there by the Commissioners.

Of the oyster fisheries of this once famous Hawkesbury River, I beg to report that there are now only fifteen small leases in existence.

I beg to state, for your information, that the oyster foreshores everywhere are now seriously denuded of oysters; that no improvements have taken place in any of the leases.

I beg to state that certain localities are still infested with the worm disease, but they are mostly confined to low water, and below low-water mark. I have no hesitation in saying that plenty of oyster culture could be carried on in spite of this disease.

It is also much to be regretted that these lessees could not be compelled to go into oyster culture, or else give the leases up.

The total quantity of oysters shipped during the past year is 660 bags, but this quantity is not the result of legitimate oyster culture, but the result of thieving off the whole of the Crown lands of the Hawkesbury River.

I have, on former occasions, recommended the cancellation of the few remaining leases, as they are not held for oyster culture.

I have, &c.,

P. SMITH,

Assistant Inspector.

Memo.—

Memo.—

Whilst at the Clarence River I examined the oyster leases there, and I regret to say that I found most of the beds in a most deplorable state, through the worm disease, more especially lease 64, where every oyster is dead, even to the young ones of about three months growth. This was one of the most valuable beds on the river, and the origin of the disease may be traced to the deposit of shells and oysters from Sydney. The only way, in my opinion, to attempt to destroy the seat of the disease, which this lease undoubtedly is, would be to remove every shell from it, and leave everything on shore to bleach for say 12 months, and by this the worms will be destroyed in the shells, as also their eggs. The shells could then be laid down afresh. The bed is of no use in its present state, as no oysters can live with the pest, and by allowing the bed to remain as it is at present, it is a question whether this area is not distributing the disease; even the mere testing of the lease bits of diseased shell come into the boat only to be thrown over elsewhere to further distribute it.

Lease 888.—Disease not bad on this area; a fair supply of spat on shell and stones; marketable oysters not over plentiful; and if a few more bags be taken therefrom dredging should be stopped.

Lease 716.—Very fair supply of oysters; fair show of young stuff.

Lease 262.—Worm very bad; even the young oysters are full of it.

Lease 262A.—Next to the punt; very few oysters on it, but good bottom; being in close proximity to lease 64 it is perhaps fortunate that it is without oysters, as the disease from this area would destroy it.

I respectfully submit that there should be some supervision on this river to protect the few remaining oysters, and keep a sharp lookout for the disease from being removed from one bed to another, and to prevent beds being overworked, also to supervise the fishermen and the closed waters.

FREDK. W. SMITHERS.

11 December, 1894.

Memo.—

During my recent visit to the Hastings River I examined the leases there. I found on all of Dick's leases oyster cultivation has been carried on, and it is with pleasure that I can report the great results of his labours. His beds are well cared for, and are more than well stocked with oysters of marketable size; and his spat collectors are literally covered with young oysters, which he intends laying out as he has been doing all along. Dick collects his spat, and when of sufficient size they are transferred to suitable water to enable them to come to maturity. Altogether his beds are a credit, and I may say it is a pity others have not taken a lesson from him.

11 December, 1894.

FREDK. W. SMITHERS.

Memo.—

During my recent visit to the Manning River I made an examination of the beds now leased for oyster culture, and also the Crown lands not under lease.

I found the whole of the beds free from the disease. This is important.

As to the leased areas—taking Woodward's first, all his deep-water beds have a good supply of young stuff, and some of them are worked rather low; but his manager informs me that this working has been done before to thoroughly cleanse the beds and catching a fresh supply of spawn. I cannot endorse the correctness of this theory, as it simply means trusting to luck, and certainly without assisting nature. I would advise less working, and saving all stones dredged up from which oysters are taken off, and throwing such stones on shore to bleach before putting back on the bed, thus giving a better surface for spawn to stick to; and a quantity of shell might be served the same way. Also the foreshores of the beds might be utilised for laying down, and stones put down for catchment. If this were done it would prove of great benefit to Mr. Woodward. There is not the slightest doubt as to the oysters growing along the foreshores if any assistance be given to save spawn. Any stone which has been thrown along the foreshores by accident is covered with oysters.

His foreshore beds towards the old bar have a good supply of young oysters thereon.

The oysters throughout his leases are in good order, especially the deep beds, same as sample shown to the Commissioners. As to spawning, I submit a sample of it which must be considered as satisfactory.

Comino's bed, No. 29, is certainly a wonderful one. There were five boats working on it on my visiting there, and I found great destruction of young oysters being carried on, as all older oysters have their shells covered with young stuff; so whilst sending one marketable oyster to market at least six young ones are destroyed. I drew special attention of his men to this destruction; even the lessee, in his own personal interest, should have seen this.

The foreshores of this bed are not used for cultivation, although well suited for such.

The whole of the Crown lands not under lease have been cleared of oysters. If any supervision was on the river it would help to stop destruction of the young oysters.

In 1889 I find that oysters on the beds in the river were scarce; indeed the outlook was not promising, and no sign of a spat supply. But since, fortune has favoured the river, and I consider over a 1,000 bags of oysters will be sent to market this year. I must not omit to state that Messrs. Woodward and Comino have laid down continuously numbers of bags of New Zealand oysters on the river, more especially when oysters were scarce throughout the Manning; and perhaps to this may be attributed the fall of spat at end of 1889 and 1890.

29 December, 1894.

FREDK. W. SMITHERS.

During my last visit to Camden Haven I examined the whole of the areas leased to Mr. F. Gibbins, and it is with gratification that I am enabled to report favourably on the areas in question. Upon perusal of this report it will be seen that Mr. Gibbins belongs to the class of lessee which if the Colony had a few more of such, oyster culture would become a great success.

I found every available patch of his leases on the river was covered with ballast carefully placed in order to catch spat, thereby making barren foreshores prolific, as can be seen upon casually looking at the stones, which are covered with spat, when, upon their attaining a few months growth, they are carefully knocked off and placed upon other leases for maturing purposes. Again if whole stones are removed fresh ones are put down, everything in fact, being carried out in a most scientific and systematic manner. Any mangrove foreshores are utilised in the same way.

All along the foreshores of certain leases oysters are to be seen carefully laid down. With regard to quantities so placed, it would be impossible to estimate the number of bags that could be removed therefrom.

As to the idea that oysters removed from the Heads, mangroves, and from off the ballast heaps, would not thrive or pay if so laid down, is hereby exploded, as oysters from the three classes of places named are not alone growing well but have grown into splendid marketable oysters, and are of great saleable value.

The sequel to this success, in the first place, lies with the lessee studying conscientiously his future interests. 2. Carrying out oyster culture as far as his energy and means will permit. 3. Conservation of spat supply. 4. Avoiding overworking. 5. The interest taken in the matter by manager and men. 6. By paying the employees so much per week to attend to the areas, instead of so much per bag to gather them, as is done by others.

Taking the deep water beds as a whole they are very creditably managed indeed, and might be taken as a pattern by other oyster lessees.

The foreshores, which are used for catching spawn, present a wonderful contrast to that which prevails on other lessees' areas.

The foreshores, also, on which the oysters are laid down, present a magnificent sight, being a mass of oysters. It is highly satisfactory to know that such were removed from beds upon which they could not attain a large or rapid growth, and are now doing well where they have been transplanted, and it is still much more satisfactory to see the public estate improved in this manner.

On the whole, the oyster fisheries of Camden Haven are most complete and well worth paying a visit to.

FREDK. W. SMITHERS.

P.S.—In conclusion, I would draw attention to the fact that seven years ago Camden Haven was almost totally devoid of oyster life, and I submit that my report upon its present oyster bearing qualities will be received with pleasure by the Commissioners.

Lease 1,439.—800 yards. Has a depth of about 9 feet, and extends half-way across the creek. It has a bottom of white clay, covered with a thick layer of oyster shell, on which I found a large supply of young, and also marketable, oysters. Three years ago, this bed was stripped almost bare, and now could easily produce 900 bags of good marketable oysters without injuring it. Along the foreshore I found quantities of young oysters adhering to stones and roots of trees. Every haul I saw made, the dredge was full to the knife of oysters, and in splendid order.

Lease 2,240.—For the most part, the foreshores are covered with ballast laid down by the lessee, the remaining portion left untouched allowing the cobblers' pegs to catch the spat. The ballast is well covered with oysters, answering the purpose for which it was laid down, viz., to catch spat.

Lease 2,241.—A mangrove foreshore, upon which there is a good supply of oysters.

Lease 2,173.—This area is right down at the bar, and has a foreshore of soft rock which is used as a spat collector. 150 bags were taken from it last winter to be laid down elsewhere, and now the lease is one mass of oysters again.

Lease 2,185.—This lease is just inside the Heads; has foreshores of gravel and ballast; also utilised as a spat collector, and now well stocked with oysters, large and small.

Lease 2,204.—The whole of the foreshores of this area are covered with ballast, hundreds of tons being placed there with the object of catching oyster spat, and a most remarkable catch has been the result. Men are employed in removing bags of young oysters to the lessee's other beds for maturing purposes. Even from this lease numbers of bags of marketable oysters could be sent to Sydney. When stones with oysters are removed to other beds, fresh stones are put in their places.

Lease 542.—At old slip; has a rubble foreshore, and extends outwards about 60 yards with a rubble bottom at a depth of 10 feet, and upon which there is a good supply of oysters, both large and small. This bed is greatly used for laying down purposes. Over the bed a strong tide runs.

Lease 346.—Same class of bed as 542, and has a good supply of oysters upon it. One man dredges there at the rate of four bags a day. Some months ago quantities of oysters were placed here from lease 3,244 at the bar, and these have now developed into splendid shaped oysters.

Lease 348.—Extends outwards to depth of about 17 feet, has a good hard shelly bottom on which there is a good supply of oysters. In the deep waters there is a large amount of spat. The foreshores of the bed are utilised for laying down purposes, and the oysters laid down are doing remarkably well.

Leases 347 A and B.—These are remarkably productive beds, and must be taken together as they run from foreshore to foreshore. Most of the foreshores are used for laying down purposes, and the oysters thereupon and the oysters out in deep water are covered with spawn. Those in deep water are very plentiful, and I saw five bags a day gathered therefrom, which was thoroughly testing the capabilities of the lease. Care must be taken to prevent the dredge continuing to empty the silt in the vicinity of the lease for if this is carried on ruination of the oysters must follow.

Leases 742 and 849.—Mangrove foreshores and ballast laid down to catch spawn and oysters doing well upon it. Cobblers' pegs well stocked with spawn; all mangrove roots also covered with oysters, and from edge of pegs outward about 20 feet wide oysters laid down and doing well.

Lease 1,274.—Mangrove foreshores well stocked with oysters, and utilised for getting oysters to lay down elsewhere.

Lease 2,214.—Mangrove foreshore well stocked with oysters, and foreshore of same has oysters laid down, derived mostly from the mangrove and pegs, which are thriving well and of good shape and quality.

Lease

Lease 533.—The foreshore all ballast, smothered with oysters, and which was formerly a barren shore.

Lease 535.—Foreshore a bed of hard sand, shelly bottom; used largely for laying down purposes with oysters from other beds. There are hundreds of bags of oysters so laid down, and have turned miserable oysters into splendid marketable ones.

Lease 791.—Foreshore of hard sand, with shelly bottom; used for laying down oysters from rocks and mangrove. Hardly possible to estimate the quantity laid down, as there are such quantities all along the bed, and which are doing remarkably well.

Lease 2,242.—Used as a laying down bed only, the oysters so placed being brought from mangrove and rocks, and are doing well.

Lease 708.—Used as a laying down bed same as above.

Lease 1,244.—Mangrove foreshore, with cobbler's pegs and roots well covered with oysters. Outside the pegs, oysters laid down on good bottom with great success.

Lease 1,209.—There are very few oysters there at present, but ballast will soon be laid down for spawn to adhere to.

Lease 2,174.—Mangrove foreshore well stocked, and was only recently cleared of oysters to lay on other beds.

FREDK. W. SMITHERS.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

ROYAL COMMISSION ON FISHERIES.
(COPY OF.)

Ordered by the Legislative Assembly to be printed, 20 November, 1894.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen,
Defender of the Faith, and so forth.

To our trusty and well-beloved

The Honorable JOSEPH HECTOR CARRUTHERS, Esquire, our Secretary for Lands, of our Colony of
New South Wales ;

FRANK FARNELL, Esquire, a Member of the Legislative Assembly of our said Colony ; and

LINDSAY GEORGE THOMPSON, Esquire, Chief Inspector of Fisheries, and Secretary to the
Commissioners of Fisheries of our said Colony,—

GREETING :—

KNOW ye, that we, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you, or any two of you, as hereinafter mentioned, to make a diligent and full inquiry as to the best means of developing the Marine and other Fisheries of the said Colony, and as to the better regulation of that industry by law : And we do by these presents, grant to you, or any two of you, at any meeting or meetings to which all of you shall have been duly summoned, full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, to conduct such experiments as may appear necessary, and to inquire of the premises by all lawful ways and means : And we do give you power at your discretion to procure such clerical and other assistance as you may deem necessary for enabling you duly to execute this our Commission : And our further will and pleasure is that you do, within three months after the date of this our Commission, certify to us, in the office of our Chief Secretary, under your or any two of your hands and seals, what you shall find touching the premises : And we hereby command all Government officers and other persons whomsoever within our said Colony, that they be assistant to you and each of you in the execution of these presents : And we appoint you, the said Frank Farnell, Esquire, to be President of this our Commission, which said Commission we declare to be a Commission for all purposes of the Act 44 Victoriae No. 1, intituled “ *An Act to regulate the taking of Evidence by Commissioners under the Great Seal.*”

In testimony whereof, we have caused these our letters to be made patent, and the Great Seal of our said Colony of New South Wales to be hereunto affixed.

Witness our Right Trusty and Well-beloved Councillor, SIR ROBERT WILLIAM DUFF, Knight Grand Cross of our Most Distinguished Order of Saint Michael and Saint George, our Governor and Commander-in-Chief of our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this twentieth day of November, in the fifty-eighth year of our Reign, and in the year of our Lord one thousand eight hundred and ninety-four.

R. W. DUFF.

[L.s.]

By His Excellency's Command,
JAMES N. BRUNKER.

Entered on record by me, in Register of Patents, No. 16, page 265, this twentieth day of November, one thousand eight hundred and ninety-four.

For the Colonial Secretary and Registrar of Records,

CRITCHETT WALKER,
Principal Under Secretary.

1894-5.

NEW SOUTH WALES.

ROYAL COMMISSION ON FISHERIES.

REPORT

OF THE

ROYAL COMMISSION

APPOINTED ON THE

20TH NOVEMBER, 1894,

TO INQUIRE AND REPORT UPON THE BEST MEANS OF DEVELOPING THE
MARINE AND OTHER FISHERIES OF NEW SOUTH WALES,
AND AS TO THE BETTER REGULATION OF THE FISHING INDUSTRY BY LAW

TOGETHER WITH THE

MINUTES OF EVIDENCE AND APPENDIX.

Presented to Parliament by Command.



SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1895.
[5s.]

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MAP.

Sketch showing the Wingecarribee River and the adjacent river system

Sir,

Chief Secretary's Office, Sydney, 20 November, 1894.

I am directed by the Chief Secretary to transmit herewith a Commission under the Great Seal of the Colony, appointing you, in conjunction with the other gentlemen named therein, to be a Royal Commission to make a diligent and full inquiry as to the best means of developing the Marine and other Fisheries of the Colony, and as to the better regulation of that industry by law.

2. I am desired to add that the Governor-in-Council has also been pleased to appoint you to be President of the Commission.

3. You will be provided with such clerical and other assistance as may be deemed necessary for enabling you to execute the Commission.

I have, &c.,

GRITCHETT WALKER,

Principal Under Secretary.

Frank Farnell, Esq., M.P.

Commission.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen,
Defender of the Faith, and so forth.

To our trusty and well-beloved

The Honorable JOSEPH HECTOR CARRUTHERS, Esquire, our Secretary for Lands, of our Colony of
New South Wales ;

FRANK FARNELL, Esquire, a Member of the Legislative Assembly of our said Colony ; and

LINDSAY GEORGE THOMPSON, Esquire, Chief Inspector of Fisheries, and Secretary to the
Commissioners of Fisheries of our said Colony,—

GREETING :—

KNOW ye, that we, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you, or any two of you, as hereinafter mentioned, to make a diligent and full inquiry as to the best means of developing the Marine and other Fisheries of the said Colony, and as to the better regulation of that industry by law : And we do by these presents, grant to you, or any two of you, at any meeting or meetings to which all of you shall have been duly summoned, full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, to conduct such experiments as may appear necessary, and to inquire of the premises by all lawful ways and means : And we do give you power at your discretion to procure such clerical and other assistance as you may deem necessary for enabling you duly to execute this our Commission : And our further will and pleasure is that you do, within three months after the date of this our Commission, certify to us, in the office of our Chief Secretary, under your or any two of your hands and seals, what you shall find touching the premises : And we hereby command all Government officers and other persons whomsoever within our said Colony, that they be assistant to you and each of you in the execution of these presents : And we appoint you, the said Frank Farnell, Esquire, to be President of this our Commission, which said Commission we declare to be a Commission for all purposes of the Act 44 Victoriae No. 1, intituled “ *An Act to regulate the taking of Evidence by Commissioners under the Great Seal.* ”

In testimony whereof, we have caused these our letters to be made patent, and the Great Seal of our said Colony of New South Wales to be hereunto affixed.

Witness our Right Trusty and Well-beloved Councillor, SIR ROBERT WILLIAM DUFF, Knight Grand Cross of our Most Distinguished Order of Saint Michael and Saint George, our Governor and Commander-in-Chief of our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this twentieth day of November, in the fifty-eighth year of our Reign, and in the year of our Lord one thousand eight hundred and ninety-four.

R. W. DUFF.

[L.S.]

By His Excellency's Command,
JAMES N. BRUNKER.

Entered on record by me, in Register of Patents, No. 16, page 265, this twentieth day of November, one thousand eight hundred and ninety-four.

For the Colonial Secretary and Registrar of Records,

CRITCHETT WALKER,
Principal Under Secretary.

Sir,

Chief Secretary's Office, Sydney, 28 December, 1894.

I am directed by the Chief Secretary to transmit herewith a Commission under the Great Seal of the Colony appointing the Honorable Robert Hoddle Driberg White, M.L.C., to be a member of the Royal Commission to inquire into the Fishing Industry of the Colony in the room of the Honorable Joseph Hector Carruthers, Esquire, M.P., resigned.

I have, &c.,

CRITCHETT WALKER,

Principal Under Secretary.

Frank Farnell, Esquire, M.P.,

President of the Royal Commission to inquire into the Fishing Industry.

EXTENSION OF COMMISSION.

ROYAL COMMISSION TO INQUIRE INTO THE FISHING INDUSTRY.

WHEREAS it is necessary to extend the time within which the Commissioners are to make their report in the above matter: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the said Commissioners are to make such report for a period of six weeks—to take effect from the 20th instant.

Given under my hand at Government House, Sydney, this twenty-eighth day of February, one thousand eight hundred and ninety-five.

By deputation from His Excellency,

FREDK. M. DARLEY,

Lieutenant-Governor.

By His Excellency's Command,

JAMES N. BRUNKER.

ROYAL COMMISSION TO INQUIRE INTO THE FISHING INDUSTRY.

WHEREAS the time appointed for the return of the Commission in the above matter was by an instrument dated the twenty-eighth day of February last, extended for a period of six weeks: And whereas it is necessary to extend the same still further: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the Commission are to make their return to and for a further period of three months beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 4th April proximo.

Given under my hand at Government House, Sydney, this twenty-sixth day of March, one thousand eight hundred and ninety-five.

FREDK. M. DARLEY,

Lieutenant-Governor.

By His Excellency's Command,

JAMES N. BRUNKER.

ROYAL COMMISSION ON FISHERIES.

MINUTES OF PROCEEDINGS.

TUESDAY, 4 DECEMBER, 1894.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The Commission, and the letter of the Principal Under Secretary accompanying it, were read by the Secretary to the Commission.

A letter was read from the Principal Under Secretary, stating that a communication had been received from the Hon. J. H. Carruthers, Secretary for Lands (who had been appointed to the Royal Commission on Fisheries), resigning his appointment as a member of the Commission.

The Secretary read a letter from the Principal Under Secretary, addressed to the President, stating that the Chief Secretary had approved of the appointment of Mr. Walter D. White as Secretary and Shorthand Writer to the Commission.

It was decided to communicate with the Chief Secretary, with a view of having a third gentleman appointed in the place of the Hon. J. H. Carruthers, the members of the Commission present deeming it inexpedient to proceed with any business until the Commission was complete.

The Secretary was instructed to obtain from the Government Printer the Report, together with Minutes of Proceedings, Evidence, and Appendices of the Oyster Culture Commission; Report of the Fisheries Inquiry Commission; and Reports of the Select Committees on the Working of the Fisheries Acts.

The members of the Commission then deliberated as to the manner of instituting a complete inquiry into the present condition and future prospects of the Fisheries of New South Wales.

[The members of the Commission, at 12:40 a.m., adjourned *sine die*.]

WEDNESDAY, 19 DECEMBER, 1894.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The President announced that the Government had been pleased to appoint the Hon. Robert Hoddle Driberg White, M.L.C., to the Commission, *vice* the Hon. J. H. Carruthers, M.P., resigned.

Correspondence :—

Letter from Miss Manning, "Levuka," Edgecliffe-road, Woollahra, with reference to the proposed publication of a cheap book on Australian Fish Cookery.

The Secretary was instructed to inform the writer that the Commission would, in all probability, communicate with her at a later date, and that any suggestions she might be able to offer would be considered.

From D. Murray, 106, King-street, Sydney, with regard to the capture of deep-sea fish by means of an electric glow-lamp suspended inside a trap, and asking for assistance in obtaining the use of the Government steamer "Thetis" for a few nights in order to test his invention.

The Secretary was instructed to reply stating the Commission would be pleased to hear Mr. Murray's views upon the subject at the next meeting.

The Secretary was directed to write to the Chief Secretary requesting him to relieve Mr. Lindsay G. Thompson from his official duties as Secretary to the Fisheries Commissioners, that gentleman's services being considered indispensable in assisting in carrying out the work of the Royal Commission on Fisheries.

The Secretary was instructed to communicate with the Chief Secretary asking him to procure, for the use of the Commission, copies of Acts of Parliament, Reports of Royal Commissions, Select Committees, and other documents relating to the Fisheries in Victoria, Queensland, New Zealand, and Tasmania.

The Hon. R. H. D. White offered to place his steam-yacht, "White Star," at the service of the Commission during their inquiry into the condition of the Fishing Industry in New South Wales, on condition that the wages of certain men employed on the vessel be paid by the Commission.

The President thanked Mr. White for his offer.

The Commission considered a circular letter having reference to the development of the Deep-sea Fisheries, which it was proposed should be forwarded to the Colonial Secretary.

The Commission considered and adopted the lines of procedure for the carrying out of their inquiry.

The Commission, at 1 p.m., adjourned until 2 o'clock.

The Commission met at the Ministerial Room, Legislative Assembly, at 2 p.m., where they interviewed Mr. Rock Davis, shipbuilder, of Brisbane Water, with reference to the construction of a vessel suitable for trawling purposes, and a well-boat.

[The Commission, at 3 p.m., adjourned until Thursday, 10th January, 1895.]

THURSDAY, 10 JANUARY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Correspondence :—

Letters from Mr. Rock Davis, Blackwall, Brisbane Water, and C. W. Darley, Esq., Engineer-in-Chief for Harbours and Rivers, with reference to the cost of constructing a steam-trawler and a well-boat for deep-sea fishing.

Letter from Miss Manning, "Levuka," Edgecliffe-road, Woollahra, with reference to the proposed publication of a cheap book on Australian Fish Cookery.

Letter from Critchett Walker, Esq., C.M.G., Principal Under Secretary, stating that the Chief Secretary had approved of Mr. Lindsay G. Thompson, J.P., being relieved of his official duties as Secretary to the Fisheries Department until the completion of the labours of the Royal Commission on Fisheries.

Letter from the Principal Under Secretary, stating that the Prime Ministers of Victoria, Queensland, New Zealand, and Tasmania had been invited to furnish, for the information of the Commission, copies of Acts of Parliament, &c., relating to the Fisheries of their respective Colonies.

Letter from The Capitaine Oil Engine Co., Sussex-street, Sydney, with reference to the merits of the Capitaine Oil-Engine.

Letter, with papers, from T. T. Ewing, Esq., M.P., with reference to Mr. West's oyster-lease, Ballina.

The correspondence was received.

The Secretary was instructed to inform Miss Manning that the Commission would invite her to give evidence at a later date.

The Secretary was instructed to forward Mr. Ewing's letter and papers to the Chief Secretary, and to state that it having been ascertained by reference to the Fisheries Department that Mr. Ewing suggested that, under the circumstances detailed, half of the amount paid by Mr. West might be refunded, the Commission were of opinion that that was a matter in which, if Mr. Bruncker saw fit, he might exercise his clemency.

The Commission further considered a circular letter, having reference to the development of the Deep-sea Fisheries, which it was proposed should be forwarded to the Chief Secretary.

The letter was verbally amended and passed.

It was resolved that the Commission should present the letter to the Chief Secretary at 11:30 a.m. on Friday, the 11th instant.

[The Commission; at 12:10 p.m., adjourned until 11:15 a.m. on Friday, 11th January.]

FRIDAY, 11 JANUARY, 1895.

The Commission met at the Offices, Bligh-street, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to the Chief Secretary's Office, Macquarie-street, and interviewed the Chief Secretary with reference to the question of developing the Deep-sea Fisheries of New South Wales.

The President read a letter dealing with the subject, at the conclusion of which Mr. Bruncker promised to lay the matter before the Government at the earliest opportunity.

[The Commission, at 12:45 p.m., adjourned until Wednesday, 16th January.]

WEDNESDAY, 16 JANUARY, 1895.

The Commission met at "Menzies' Hotel," Melbourne, at 4 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission deliberated as to the best manner of prosecuting their inquiries in Victoria and Tasmania.

[The Commission, at 5 p.m., adjourned until 10:30 a.m. on Thursday, 17th January.]

THURSDAY,

11

THURSDAY, 17 JANUARY, 1895.

The Commission met at the Town Hall, Melbourne, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, accompanied by the Town Clerk of Melbourne (John Clayton, Esq.), proceeded to inspect the new Fish, Meat, and Farm Produce Markets in Flinders-street, where they were shown the method of receiving and disposing of fish; a new refrigerating truck suitable for the carriage of fish or meat for long distances by rail; and the cool storage and freezing chambers.

In the afternoon the Commission had an interview with the Premier of Victoria (Hon. G. Turner), and several members of the Cabinet in the Ministerial Room, Parliament House. The subject of fisheries and fisheries' legislation was under discussion.

Subsequently, the Commission called upon Dr. Wollaston, Secretary for Customs.

[The Commission, at 5 p.m., adjourned until 11 a.m. on Friday, 18th January.]

FRIDAY, 18 JANUARY, 1895.

The Commission met at "Menziess Hotel," Melbourne, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission interviewed the Minister for Railways with reference to their visit to Victoria.

The Commission, at 5 p.m., sailed for Launceston, per the steamer "Pateena."

MONDAY, 21 JANUARY, 1895.

The Commission met at "Hadley's Hotel," Hobart, at 5:15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission inspected the well-boats and fish-tanks in the harbour, and subsequently visited the Fish Markets during the auction sales.

Later in the day the Commission had an interview with the Chief Secretary of Tasmania (Hon. W. Moore, M.L.C.), and other members of the Government of Tasmania.

TUESDAY, 22 JANUARY, 1895.

The Commission met at "Hadley's Hotel," Hobart, at 7:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

At 8 a.m. the Commission, at the invitation of the Chief Secretary of Tasmania (Hon. W. Moore, M.L.C.), proceeded by express train to the Plenty River Station, from whence they were conveyed in vehicles to the Salmon Ponds at New Norfolk. Here the Commission inspected the fish hatcheries and grounds, the method adopted in dealing with the ova and breeding and developing the salmon, brown trout, and Loch Leven trout, being explained by Mr. Matthew Seal, President of the Tasmanian Fisheries Commission, and Mr. A. Morton, Curator of the Tasmanian Museum.

The Commission returned to Hobart at 7 p.m.

THURSDAY, 24 JANUARY, 1895.

The Commission met at the Town Hall, Hobart, at 10:45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to take evidence concerning the Fishing Industry in Tasmania.

The following witnesses were sworn and examined:—Alexander Morton, Esq., Curator of the Tasmanian Museum, and a member of the Tasmanian Fisheries Commission; Mr. John Whelan, Inspector of the Fish Market, Hobart; Mr. William Gates, fisherman, Hobart; Mr. Daniel Jones, fisherman, Hobart; Phillip Samuel Seager, Esq., a member of the Tasmanian Fisheries Commission; Matthew Seal, Esq., President of the Tasmanian Fisheries Commission; Mr. Frederick Self, Water Bailiff to the Tasmanian Fisheries Commission; and Mr. Frederick Pender, commission agent and wholesale exporter of fish, Hobart.

The

The Commission concluded the taking of evidence in Hobart at 4 p.m.

Subsequently the Commission, accompanied by Matthew Seal, Esq., President of the Tasmanian Fisheries Commission, paid a visit of inspection to the Fish Market, and examined a number of well-boats lying in the Victoria Dock, and on the slip at Battery Point.

[The Commission, at 5:30 p.m., adjourned until 11 a.m. on Friday, 25th January.]

FRIDAY, 25 JANUARY, 1895.

The Commission met at "Hadley's Hotel," Hobart, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to the Government buildings, Hobart, where they had an interview with Sir Edward Braddon, K.C.M.G. (Premier of Tasmania), on the subject of the fishing industry in Tasmania.

[The Commission adjourned at 12:45 p.m.]

MONDAY, 28 JANUARY, 1895.

The Commission met at "Hadley's Hotel," Hobart, at 5 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission paid another visit to the Hobart Fish Market, where they inspected the fishing craft and stock of live fish in the wells, together with the fish-boxes and fishing-nets of various descriptions. Subsequently the Commission, accompanied by Mr. Thomas Rush, a member of the Tasmanian Fisheries Commission, attended the fish auction sales at the Fish Market.

Later in the day the Commission, at the invitation of Matthew Seal, Esq., President, and the members of the Tasmanian Fisheries Commission, were taken on a visit of inspection to various fishing-grounds and breeding-places in the Upper and Lower Derwent.

[The Commission, at 6 p.m., adjourned until Thursday, 31st January.]

THURSDAY, 31 JANUARY, 1895.

The Commission met at the "Launceston Hotel," Launceston, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

While in Launceston, the Commission interviewed Messrs. H. Weedon and R. F. Irvine (members of the Tasmanian Fisheries Commission), and discussed with them the fisheries laws of Tasmania.

The Commission left Launceston for Melbourne, per the s.s. "Pateena," in the afternoon, and arrived at Melbourne on Friday, 1st February.

FRIDAY, 1 FEBRUARY, 1895.

The Commission met at "Menziess' Hotel," Melbourne, at 3:30 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission had under consideration an invitation from the Hon. R. W. Best (Minister for Lands and Customs) to pay a visit of inspection to the various fishing centres along a portion of the Victorian Coast and to the Gippsland Lakes.

The Commission decided to accept the invitation and to meet on board the Victorian Government steamer "Lady Loch," at Port Melbourne, at 11 a.m. on Saturday, 2nd February.

[The Commission, at 4:30 p.m., adjourned until the following day.]

SATURDAY,

SATURDAY, 2 FEBRUARY, 1895.

The Commission met on board the Victorian Government steamer "Lady Loch," Port Melbourne, at 11 a.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, accompanied by the Hon. R. W. Best (Minister for Lands and Customs), proceeded down Hobson's Bay to Queenscliff where they landed, inspected the fishing boats and nets, and took evidence relative to the fishing industry.

The following witnesses were examined:—Captain John Pratt, master of the schooner "Elsinore"; Mr. Benjamin Chidgey, owner of the fishing boat "Olive"; Mr. George Werry, owner of the fishing boat "Surge"; and Mr. Cuthbert Fox, owner of the fishing boat "Petrel."

[The Commission adjourned at 6 p.m.]

SUNDAY, 3 FEBRUARY, 1895.

The Commission met on board the s.s. "Lady Loch," in Westernport Bay, Victoria, at 10 a.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to Hastings, a fishing settlement in Westernport Bay, and inspected a number of fishing craft and nets at the pier. Subsequently the Commission interviewed several of the fishermen by whom they were informed that there were between eighty and 100 fishing boats employed in the bay, and over 200 men and boys engaged in the fishing industry. No evidence was taken.

[The Commission adjourned at 1 p.m.]

MONDAY, 4 FEBRUARY, 1895.

The Commission met on board the s.s. "Lady Loch," in Corner Inlet, Victoria, at 1:30 p.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission subsequently proceeded to the pier at Welshpool, Corner Inlet, where they spent some time in inspecting the fishing craft, nets, fish, and fish-boxes. Later on they witnessed the packing of the day's catch of fish in boxes which were supplied with ice prior to their being forwarded by rail to the Melbourne Market. Afterwards the Commission took the evidence of Mr. William Moore, a representative fisherman of Welshpool.

[The Commission adjourned at 6 p.m.]

TUESDAY, 5 FEBRUARY, 1895.

The Commission met at "Gray's Hotel," Port Albert, Victoria, at 11:30 a.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission after inspecting the fishing boats in the harbour, together with the fishing nets and other appliances, took the evidence of Mr. Henry Avery, Secretary to the Port Albert Fishermen's Association.

[The Commission adjourned at 1:30 p.m.]

WEDNESDAY, 6 FEBRUARY, 1895.

The Commission met on the s.s. "Lady Loch," at Lakes Entrance, Victoria, at 9:30 a.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Thomas Jemmeson, a practical fisherman, was sworn and examined respecting the method of fishing pursued by the fishermen at the Lakes Entrance.

[The Commission adjourned at 10:15 a.m.]

WEDNESDAY

WEDNESDAY, 6 FEBRUARY, 1895.

The Commission met at the "Temperance Hotel," Paynesville, Gippsland Lakes, at 1:30 p.m.

PRESENT :—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Thomas Murray, a practical fisherman, was sworn and examined.

When crossing Lake King the Commission proceeded in a dingy to a spot where some fishermen were hauling their nets and spent some time in watching the men at work.

[The Commission adjourned at 6 p.m.]

THURSDAY, 7 FEBRUARY, 1895.

The Commission met on the s.s. "Lady Loch," at Lakes Entrance, Victoria, at 7:30 a.m.

PRESENT :—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to the jetty at Cunninghame, where they inspected a surf-net and fishing boat belonging to a fisherman named Thomas Jemmeson who, on the previous day, had given evidence respecting fishing as carried on on the Ninety-mile Beach. The surf-net was opened out on the jetty and its construction explained to the Commission. The following is a description of the net in question :— The centre of the bunt is slit to a 12-foot opening. To this opening a bag 5 fathoms long and 4 fathoms wide is laced, and to this bag a second bag 4 fathoms long and 4 fathoms wide is attached with a lacing. The second bag is composed of salmon twine. Small corks are fixed along the top of the bags at intervals of 18 inches.

The Commission, at 8:30 a.m., proceeded by steamer to Sale, *via* the Gippsland Lakes, and reached Melbourne at 10:45 p.m. the same day.

FRIDAY, 8 FEBRUARY, 1895.

The Commission met at "Menzies' Hotel," at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C., | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission considered an invitation from the Hon. R. W. Best (Minister for Lands and Customs) to visit Geelong on the 9th instant, and inspect the fish hatcheries at the Lovely Banks, distant some 7 miles from Geelong.

The Commission decided to accept the invitation and the Secretary was instructed to reply in terms of their decision.

The Commission also decided to accept the invitation of Sir Samuel Wilson to visit Ercildoune, on Monday, the 11th instant, for the purpose of inspecting the fish hatcheries at that place.

[The Commission at 11:45 a.m. adjourned until 10 a.m. on Saturday, the 9th instant.]

SATURDAY, 9 FEBRUARY, 1895.

The Commission met at "Menzies' Hotel," at 10 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C., | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, accompanied by the Hon. H. Cuthbert, M.L.C., and Dr. Wollaston, at 10:55 a.m., proceeded to Geelong, where they were met by the Hon. J. H. Connor, M.L.C., and the members of the Geelong and Western District Fish Acclimatising Society, by whom they were shown the fish hatcheries, the ponds, and the grounds at the Lovely Banks.

[The Commission returned to Melbourne at 8:30 p.m.]

MONDAY,

MONDAY, 11 FEBRUARY, 1895.

The Commission met at "Menzies' Hotel," at 6 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C., | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, at 6:30 a.m., proceeded by train to Burrumbeet, and from thence by vehicle to Ercildoune, where they inspected the fish hatcheries and breeding ponds established and maintained by Sir Samuel Wilson, who exhibited some good specimens of the *Salmonidae*, and gave particulars regarding the success that had attended his efforts at introducing English, American, and other varieties of fish into Australian waters.

The Commission, at 3 p.m., left Ercildoune for Ballarat, arriving at that city at 5 p.m. The Commission, accompanied by the Hon. E. Morey (Mayor of Ballarat), drove to the Gardens, where they inspected the fish hatcheries and ponds belonging to the Ballarat Fish Acclimatisation Society, who possess a very complete and valuable establishment, and whose efforts in acclimatising English and American fish have been attended with marked success.

[The Commission left Ballarat at 7:25, and arrived in Melbourne at 10:35 p.m.]

TUESDAY, 12 FEBRUARY, 1895.

The Commission met at "Menzies' Hotel," Melbourne, at 3 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

John Clayton, Esq., Town Clerk of Melbourne, was sworn and examined.

[The Commission, at 5 p.m., adjourned until 3 o'clock p.m. on Wednesday, the 13th February.]

WEDNESDAY, 13 FEBRUARY, 1895.

The Commission met at "Menzies' Hotel," Melbourne, at 3 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission left for Sydney, by express train, at 5:15 p.m.

MONDAY, 18 FEBRUARY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission deliberated as to the most expeditious and satisfactory method of conducting their inquiries into the condition of the fishing industry in New South Wales.

The Secretary was instructed to write to the Principal Under Secretary, asking him to invite the Chief Secretary to extend the period of the Commission's operations for a term of three months.

[The Commission, at 12:30 p.m., adjourned until 11 a.m. on Wednesday, 20th February.]

WEDNESDAY, 20 FEBRUARY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary, in reply to the President, reported that no communication had been received from the Chief Secretary regarding the extension of three months asked for by the Commission, to enable them to continue their investigations into the condition of the fishing industry in New South Wales.

[The Commission adjourned, pending the receipt of a letter from the Chief Secretary, with reference to the application for an extension of time.]

FRIDAY,

FRIDAY, 1 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 3 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from the Principal Under Secretary, transmitting an instrument under the hand of His Excellency the Lieutenant-Governor, with the advice of the Executive Council, extending the time within which the "Report of the Royal Commission appointed to inquire into the Fishing Industry of New South Wales is to be made for a period of six weeks beyond the time appointed for the purpose," to take effect from the 20th February, 1895.

The President of the Commission was requested to communicate with the Principal Under Secretary acknowledging the receipt, on 1st March, 1895, of the letter and to ask him to be good enough to note that over nine days of this authorised extension of time had already expired, during which period the executive functions of the Commission had necessarily to be suspended.

[The Commission, at 4 p.m., adjourned until Wednesday, 6th March.]

WEDNESDAY, 6 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Bertram Horwitz, Esq., Superintendent of Agents, the Equitable Life Assurance Society of the United States, (Sydney office) was sworn and examined.

[The Commission, at 12.15 p.m., adjourned until Friday, 8th March.]

FRIDAY, 8 MARCH, 1895.

The Commission met at the "Albion Hotel," Nowra, at 2.30 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. George Haiser, oyster lessee, Greenwell Point, Crookhaven River; Robert Lonesborough, fisherman, Crookhaven River.

[The Commission, at 4.45 p.m., adjourned until Saturday, 9th March.]

SATURDAY, 9 MARCH, 1895.

The Commission met at the "Albion Hotel," Nowra, at 9.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to Greenwell Point, Crookhaven River, where they closely inspected several oyster beds, at which there were evidences of destruction caused by the ravages of the worm. They also inspected several new layings in different parts of the Crookhaven and Shoalhaven Rivers.

Subsequently the Commission took evidence at the wharf, Greenwell Point, when Mr. Richard Baxter, fisherman, Greenwell Point, and Mr. Thomas Wilson, fisherman, Greenwell Point, were sworn and examined.

[The Commission, at 6 p.m., adjourned until Monday, 11th March.]

MONDAY, 11 MARCH, 1895.

The Commission met at the "Illawarra Lake Hotel," Dapto, at 10 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took evidence with respect to the Lake Illawarra fisheries. Mr. Edwin Barber, fisherman, Lake Illawarra, Mr. George Daniel Hockey, fisherman, Shellharbour, and Mr. James William Smith, fisherman, Lake Illawarra, were sworn and examined.

The Commission, at 3.30 p.m., proceeded to Lake Illawarra, and inspected some of the fisheries there.

[The Commission, at 7 p.m., adjourned until 8.15 p.m. the same day.]

MONDAY,

MONDAY, 11 MARCH, 1895.

The Commission met at the "Illawarra Lake Hotel," Dapto, at 8.15 p.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. David Walker Benson, Assistant Inspector of Fisheries, Department of Fisheries, Wollongong, was sworn and examined.

[The Commission, at 10.50 p.m., adjourned.]

FRIDAY, 15 MARCH, 1895.

The Commission met at the "Court-house, Newcastle," at 10 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Joel Tresidder, fisherman, Carrington, Mr. Edward Edmund Bull, fisherman, Waratah, Mr. Hans Anderson, superintendent of Mr. Gibbins' Oyster Fisheries, Hunter River, and Mr. Hartley Spur, fishmonger, Newcastle, were sworn and examined.

Subsequently the Commission proceeded by steamer up the Hunter River, and inspected a number of oyster fisheries there. Some dredgings took place, and the Commission had an opportunity of seeing the ravages caused by the worm disease.

[The Commission, at 6 p.m., adjourned until 7.30 p.m. the same day.]

FRIDAY, 15 MARCH, 1895.

The Commission met at the "Great Northern Hotel," Newcastle, at 7.30 p.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Henry Limeburner, fisherman, Newcastle, was sworn and examined.

[The Commission, at 8.45 p.m., adjourned until Saturday, 16th March.]

SATURDAY, 16 MARCH, 1895.

The Commission met at the "Toronto Hotel," Lake Macquarie, at 10.15 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. George Parker, fisherman, Lake Macquarie, Mr. Daniel McGuinness, fisherman, Lake Macquarie, Mr. Theodore Gambrill, fisherman, Dora Creek, Lake Macquarie, and Mr. Lars Jansen, fisherman, Lake Macquarie, were sworn and examined.

[The Commission, at 6 p.m., adjourned until Monday, 18th March.]

MONDAY, 18 MARCH, 1895.

The Commission met at the "Brooklyn Hotel," Brooklyn, Hawkesbury River, at 10.45 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Joseph Izzard, fisherman, Hawkesbury River, Mr. James Ross, fisherman, Peat's Ferry, Hawkesbury River, and Mr. Peter Smith, Assistant Inspector of Fisheries, Hawkesbury River, were sworn and examined.

[The Commission, at 5.45 p.m., adjourned until Wednesday, 20th March.]

WEDNESDAY, 20 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Frank Aldrich, Assistant Inspector of Fisheries, Lake Macquarie, was sworn and examined.

[The Commission adjourned at 1 p.m. until Thursday, 21st March.]

THURSDAY, 21 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary was instructed to write to the Principal Under Secretary, asking him to invite the Chief Secretary to grant an extension of time (three months) to the Commission, to date from the expiration of the current term.

[The Commission, at 11.45 a.m., adjourned until Saturday, 23rd March.]

SATURDAY, 23 MARCH, 1895.

The Commission met at the "Royal Hotel," Gosford, at 11.10 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined :—Mr. Simon Luccani, fisherman, Woy Woy, Brisbane Water; Mr. William Adolphus Hannon, fisherman, Blackwall, Brisbane Water; Mr. William Charles Browne, B.A., St. Hubert's Isle, Brisbane Water; Mr. Frederick Henry Chapman, Kincumber; and Mr. Peter Petersen, fisherman, East Gosford.

[The Commission at 4 p.m. adjourned.]

SUNDAY, 24 MARCH, 1895.

The Commission met at the "Royal Hotel, Wyong, at 9.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission at 10 a.m. proceeded to the Tuggerah Lakes and availed themselves of an opportunity to observe the extent to which seine-hauling became destructive to young fish.

[The Commission, at 7 p.m., adjourned until Monday, 25th March.]

MONDAY, 25 MARCH, 1895.

The Commission met at the "Royal Hotel," Wyong, at 9.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined :—Mr. Charles Kavlie, fisherman, Wyong; Mr. Jeremiah Cremen, fisherman, Wyong; Mr. Nicolas Boyaze, fisherman, Tuggerah Lakes; Mr. Francis Aldrich, Assistant Inspector of Fisheries at Lake Macquarie, and Mr. Robert Izzard.

[The Commission, at 4.20 p.m., adjourned until Tuesday, 26th March.]

TUESDAY,

TUESDAY, 26 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took evidence respecting the whaling industry.

Captain John B. Carpenter, late master of the whaling vessel "Costa Rica Packet," was sworn and examined.

[The Commission, at 12:50 p.m., adjourned until Wednesday, 27th March.]

WEDNESDAY, 27 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took evidence respecting the deep-sea fisheries of New South Wales, the whaling industry, and the advisability of making an experiment in trawling on the coast.

Captain Joseph Coulon, late owner of the well-boat "Dauntless," and Captain Robert Arthur, fisherman, Botany, were sworn and examined.

[The Commission, at 1:35 p.m., adjourned until Friday, 29th March.]

FRIDAY, 29 MARCH, 1895.

The Commission met at the Offices, Bligh-street, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from the Principal Under Secretary, transmitting an instrument under the hand of His Excellency the Lieutenant-Governor, with the advice of the Executive Council, extending the time "within which the Report of the Royal Commission appointed to inquire into the Fishing Industry is to be made for a further period of three months beyond the time appointed for the purpose, to take effect from the 4th April proximo."

The Commission proceeded to consider a Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 1:30 p.m., adjourned until Saturday, 30th March.]

SATURDAY, 30 MARCH, 1895.

The Commission met at the "Narrabeen Hotel," Narrabeen, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. Charles John Hastie, fisherman, Pittwater; Mr. Thomas John West, Paddington; Mr. Donald M'Lean, Narrabeen; and Mr. Paget Bayly, Brookvale, Manly.

[The Commission, at 4:30 p.m., adjourned until Monday, 1st April.]

MONDAY, 1 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10:15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

James Charles Cox, Esq., M.D., President of the Fisheries Commission, and James Richard Hill, Esq., a member of the Fisheries Commission, were sworn and examined.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 5 p.m., adjourned until 10:15 a.m. on Tuesday, 2nd April.]

TUESDAY,

TUESDAY, 2 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C., | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Hon. Solomon Herbert Hyam, M.L.C., a member of the Fisheries Commission, and the Hon. William Robert Campbell, M.L.C., a member of the Fisheries Commission, were sworn and examined.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3.40 p.m., adjourned until 10.15 a.m. on Wednesday, 3rd April.]

WEDNESDAY, 3 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C., | Lindsay George Thompson, Esq., M.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

James Charles Cox, Esq., M.D., President of the Fisheries Commission, sworn, was further examined.

[The Commission, at 3.30 p.m., adjourned until Thursday, 4th April.]

THURSDAY, 4 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3 p.m., adjourned until Friday, 5th April.]

FRIDAY, 5 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq. J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3.30 p.m., adjourned until Saturday, 6th April.]

SATURDAY, 6 APRIL, 1895.

The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 2 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined :—Mr. Samuel Lilley, fisherman, Port Stephens, Mr. Edward Holbert, fisherman, Corrie Island, Myail River, Port Stephens, and Mr. Charles Anderson, fisherman, Telligherry Creek.

[The Commission, at 6.30 p.m., adjourned.]

SUNDAY,

SUNDAY, 7 APRIL, 1895.

The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 10 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to inspect some of the oyster deposits in Port Stephens, and subsequently visited the Karuah River, Limeburners' and Pipeclay Creeks.

[The Commission, at 6:15 p.m., adjourned until Monday, 8th April.]

MONDAY, 8 APRIL, 1895.

The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 9:45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.,

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. Peter Johnson, fisherman, Telligherry Creek, Port Stephens, Mr. Walter Glover, fisherman, Nelson's Bay, Port Stephens, Mr. Thomas Bagnall, fisherman, Nelson's Bay, Port Stephens, Mr. Henry Laman, honorary Acting Assistant Inspector of Fisheries, Port Stephens, and Mr. Henry Thompson, oyster lessee, Nelson's Bay, Port Stephens, sworn and examined.

[The Commission, at 6 p.m., adjourned until Tuesday, 9th April.]

TUESDAY, 9 APRIL, 1895.

The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 7:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, at 7:15 a.m., proceeded to inspect the closed waters of Telligherry Creek, Port Stephens, and subsequently left for Sydney.

WEDNESDAY, 10 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10:30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

James Charles Cox, Esq., M.D., President of the Fisheries Commission, sworn, was further examined.

[The Commission, at 1:20 p.m., adjourned until Wednesday, 17th April.]

WEDNESDAY, 17 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. James Wheeler, fisherman, Narrabeen, and Paget Bayly, Esq., Brookvale, Manly.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3:10 p.m., adjourned until 10:45 a.m. on Thursday, 18th April.]

THURSDAY,

THURSDAY, 18 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

William Charles Shipway, Esq., M.P., sworn, introduced a deputation from the Amateur Fishermen's Association of New South Wales, and presented a petition in favour of closing the waters of Sydney Harbour and its branches against all net fishing and set-line fishing.

[The Commission, at 3 p.m., adjourned until 11 a.m. on Friday, the 19th April.]

FRIDAY, 19 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission decided to forward a letter to the Chief Secretary requesting him to withhold the issue of leases for oyster culture pending proposed amended legislation with respect to the fisheries.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3 p.m., adjourned until Wednesday, 24th April.]

WEDNESDAY, 24 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The following witnesses were sworn and examined:—Mr. Edward Fanning, fisherman, Blakehurst, Mr. James Thomas Pashley, fisherman, Manly, Mr. George Sly, fisherman, Manly, and Mr. Edward Skinner, fisherman, Manly.

[The Commission, at 3 p.m., adjourned until Thursday, 25th April.]

THURSDAY, 25 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The following witnesses were sworn and examined:—Mr. John Duncan Grant, Assistant Inspector of Fisheries, Botany and George's River, and the Hon. George Thornton, M.L.C.

[The Commission, at 3.15 p.m., adjourned until Friday, the 26th April.]

FRIDAY, 26 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3 p.m., adjourned until Monday, the 29th April.]

MONDAY,

MONDAY, 29 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10·15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The following witnesses were sworn and examined:—Mr. Charles Lyons, fisherman and boat-proprietor, Folly Point, Middle Harbour, North Sydney, and Carsten Egeberg Borchgrevink, Esq., scientist attached to the Antarctic Exploring Expedition.

[The Commission, at 3·30 p.m., adjourned until Tuesday, the 30th April.]

TUESDAY, 30 APRIL, 1895.

The Commission met at the Offices, Bligh-street, at 10·15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Frederick John Gibbins, holder of oyster leases at Camden Haven and in the Hunter River, was sworn and examined.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 1·30 p.m., adjourned until Wednesday, 1st May.]

WEDNESDAY, 1 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. James Edwards and Mr. Sampson Colbran, fishermen, both of Kogarah Bay, George's River.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3 p.m., adjourned until Thursday, 2nd May.]

THURSDAY, 2 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission took the evidence of Mr. Henry John Bull, late manager of the Exploratory Expedition despatched to the Antarctic Ocean for the purpose of ascertaining whether Right Whales existed in those waters.

[The Commission, at 3·15 p.m., adjourned until Friday, 3rd May.]

FRIDAY, 3 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 1 p.m., adjourned until Monday, 6th May.]

MONDAY,

MONDAY, 6 MAY, 1895.

The Commission met at the Redfern Railway Station, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded, *via* Parramatta, to the Prospect Reservoir, where they closely inspected the building used by the Department of Fisheries as a fish hatchery. Subsequently the Commission visited the series of ponds in which the fry of salmonidæ had been liberated in the season of 1894.

The Commission returned to Sydney at 5 p.m.

WEDNESDAY, 8 MAY, 1895.

The Commission met at the Offices, Bligh Street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission considered their Draft Report for presentation to His Excellency the Governor.

The Commission having (through the Member for the district, William Stephen, Esq., M.P.) invited certain representative fishermen to attend and give evidence respecting the Botany fisheries, and the said fishermen (James Duncan and Charles Smith) not having responded to the invitation, it was decided to summon the witnesses in question to attend at the Offices, Bligh Street, at 11 o'clock on Monday, the 13th instant.

[The Commission, at 3·10 p.m., adjourned until Thursday, 9th May.]

THURSDAY, 9 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission considered their Draft Report for presentation to His Excellency the Governor.

Mr. Frederick William Smithers, Acting Secretary to the Fisheries Commissioners, was sworn and examined.

[The Commission, at 1·45 p.m., adjourned until Friday, 10th May.]

FRIDAY, 10 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission, at 5·15 p.m., left Sydney *en route* to Moss Vale and Berrima, for the purpose of inspecting the site on the Wingecarribee River set apart for a fish hatchery and for fish acclimatisation.

SATURDAY, 11 MAY, 1895.

The Commission met at the Railway Station, Moss Vale, at 8 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to the Wingecarribee River, Berrima, where they inspected the site set apart for the purpose of a fish hatchery and for fish acclimatisation.

The Commission returned to Sydney at 5 p.m.

MONDAY,

MONDAY, 13 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were sworn and examined:—Mr. Charles Smith, fisherman, Botany, and Mr. James Duncan, fisherman, Botany.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3·15 p.m., adjourned until Wednesday, 15th May.]

WEDNESDAY, 15 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 1·15 p.m., adjourned until Thursday, 16th May.]

THURSDAY, 16 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Friday, 17th May.]

FRIDAY, 17 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission decided to forward a copy of the Draft Bill to the Parliamentary Draftsmen.

Samuel Edward Lees, Esq., M.P., Mayor of Sydney, was sworn and examined.

[The Commission, at 4 p.m., adjourned until Monday, 20th May.]

MONDAY, 20 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 5 p.m., adjourned until Tuesday, 21st May.]

TUESDAY, 21 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 2 p.m., adjourned until Wednesday, 22nd May.]

WEDNESDAY, 22 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Peter John Baalman, oyster lessee, Sans Souci, George's River, was sworn and examined.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3 p.m., adjourned until Monday, 27th May.]

MONDAY, 27 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 4·30 p.m., adjourned until Tuesday, 28th May.]

TUESDAY, 28 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 2·30 p.m., adjourned until Wednesday, 29th May.]

WEDNESDAY, 29 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission had under consideration the suggested alterations made by the Parliamentary Draftsmen in the Draft Bill to repeal the Laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

[The Commission, at 3 p.m., adjourned until Thursday, 30th May.]

THURSDAY,

THURSDAY, 30 MAY, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Henry Woodward, oyster merchant, was sworn and examined.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3 p.m., adjourned until Monday, 3rd June.]

MONDAY, 3 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

The Commission had under consideration the desirableness of employing oil-engines for the purpose of assisting the inspectors in the work of supervising the different fisheries.

[The Commission, at 4.15 p.m., adjourned until Tuesday, 4th June.]

TUESDAY, 4 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered the Draft Bill to repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 2.45 p.m., adjourned until Thursday, 6th June.]

THURSDAY, 6 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 2.45 p.m., adjourned until Monday, 10th June.]

MONDAY, 10 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 10.30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3.30 p.m., adjourned until Tuesday, 11th June.]

TUESDAY,

TUESDAY, 11 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3 p.m., adjourned until Wednesday, 12th June.]

WEDNESDAY, 12 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 10·15 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 2·45 p.m., adjourned until Thursday, 13th June.]

THURSDAY, 13 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Draft Report for presentation to His Excellency the Governor.

[The Commission, at 3·10 p.m., adjourned until Friday, 14th June.]

FRIDAY, 14 JUNE, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission finally considered and adopted their Report for presentation to His Excellency the Governor.

The Report was signed, and it was decided to forward the same to the Chief Secretary, for transmission to His Excellency the Governor.

[The Commission, at 2·30 p.m., adjourned.]

ROYAL COMMISSION ON FISHERIES.

REPORT.

To His Excellency the Honorable SIR FREDERICK MATTHEW DARLEY,
Knight, Lieutenant-Governor of the Colony of New South Wales
and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

We, the members of the Royal Commission appointed on the 20th day of November, 1894, “to make a diligent and full inquiry as to the best means of developing the Marine and other Fisheries of the Colony, and as to the proper regulation of that industry by law,” have the honor to submit the following Report:—

We have held 92 meetings up to the date of presenting this Report, and examined no less than 82 witnesses.

At a meeting called on 4th December, 1894, a letter was read from the Principal Under Secretary, stating that a communication had been received from the Hon. J. H. Carruthers, M.P., Secretary for Lands, resigning his appointment on the Commission. It was thereupon decided to invite the Chief Secretary to appoint a third gentleman in the place of the Hon. J. H. Carruthers, the Commissioners deeming it inexpedient to proceed with any business until the Commission was complete.

The first meeting proper of our Commission was held on 19th December, 1894, at which the Hon. Robert Hoddle Driberg White, M.L.C., who had been appointed a member in the room of the Hon. J. H. Carruthers, M.P., resigned, took his seat. At this meeting, after dealing with other matters of importance, we finally considered and adopted the lines which it was proposed our inquiry should cover, and which are as follow:—

1. Character, extent, and resources of the Fishing Grounds of New South Wales—
 - (a) Inlet fisheries.
 - (b) Inland fisheries.
 - (c) Deep-sea fisheries.
 - (d) Oyster fisheries.
 - (e) Varieties of fish.
2. Development of the Fisheries of the Colony—
 - (a) Fish Culture—Artificial propagation and acclimatisation of marine and fresh-water fishes.
3. The Whaling Industry—
 - (a) Whaling on the coast.
 - (b) Value of industry to New South Wales.
4. Apparatus of capture and methods of fishing—
 - (a) Nets, lines, crayfish-pots, &c.
 - (b) Trawls and well-boats.
5. Fish transit, distribution, and preservation—
 - (a) Improved methods of transit by rail.
 - (b) Improved baskets and appliances for conveyance of fish to market.
 - (c) Central and auxiliary markets.
 - (d) Cold storage.
 - (e) Fish-canning, curing, and smoking.
6. Commercial aspect of the fisheries question—
 - (a) Annual value of present catch.
 - (b) Annual value of imports from other countries.
 - (c) Possibilities of future expansion.
7. Physical researches—
 - (a) Observations regarding temperature, salinity, and density of deep-sea and inlet waters.
8. Improvements in fishing craft and apparatus.
9. Administration and control of fisheries.
10. Legislation—
 - (a) Review of past legislation in New South Wales.
 - (b) Remedial legislation for conserving and developing the fisheries,

On

Leave of
absence to
Mr. Lindsay
G. Thompson.

Development
of the deep-
sea fisheries.

On 10th January, 1895, we met again after an adjournment for the Christmas and New Year holidays. At this meeting a letter was read advising that the Chief Secretary had relieved Mr. Lindsay G. Thompson, J.P., one of our members, from his official duties as Secretary to the Fisheries Department until the completion of our labours. After further deliberation respecting the development of the deep-sea fisheries, a matter which had been and still is, engaging our earnest consideration, we specially interviewed the Chief Secretary with reference to the question, when the President read and presented the following letter, in which our views thereon are expressed at length:—

Sir,

Offices of the Royal Commission on Fisheries,
Bligh-street, Sydney, 10 January, 1895.

The Royal Commission appointed by the present administration to make inquiry into the existing condition and future prospects of the Fishing Industry in New South Wales, do themselves the honor to place before you the following statement having reference to the development of the deep-sea fisheries of the Colony:—

Apart from those portions of the Colony regularly resorted to by our fishermen, scarcely anything is known regarding the actual extent and value of our piscine resources. At the present day, so far as New South Wales is concerned, deep-sea fishing as pursued in other parts of the world—notably in the maritime countries of Great Britain, Ireland, France, Canada, the United States, Russia, Norway, Sweden, and Japan—is practically non-existent. Those who have devoted thought and attention to the condition of our fisheries do not for one moment question, indeed they have long recognised the possibility of there being a series of magnificent and, when properly worked, lucrative fishing grounds situate at no great distance from the extensive coast-line of this territory. That these fishing grounds are not being worked, and are not, therefore, yielding substantial revenues to the Treasury, is evidence of the apathy and thoughtlessness which have allowed our splendid marine resources to remain undeveloped to this day. This apathy is greatly to be regretted, inasmuch as by failing to gather in the “harvest of the sea” lying at our very doors, we are, as a consequence of our neglect, probably losing many thousands of pounds yearly. The potentiality of national wealth in the depths of the waters that wash our shores may possibly be found to be astounding, but as yet those waters are unfished. Our outer or deep-sea fishing grounds should be one of the chief sources of supply for the Metropolitan and some of the inland markets; but, mainly owing to the lack of knowledge regarding the bottoms, the several families of fish possibly inhabiting or frequenting those waters and their economic value, they are entirely useless to the Colony. With truth it may be asserted that of deep-sea fishing, *i.e.*, trawling, drifting, &c., but little, if anything is known. Surely such a state of things is a reproach to an enlightened community.

As illustrating the importance of deep-sea fisheries to other nations, it may be pointed out that the British Government have spent large sums of money in furthering the fishing industry. The French and other Governments have done likewise, and the Government of the United States in twelve years are stated to have expended a quarter of a million of money in conserving, developing, and extending the magnificent fisheries belonging to that country. In Canada a Cabinet Minister holds the portfolio of Marine and Fisheries, and in 1892 the money voted for fishery purposes by the Dominion Parliament was £108,000, while the Department has seven well equipped steamers and two sailing vessels at its disposal for the purpose of carrying on its operations.

Although successive Governments have disbursed large sums in assisting in the development of other industries, nothing has been done in the way of encouraging and building up our fisheries, which might be made one of the largest industries in the Colony and of great national benefit, as a means of providing permanent and remunerative employment to a considerable section of the people, and also of furnishing the community with a cheap and valuable food supply. In addition to this it has been repeatedly pointed out that from our fisheries, if they were what they ought to be, might be drawn the sailors to man the ships of our mercantile marine.

While other countries are yearly deriving princely revenues from the fisheries which they have, at an immense expenditure of time and money, systematically developed and fostered, and are now working with splendid advantage to themselves, we in New South Wales are actually importing fish food to the value of over £100,000 per annum; and this, despite the frequently-reiterated assertions that our seas literally swarm with fish of great variety and that they are rich in the species justly prized in the chief markets of the old world. It is a strange anomaly that while our waters are reported to be teeming with edible fishes we should continue to be dependent upon outsiders for large supplies of this wholesome and nourishing commodity.

New South Wales has done nothing in the direction of encouraging and extending her offing or deep-sea fisheries. So far as the inquiries and investigations of the Royal Commission may relate to the inlet fishing grounds the work before the Commission will, comparatively speaking, be plain sailing; but when we proceed to deal with the deep-sea fisheries and deep-sea oyster fisheries we shall enter upon our task at what might be termed its initial stage, little, if anything, being known in New South Wales of these branches of the fisheries question. In the absence of reliable data to guide us we can but assume the existence of such fisheries, though there is much to justify us in this assumption and to warrant us in expecting, as a result of our labours in this particular direction, the future establishment of an immense and ever-expanding industry.

To prosecute our inquiry into the important subject of deep-sea fisheries, and to carry our investigations to a successful issue, it is absolutely necessary that a thorough and systematic exploration, by means of a completely equipped trawling vessel, should be made of the several fishing grounds contiguous to the shore-line of the Colony. In this way the Commission expect to ascertain important, highly-valuable, and necessary information concerning the quality and habits of the fish tribes frequenting the deep sea, and also hope to be in a position to form an approximately accurate opinion as to the success or otherwise that would attend the employment of steam trawlers in these southern waters.

The acquisition of a suitable vessel will, of course, necessitate a substantial outlay in the purchase and equipment of the same: *but, on the other hand, the craft will remain a valuable asset, at all times available for useful service in the Fisheries or other Marine Departments of the Government.* The

The principal need in this respect will be a steam trawler of about 100 feet overall, 20 feet beam, and a draught of about 7 feet 6 inches. It is estimated that a vessel of some such dimensions could be purchased for something like £2,500, but to make any such boat suitable for trawling she would require to be altered at further considerable expense. It may be deemed advisable to purchase a fully-equipped trawler in England, or to construct a vessel here. In any case the trawl nets and gear must be obtained from that country. The cost of building a vessel in the Colony, completed and ready for sea, may be approximately estimated at, say, £5,500, and the probable outlay which would be incurred in altering a vessel to render her suitable for trawling would in all probability absorb the difference between the purchase money and that sum.

The Commission also invite your attention to the important question of well-boat fishing, which combines with capture the conveyance of live fish to market. To the lack of modern effective means of transit to market is to be attributed, in a great measure, the present deplorable condition of our fishing industry. It is hoped that by the adoption of well-boats, such as are in use in other countries, one section of the fisheries problem will be solved.

A boat fitted with a well, constructed on the whale-boat principle, half-decked, having a cool chamber, and suitable accommodation for her crew, and capable of riding out a storm at sea, of about 40 feet overall, 12 feet to 14 feet beam, and 4 feet draught, is estimated to cost a sum not exceeding £400.

With the boats at present in use for outside fishing it is next to impossible to remain on a distant fishing ground for any length of time, the fishermen being compelled to return to harbour to avoid danger to life and property. The time thus wasted in the passage to and fro, and in again endeavouring to pick up the locality, might very profitably be employed on the fishing ground if the boat were so constructed and equipped that she could remain in the offing for any required length of time.

This is one of the directions in which our fishermen require teaching, and the Commission desire to emphasise the fact that they cannot be taught in a more convincing manner than by affording them a practical illustration of the possibilities of such a mode of fishing. The foregoing remarks apply with even greater force to the use of the steam trawler in our waters.

The Royal Commission on Fisheries, believing it to be the purpose and intention of the Government that the investigation into the condition and prospects of our fisheries should be of an exhaustive and comprehensive nature, desire to represent at the outset that in order to deal thoroughly with the subject of deep-sea fishing—which, when once established upon a firm basis, may be expected to prove a substantial source of revenue to the State—it is imperative that funds be provided to meet the necessary expenditure in connection with this most important branch of the inquiry.

In regard to the question of expense, we desire to point out that unless the Government will supply an equipment such as we have described, it will mean that effective inquiry into this branch of the Commission's work cannot proceed. It will be a matter for deep regret if such should be the result, for it seems perfectly clear that if the fisheries of New South Wales are to be developed the offing must be tapped to produce that development. Having once proved the extent and value of the offing fisheries, it may be expected that capital and enterprise will seize the opportunity for opening up new industries, to the mutual advantage of the capitalist and the country.

As it will require time to obtain a trawling vessel and a well-boat, it is requisite that due provision should, as speedily as possible, be made for the same, so that the preparations for conducting experiments in, and testing our deep-sea waters, may not be unduly delayed.

The Commission, with confidence, leave the matter in your hands, feeling assured that in order to further the important mission with which they have been entrusted, you will give the necessary authority for the immediate purchase of the apparatus requisite for them to prosecute their investigations into these branches of an industry which opens up such enormous possibilities for this country.

We have the honor to be,

Sir,

Your obedient Servants,

FRANK FARNELL, M.P., President,
ROBERT HODDLE DRIBERG WHITE, M.L.C.,
LINDSAY GEORGE THOMPSON, J.P.,

Commissioners.

The Hon. James Nixon Brunker,
Chief Secretary.

At that interview the Chief Secretary, admitting the importance of the subject which we had brought under his notice, said he considered the progress of the Colony would only be substantially assured by the proper development of its resources, and he regarded the fishing industry generally as one of those resources. Deep-sea fishing should prove of great importance to the Colony, but that branch of the industry had hitherto been neglected. As far as the fishing operations in New South Wales were concerned, the Chief Secretary expressed an opinion that they had simply been confined to the inlets and rivers; the supply of fish was not what it ought to be, and he believed it could be largely increased. There was no reason why the people of this Colony, instead of being importers of fish, should not be exporters of that commodity. Mr. Brunker promised to submit the letter containing our representations to the Cabinet at the earliest possible moment; but so far as is known no action respecting them has yet been taken by the Government. As we desire to continue our inquiry into the deep-sea fisheries,

Opinions of
the Chief
Secretary with
regard to the
deep-sea
fisheries of
N.S.W.

No action
taken by the
Government.

we

we are hopeful that the Government will authorise the necessary expenditure in order that the project may be carried out in the complete and thorough manner which its admitted importance deserves.

Visit of the Commission to Victoria and Tasmania.

Having decided to visit Victoria and Tasmania in order to obtain the best available information respecting the fisheries of those colonies, on the 15th January we left Sydney for Melbourne *en route* to Hobart. We were absent from Sydney for about one month, during which time we visited the chief fishing centres in those colonies. Throughout our visit we received valuable assistance from the members of the two Governments and prominent officials, civil and municipal. In Tasmania we saw much that interested us. At Hobart we took the opportunity to study the well-boat system of fishing and made ourselves acquainted with the methods of conducting fish sales and of fish distribution adopted in that city. The fish tanks or boxes, moored in the Derwent, to which fish are transferred from the well-boats and kept until there is a demand for them, were also closely inspected. We attended the early morning sales at the Hobart Fish Market on several occasions, and as a result of repeated interviews with the Mayor of Hobart, the members of the Tasmanian Fisheries Commission, and other officials, gained much valuable information respecting the fish and fisheries of Tasmania. At New Norfolk we were shown the historically famous ponds in which were seen various specimens of *Salmonidæ*.

Well-boat fishing, the sale of fish, and fish distribution in Tasmania.

Salmon Ponds at New Norfolk.

Fishing centres in Victoria.

Fish acclimatisation at Ballarat, Geelong and Ercildoune.

In Victoria, we visited the principal fishing centres in Hobson's Bay and along the coast from Westernport Bay to the Gippsland Lakes. Chief among them we enumerate Queenscliff, Hastings, Welshpool, Port Albert, Cunninghame and Paynesville, at which places the evidence of practical fishermen was taken. Subsequently we visited Geelong and Ballarat, where we inspected the fish hatcheries and ponds. At the special invitation of Sir Samuel Wilson, we proceeded to Ercildoune, and inspected the salmon ponds maintained by that gentleman, as also various species of *Salmonidæ*. In Melbourne and at other places in Victoria, our investigations were specially directed to the important questions of market accommodation, fish transit and distribution. Altogether we acquired much valuable information as the result of our visit.

Visit to the Home Fisheries.

On returning to New South Wales we commenced our inquiry into the condition and possibilities of the Home Fisheries. Commencing with the Shoalhaven and Crookhaven Rivers south of Sydney, we travelled northward, visiting and inspecting the fisheries at Lake Illawarra, Botany, George's River, Port Jackson, the Hawkesbury River, Brisbane Water, Tuggerah Lakes, Lake Macquarie, the Hunter River, and Port Stephens. At each of these Fisheries, as also at the Narrabeen Lakes, we took the evidence of practical and representative fishermen. Some of the evidence so obtained is of special interest and value at the present juncture. Radical change in the administrative authority seems urgently needed, and remedial legislation is imperatively demanded. These matters will be fully dealt with further on in this Report.

Nature of the evidence taken.

The Whaling Industry.

The important subject of whaling in the waters adjacent to the Australian coast has also engaged our attention, and we are actuated by a desire to see that industry revived in New South Wales. In the early days, before the gold fever broke out, whaling in the southern seas formed one of the most important of colonial industries. Both Sydney and Hobart shared largely in the success that attended its pursuit. If the attempts now in progress to bring about a revival of the whaling industry prove successful, we expect that much gain will accrue to Sydney as a port, and to the Colony as a whole. Subject to your Excellency's approval, we hope at an early future date to furnish, in a Supplementary Report, the result of our inquiries into this subject, as well as the Deep-sea Fisheries, the important questions of Fish Acclimatisation, Development and Conservation of the Inland Fisheries, and other matters which we have proposed our inquiry should cover. Some evidence in respect to one or more of these matters has already been taken, but the information is necessarily incomplete, owing to our time having been so fully occupied in prosecuting other branches of our inquiry. We have, however, sufficient evidence to warrant us in saying that the development of the deep-sea fisheries of New South Wales is of paramount importance and absolutely essential to the future success of the fishing industry.

Supplementary Report.

As the subject matter of this Report necessarily covers a wide field, we have thought fit, for convenience of reference, to deal with it under specified headings as follow :—

The Fisheries Acts and their Administration.

The Fisheries Acts have practically failed in their purpose to promote the fishing industry. They have operated in a direction quite opposite to that which their framers intended ; are found to be bristling with defects, and in their operation have created widespread dissatisfaction.

They scarcely touch the Inland Waters Fisheries, and the amending Acts, which were intended to cure defects in this and other respects, have proved of very little help; indeed, all remedial measures which have been enacted in regard to the fisheries we find to be strangely incomplete, and to adjust but more or less imperfectly only one or two matters of complaint.

The administration of the Fisheries Acts, with the consequent control of the Fisheries, devolves by law upon a body consisting of five Commissioners, acting in an honorary capacity. Those Acts have proved defective in very many important respects, and it is not too much to say that, besides tending to impede the development of our Fisheries, have operated with undue harshness upon those directly engaged in the fishing industry. The Act of 1881 was the outcome of the evidence adduced before a Royal Commission appointed in 1880, and although it was thought at the time that it would meet most of the disabilities under which those engaged in the fishing industry at that time laboured, we regret to find that it has proved unsatisfactory and ineffective in the extreme.

Notwithstanding this the Commissioners of Fisheries, appointed under that Act, have thought fit to continue to administer it, quite regardless of the fact, which, judging from their evidence, seems well known to them, that in many ways it was not operating for the public good. Certainly they proposed remedial legislation, instance the Bill attached to their Report for 1891, but that measure, in our opinion, omits the cure of many of the defects which are present in the existing law.

We think that a body of independent influential men like the Commissioners should have used all the weight of their influence to compel the Government to introduce amended legislation, and, failing success, should, as a last resource, have tendered their resignations. Such an extreme step would, we think, have forced any Government to give the important matter of the Fisheries their attention. But, instead, we find that they continued to hold their position, quite regardless of the public good, and to work their department, not only under a useless Act, but also, without protest, suffered their staff to be so reduced in number as to be utterly ineffective for purposes of supervision or control. On occasions meetings have been held and business transacted when a quorum of members was not present. It seems hard to justify the illegality of this action when considering it in contrast with the rigid manner in which the law (in respect to the seizure of fishermen's nets—their tools of trade—and the infliction of heavy penalties) was carried out.

We think, if the Commissioners had recognised the great importance of the Fisheries, as they claim to have done, they would not have so quietly submitted to the retrenchment scheme of the Government in 1893, under which the vote for their department was reduced by some £2,000. They state that this sweeping reduction was made without consulting them, yet it does not appear that they protested against it, though they knew it would result in many important fisheries having to be left unsupervised. But it is still more unaccountable why, although honorary inspectors were available to perform at least part of the supervisory work thus left unprovided for, they dispensed with the services of some of them also, although it is admitted they performed their duties satisfactorily. We refer particularly to the case of Mr. Paget Bayly, who had charge of the Pittwater, Narrabeen, and Manly Fisheries, and who was anxious to continue to exercise the powers of an Inspector of Fisheries, but who, from some inexplicable cause (excepting that given by Mr. Bayly himself—*vide* evidence, page 128, question 4752) was not allowed to do so. One witness says that these honorary inspectors were dispensed with because they were looked upon as spies; if that be the reason, it is difficult to understand why all were not dispensed with at the same time.

Necessity for
resident
inspectors.

In connection with the question of supervision, we can scarcely lay sufficient stress on the necessity for having the Fisheries properly and efficiently controlled by resident inspectors. At the present time we find several cases where inspectors are allowed to live miles from the waters they are appointed to control. Owing to neglect to provide residences on central sites, it is a fact that one inspector has to travel from 6 to 8 miles to and from his work, another has to travel 4 miles, while even in the Parramatta River and Port Jackson Fisheries the assistant inspectors are permitted to live at Paddington and Woolloomooloo, and this despite the fact that the most important of the closed waters in the Parramatta are at least 6 or 7 miles distant from Sydney.

Inspectors
living at
distances from
their work.

Injudicious
closures of
waters against
netting.

With regard to the question of closures against the use of fishing nets we have found that some have been made which, in our opinion, have been wholly unjustifiable, inasmuch as a local knowledge of the circumstances and conditions governing the Fisheries in which such closures were made would most certainly have induced decision in an opposite direction. It has been asserted by one of the Commissioners that the object in closing waters is to give the fish a chance to go up into the breeding grounds, but even so (though the point is much open to question) what possible good could result from making such closures and straightway leaving them unsupervised is entirely beyond our comprehension. Again, while in one case the entrance to one lake has been very properly closed in order to allow the free ingress and egress of fish, in another, namely, Brisbane Water, quite the opposite course has been pursued. In this place extensive closures were made, yet the entrance was left open and entirely at the mercy of the netters, thus nullifying any effect sought to be produced by the closure, and defeating altogether the object aimed at.

Neglect of the
Commis-
sioners to visit
the fisheries.

It is a matter for very deep regret that the Commissioners of Fisheries as a body have not seen fit to make periodical visits of inspection to all the coastal Fisheries. In no case has it been shown that any such official visits have been made, or at least reported; the evidence records that but two or three of the Fisheries, and those in close proximity to Sydney, have been inspected. Consequently, the general dissatisfaction expressed towards the Commissioners as an administrative and controlling body, may be readily understood. We are of opinion that in administering an Act fairly in the interests of all classes, it is the bounden duty of those having such a charge and responsibility cast upon them to make themselves personally acquainted with the local conditions and circumstances of their trust; but even in the face of their not having made official visits themselves, they do not seem always to have followed the reports of their local Inspectors, as we have it in evidence that recommendations made by them have been disregarded.

Official visit
might have
removed
existing
disabilities.

Had the Board made official visits to the different fisheries, and come in contact with the fishermen themselves, it would have been easy for them to have discovered as we have done the disabilities under which the industry has been staggering. That they have done nothing to remove these disabilities is to be deplored; their failure in this respect is one of the gravest reasons why they should no longer continue to hold office. Indeed, the general opinion goes to show that they should be superseded as speedily as possible, and an authority of a different kind created, it being asserted that the condition of the fisheries to-day will not bear comparison with the condition existing before the Act of 1881 came into force.

Development
of the fisheries
overlooked.

Another cause which may account for the present unsatisfactory state of the Fisheries is to be found in the apparent lack of interest shown in the development of the industry. The Commissioners appear to have entirely overlooked the direction incorporated in the 4th section of the Fisheries Act, which imposes upon them the duty of development. Beyond hatching some trout ova and distributing its fry, nothing in the way of development seems to have been attempted. On one or two occasions Parliament voted sums of money for the purpose, but they were not used.

Com-
missioners
administering
an
unworkable
measure.

But quite apart from these points, largely important though they are, it was to be supposed that gentlemen of position such as those of whom the Commission is composed would have absolutely refused to continue administering a measure which, had they possessed a personal knowledge of the Fisheries and the hard conditions under which fishermen labour, they would have known to be not only unsatisfactory but practically unworkable, and unjust in its incidence.

We

We have no hesitation in stating that the vitally important questions of improved market accommodation and better distribution of our fish supply should to some extent have engaged the attention of the Commissioners, inasmuch as while they had no power themselves to make alterations, they held a position of weight and influence, and might, had they so willed it, easily have made forcible, persistent, and in all probability such effective representations to the proper authorities as to have compelled the necessary improvements to be brought about. This, seemingly, they have not done, although no witnesses were more emphatic than they in their evidence given before this Commission, and also before the Select Committee of the Legislative Assembly which sat in 1889, with respect to the condition of affairs existing at the Woolloomooloo Market and the urgent need for improvement in respect to fish distribution.

Attention not given to market accommodation and distribution of fish supply.

Speaking generally, the evidence goes to show that the existing governing authority is one in which neither the general public nor the fishermen have confidence, and that it should be forthwith abolished and another created in its stead. The nature and scope of the authority we recommend is stated in the Bill for the Regulation of the Fisheries and Oyster Fisheries of the Colony attached to this Report.

Want of confidence in governing body.

We deeply deplore that it should become our duty to have to assert this conclusion, but it is forced upon us by the testimony of competent witnesses, who plead for removal of the barriers and obstacles existing between the fisheries and their practical development in several available directions.

Barriers to development.

In suggesting the abolition of the existing statutory authority, we desire to place on record that we do so on purely public grounds. Indeed, it will not for a moment be supposed that we could have anything whatever to urge against the Commissioners of Fisheries personally; but we claim that they have to a very large extent misconceived their duties and responsibilities as Commissioners. Indeed, this is apparent on almost every page of the evidence we have taken. They do not seem to have given any attention to the development of the fisheries, they have allowed fishermen to be unnecessarily harassed, and they have continued to administer Acts which they know to be to a large extent worthless for their purpose. Moreover, they suffered their staff to be reduced to such a point as to be absolutely powerless to work even those parts of the Acts which are of value. They seem to have regarded economy in expenditure as their chief aim, for when asked in evidence why certain matters had not been undertaken, the replies were to the effect that the cost would have been too great.

Commissioners' misconception of duties.

We think that the fisheries cannot be regulated and developed without expense; but we expect from that expenditure an enlargement of the industry, a further avenue for employment, and benefit in many directions to the Colony generally.

Expenditure necessary for development.

Confiscation of Fishing Nets.

It is abundantly clear, from evidence we have collected, that if the existing authority is to be credited with activity in regard to any particular provisions of the law it has been in putting into operation those parts of it, the infringement of which involves the seizure and confiscation of the fishermen's tools of trade—their nets.

Activity in seizure of nets.

Several cases of hardship, bordering upon actual destitution, have come under our notice as the result of this action, and though, doubtless, it can be fully justified by the terms of the Acts themselves, yet, knowing how unjust and cruel these provisions were, we think the cases were such as to have abundantly warranted the exercise of clemency by obtaining the restoration of fishing nets confiscated only in fulfilment of an inequitable law's demands. But we have found that not only were these confiscations upheld, but in addition cruelly long periods were, until quite lately, allowed under regulations to elapse between confiscation and subsequent sale of the confiscated articles, thereby making it difficult, if not impossible, for the men to arrange to buy back their confiscated property. Cases of this kind are not singular, and we are pained in having to recognise that such a state of matters should have been allowed to continue through so many years.

Restoration of confiscated articles seems warranted.

It

Reform should have been insisted upon.

It seems to us that reform in this matter of confiscation of fishermen's tools of trade should have been pressed with all the force and insistence which an independent and influential body like the Commissioners of Fisheries were capable of bringing to bear upon the several Ministers under whom they have been acting.

Moiety of fines to inspectors.

A possible inducement to some of the inspectors to follow particularly this business of net seizure may have been that thereby they would secure to themselves moiety of the fines and forfeitures; but, notwithstanding that this pernicious system of allowing half fines to informers is a statutory enactment, it would have been quite possible to refuse the use of it to inspectors, even though at the cost of a small addition to their salaries in lieu. It should have been recognised long since that the system served no good purpose, was a source of constant irritation to the fishermen, and savoured more of persecution for the sake of personal gain than an honest desire to uphold the law; while it placed the fishermen in the position of criminals rather than free citizens.

Closures of Waters against Net Fishing.

It would seem that this branch of fisheries administration might have been better conducted.

Care in selection of waters to be closed.

When such an important step as closing any fishing-ground against netters was in contemplation we think the utmost care should have been taken in selection, so that while effectually conserving the fisheries, the fishermen's area of operations might be impeded as little as possible. To effect this, areas to be closed should have been determined by the administrative authority after personal observation of local circumstances, and, where this was not practicable, on the recommendation of the local or other responsible authority.

Personal knowledge of local necessities requisite.

We understand, however, that important closures have been made without having in the first instance been safeguarded in either way. We are certain that if the central directing power had found opportunity to make periodical visits of inspection to at least the principal centres of fish supply, a knowledge of local necessities, both from the public and fishermen's points of view, could have been obtained, which would have proved of immense value in this direction, and would have removed the grounds on which a great many of the complaints made in the past have been based.

Inutility of certain closures.

As it is, however, closures have been proclaimed which, on account of remoteness from the market and inaccessibility to the fishermen, were of no real value in helping to maintain the continuity of supply, because, whether opened or closed, the waters could not be profitably worked.

Irritating to fishermen.

Hardship to local residents.

Such a process of administration, while it so obviously could produce no good result, served only to irritate the fishermen, and caused them to view with suspicion the inducing motives which led up to it; while at the same time hardship was created in another direction by barring the local residents along these remote waters from netting fish for their private use.

Natural closures.

In our visits to the various fishing centres we have found so many large areas covered with thick weed, over which nets could not be hauled, and which might be termed natural closures, that their existence alone should have suggested the opportunity for minimising, in many instances, artificial barriers such as it has become customary to create.

Closures ineffective because of imperfect supervision.

In practice, however, these closures, though not always selected with the discrimination which might have been exercised, have not been a complete bar to fishing operations over them, because the inspectorial oversight has been so imperfect. Where inspection has been established, it has usually consisted of but one man whose means of locomotion were confined to a boat not always suitable to the water on which it was placed. In most instances the waters allotted to a single inspector are so large that, though most industrious in his work, he could not possibly give them efficient oversight. While he was overseeing one part, the fishermen, in perfect security, could be working in another quite regardless of the law or its penalties.

Necessity for effective supervision.

Supervision, being an essential to the effectiveness of a closure of water against fishing operations, should be made as perfect as possible. That one man with a boat can oversee closures comprising many square miles of water, in many cases

cases widely separated from each other, is obviously an impossibility; to do the work at all he must have facility for rapid locomotion. We think this could be provided by the employment of small launches driven by oil engines. These engines are, we believe, in general use in many American waters. They are effective, of simple construction, and can be worked by anyone possessing ordinary intelligence. Their use, therefore, in enabling our fisheries to be patrolled without incurring expense in wages for a driver or fireman, as would be the case if steam engines were employed, is so obvious that we recommend the system should be afforded an initial trial with a view to its possible adoption generally.

Employment of launches driven by oil engines.

Closure of Port Jackson against Net-fishing.

There seems to be a rapidly-growing opinion that the waters of Port Jackson should be entirely closed against net and set-line fishing. On this subject we were interviewed by a deputation from the Amateur Fishermen's Association, with Mr. Wm. C. Shipway, M.P., as its President. The Deputation presented a petition bearing the signatures of no less than 5,104 persons, amongst them those of many gentlemen holding prominent positions in the city. The President, in speaking for the Deputation, said he wished to emphasise the fact that netting is going on in Sydney Harbour at the present day, and millions of small fish are as a consequence left to die and rot on the beaches; that within the last fortnight he had received information that both at Abbottsford, on the Parramatta River, and at Manly Beach nets had been drawn and thousands of young fish left to die. In one instance that came under his notice four dozen red bream were left to die; that was at Manly. This destruction was caused by European fishermen, and not by foreigners. His Association is of opinion that set-line fishing should be prohibited. He states that it is known from practical experience that the heads of a number of good large black bream had been found attached to lines that had been left unattended, the sharks or other fishes having eaten the bodies while the lines remained in the water. The Association considers this sort of thing should certainly be put a stop to, and asks for aid, not only on behalf of itself, but of the amateur and professional fishermen of Port Jackson. The petition, and Mr. Shipway's remarks in full, will be found in the Evidence, page 134 of this Report.

Views of Amateur Fishermen's Association.

Destruction of fish.

While we have strong views on the subject brought forward by the Deputation, we think that as the matter is to engage the immediate attention of Parliament by the introduction of a Bill specially dealing with the subject, we should not be warranted in giving it more than a passing reference here. In any case we doubt whether a recommendation that any particular closure against fishing operations should or should not be made would come within our functions. Such a matter seems to us to be one which should concern the new Department to be established under the provisions of the new Act.

We have as well had submitted to us a letter originally presented (through Mr. B. Horwitz) by the residents of Manly to the Fisheries Commissioners, suggesting the closure of the waters north of a line from Middle Head to the Inner North Head. While we consider the Commissioners might have given to this letter a more courteous reception than it seems to have received, we think, for the reasons above stated, that its subject also is beyond our functions to deal with.

Manly closures.

Fishing Nets.

We have devoted much attention to the subject of fishing nets, and from our observations and the evidence before us are convinced that the series enacted by the present law has been neither satisfactory nor economic; the principle adopted in enacting these nets seems to have been that the longer the length conceded, the larger in proportion should be the mesh, with the exception perhaps of the meshing-net.

Law respecting fishing nets unsatisfactory.

The question arises whether much gain has resulted by defining lengths and meshes of nets by statute. We think that circumstances and conditions differ so widely in the several fisheries that it is impossible to determine a statutory system of nets which shall suit such varied requirements. A net—we refer to a hauling net—that would be perfect for fishing purposes in a running tidal water like Port Jackson would be absolutely useless in tideless far-extending shallows, such as obtain in our larger

Hauling net unsuitable in some waters.

larger lakes; and the consequence has been that in the fight for bare subsistence fishermen have until quite lately been, as it were, forced, at the risk of punishment and the forfeiture of their nets, to infringe a law which they found it impossible to work under with any hope of profitable result, though we are assured that these same fishermen were as anxious to avoid destruction of fry as the Act they worked under intended them to be. We think it is a matter for deep regret that the partial relief in this direction bestowed by a recent enactment, the Fisheries Act Amendment Act of 1894, was not conceded at a much earlier period. Subject to proper safeguards against destruction of fish fry, we see no objection to the use of long nets; indeed it should be patent to anyone giving the question consideration that such nets would be rather advantageous than otherwise so far as regards the fisheries themselves, inasmuch as their use would render repeated scraping of the bottoms unnecessary, and besides reduce labour on the part of the fishermen.

Long length
nets an
advantage.

Improper use
of garfish
nets.

The Garfish Net.—If any net has been used illegitimately, it certainly has been the garfish net. Intended for the capture of garfish only, it has nevertheless been applied to the taking of fish of any species, and used in waters where garfish seldom or never appear. Opinion seems so very much divided on the point whether small or large mesh nets are most destructive to fish fry, that with the comparatively limited personal knowledge we ourselves at present possess, we are not prepared to assert positively whether this indiscriminate use of the garfish net has created unnecessary destruction of fish or not; that is a point for future determination on the basis of observation and actual experiment which we hope to carry out.

Relative
merits of
large and
small meshes.

Limitation of
meshing nets.

The Meshing Net.—This net, when confined to its legal length (60 fathoms), has, we find, not been in general use. This has been due, probably, to the insufficiency of its length and the large size of its mesh, through which a large proportion of mature fish can escape. We find no reason why the length of this net should have been limited, nor why its mesh should have been fixed at such a large gauge, nor why it should not be used as a set or drift net.

Defectiveness
of Sunk Nets
Act.

The Sunk Net.—The Act passed in 1892 to prohibit the use of sunk nets has proved in practice quite insufficient for its purpose owing to a defect in definition, which stipulates that a sunk net shall have a cod or purse attached to it. This important limitation of range has left it open to the fisherman to still sink his net, provided it is not furnished with this appendage. Availing himself of this defect the foreign fisherman especially, with supreme disregard for the future of our fishing grounds, has continued to sink his net even in the presence of the Fisheries officials, who are quite powerless to stop him.

Suitability of
one general
net for inland
waters
questionable.

The Inland Waters Net.—This net is somewhat general in definition. It has a four-inch mesh, must not have a cod or purse attached, and when sunk in a river or creek must be so set as to provide a passage for escaping fish between its ends and either shore. As to the suitability of this net for general purposes we do not at present express a decided opinion. The mode of fish capture in inland waters is one of several subjects with which we have yet to acquire an intimate acquaintance, and to these matters we propose to apply ourselves as soon as opportunity presents. Reasoning from our knowledge of requirements for marine fish capture we scarcely think that one class of net can be suitable for taking inland waters fish under all conditions; indeed, we note that while the Inland Waters Fisheries Act fixes the mesh at four inches, the twelfth section of the Act of 1881, which has not been repealed, allows a three-inches mesh; whether the non-repeal of this section was an oversight or intentional, or whether this question of mesh has been determined altogether haphazard we have no means of ascertaining, but that it needs regulation on the basis of evidence and experiment there can be no doubt.

Prawn nets
used by
foreigners in
evasion of the
law.

The Prawn Net.—The prawn net, comprised of fifteen fathoms of inch mesh, has proved satisfactory in some waters while in others a greater length is demanded. We cannot too strongly deprecate the manner in which the law defining prawn nets has been evaded by foreign fishermen; the nets they use for the purpose are practically sunken nets, although they do not come within the provisions of the Sunk Nets Act. These foreigners attach lines of great length, by means of which their nets can be set at long distances from the shore, whence they are hauled towards it over very extensive areas of bottom. In this manner they tear up valuable feeding grounds, and destroy unknown quantities of spawn and fry. Our fishermen are loud in their denunciations of this unfair and improper practice, and it is quite time that preventive means should be taken.

The

The Crayfish Fisheries.

We have made general inquiries respecting the crayfish fisheries, and we find that beyond the means best suited for unrestricted capture, and the admission that the supply is becoming fast depleted, not much is known upon the subject; indeed, so little, that one of the Commissioners of Fisheries has stated that the crayfish fisheries was one of the things they did not understand, so that he would be afraid to give an opinion as to the shape legislation for their protection and development should take. Several of the witnesses we have examined have expressed the opinion that the female fish ought not to be captured when in roe; but as it happens that generally they are in that condition during the season when they can be most readily captured, such a restriction would tend very greatly to reduce the supply, and besides, as the fish, when in the coral stage of spawn is considered a more especial delicacy, it would probably reduce the demand for the article. We think that a means for protecting this fish might be found by exempting certain portions of the coast from fishing, and allowing in other parts the present indiscriminate capture of this crustacean, above a certain size, to be continued. We do not, however, make this suggestion with complete confidence. We have little official information to guide us, and such meagre information from witnesses, that the best remaining course open to us to acquire information is to make a personal investigation into these fisheries during the season now approaching.

Imperfect knowledge of crayfish fisheries.

Crayfish in roe.

Exempting portions of the coast from crayfish capture.

Personal investigation necessary.

Herrings.

But very little is known about the herring in New South Wales waters. One of the first to assert its presence at all was the late Sir William Macleay, F.L.S., who always exhibited an intense interest in the fisheries, both from scientific and economic stand-points. He went so far as to affirm that there is no sea on the globe favoured with a more rich or varied supply of fishes of the herring tribe than that which washes our shores. He names two principal species—the Maray, *clupea sagax*, as being almost identical with the English pilchard, and the Southern Herring, *clupea sundiaca*—which he claims to be for excellence and delicacy of flavour unsurpassable, being superior to the common herring of Scotland, and which, if preserved in oil after the manner of sardines, would eclipse even those delicacies. He says that these fish visit our coast in the winter months, passing from south to north in enormous shoals. Beyond what Sir William has told us, we know but little of the habits of the herring while on our coast, and we do not find that the Fisheries Department has ever seriously pressed the Government to undertake an investigation of the matter. Apart from the value of the herring as a food fish, we think it would be difficult to estimate its worth as oil-producing material. Dr. Cox states it is one of several neglected branches of the fishing industry, and that he would be glad indeed if our Commission would investigate its possibilities, for he thinks a very valuable industry might be created in connection with its capture and utilisation. While quite endorsing Dr. Cox's opinion, it does seem to us surprising that, with the information he seems to have possessed respecting the herring, he did not years since force his colleagues, the Commissioners, to enter upon the task he is now so anxious for us to undertake. It is not that the matter has been allowed to sleep, for ever and again it has been brought under notice by contributors to journalistic literature, and the probabilities of the value it could be made to attain largely descanted upon.

Abundance of herrings.

Neglected industry.

We admit that with existing appliances the development of this industry on profitable lines would be impossible; it would need large enterprise and large means, and before people would be willing to embark in such an undertaking they would need to have confidence in the result. That we have now arrived at a stage beyond the bare probability of the herring being indeed present on our coast is beyond question, since we have it on the authority of reliable witnesses whom we have examined that it is so. In every water we have visited we have been careful to make inquiry, and in almost every instance the presence of the herring has been affirmed. Mr. D. W. Benson, the Inspector at Lake Illawarra, states that only a fortnight previous to our visit to the lake the Maray was outside the entrance, and that had his department supplied him with a suitable boat well equipped, he could have found out, long ago, whether this fish was present in the

Enterprise and capital necessary to development.

Presence of herrings on coast.

numbers

numbers the fishermen allege them to be; he says that the cost of the boat, added to actual expenses of a crew composed of local fishermen, would have been the only outlay. We think it extremely unfortunate that this idea of Mr. Benson's was not carried out; and we cannot too strongly impress upon the Government the desirableness of including this amongst the several schemes we have suggested for the enlargement of the fishing industry.

Government aid necessary to development.

Owing to the costly nature of the undertaking it is one which the Government must initiate, for it could not be undertaken with much hope of immediate return. Indeed, so strongly of this opinion was Sir William Macleay that, in his papers on the industry, he instances the British Fishery Society—established about the end of the last century for the prosecution of the herring fishery in the north of Scotland,—which laboured for many years before it became a complete success, although for a long time it was largely assisted by Government grants and bounties.

We urge attention to the claims of our herring fisheries with all possible earnestness.

The Fisheries of Lord Howe Island.

Importance of Lord Howe Island fisheries.

The fisheries of Lord Howe Island, also of Elizabeth Reef, which is situated some distance from it, are reported to be of considerable importance. The President of the Fisheries Commission regards this island as the best fishery New South Wales possesses. He says that all the finer qualities of fish on our coast are to be found there. He believes also that the carriage thence to Sydney, and to other markets, could be easily accomplished by means of well-boats or cool chambers. Dr. Cox witnesses also to the value of the fisheries at Elizabeth Reef. It is said that many of the New Zealand varieties of fish are to be found at Lord Howe. When it is considered that a company in Sydney are profitably importing these same kinds from New Zealand, as well as fish from other parts, it is not too much to expect that equal benefit would result from a development of our own resources. We hope, should your Excellency be pleased to sufficiently extend the term of our Commission, to make a visit to the island and the reef, and to inquire into the extent and capabilities of their fisheries, recording the result in a Supplementary Report.

Transit by well-boats or cool chambers.

Development of resources.

Extension of Commission's time.

The Inland Fisheries.

Ineffective system of closing inland waters against netting.

These fisheries extend over the entire Colony, there is scarcely a stream within it which does not produce edible fish, all of indigenous species; but beyond closing against netting a portion of water on either side of some few inland towns, but little or nothing seems to have been done towards conserving the natural supply; indeed the wisdom of making such closures at all seems very much open to question, at least in some cases; for instance, such a closure was made at Tumut and is still maintained notwithstanding protest by local residents against it. One purpose of such closure should be to afford a sufficient supply of fish to the townspeople, but the Tumut residents contend that the closure there to have been of use should have been made from the junction of the river with the Murrumbidgee. As it is the fish are intercepted by netting at that junction and prevented from passing thence to Tumut or further on to the heads of the river where the local residents suppose they travel to spawn. If this be so (but it is a point on which we have not yet found opportunity for prosecuting researches) the closure is obviously unwise from two separate points of view, the Tumut people do not gain their fish supply and spawning operations are hindered.

Tumut closure.

Possible spawning grounds of fresh water fish.

Murray River fisheries.

Messrs. Wilshire and Manton as honorary inspectors.

Passing on to the Murray River, one of the chief sources of supply, we find it is controlled by two honorary inspectors, Mr. Osborne Wilshire and Mr. John Manton. These gentlemen were formerly salaried officers but they were dispensed with under the retrenchment scheme of 1893. However, as they offered to continue performing their duties without pay, their services seem to have been accepted on that condition, and they have continued their supervision ever since.

Supervision necessarily partial.

It appears from the Annual Report on the Fisheries for 1894 that they have done this zealously and assiduously. But in waters of such extreme length as the Murray, with its ana-branches, billabongs, &c., it must be admitted that the most

most industrious service which these officers, whose time is for the most part taken up by other duties, could render, could not be fairly classed as more than a merely partial supervision.

The regulation of the Murray River Fisheries deserves most attentive consideration and care. When it is remembered that the south bank of that river forms the southern boundary of the Colony of New South Wales, and that railway transit thence to Melbourne is possible from several points, it will be manifest that this river must be a large factor in the fish supply to Victoria; and that it is so beyond doubt, we place in evidence the following return of fish sent thence during the last five years:—

1890	...	...	...	...	...	...	40,076 lb.
1891	...	...	...	...	...	...	31,340 lb.
1892	...	...	...	...	...	...	56,692 lb.
1893	...	...	...	...	...	...	48,043 lb.
1894	...	...	...	...	...	...	54,318 lb.
Total ...							230,569 lb. =
							Tons cwt. qrs. lb.
							102 18 2 17

This immense take shows the exceeding value these fisheries must possess, and the necessity for their efficient supervision and regulation; indeed, the importance of such a step is recognised even by our Victorian neighbours, for we find, in a report made in 1892 by a Select Committee of the Victorian Legislative Assembly appointed to inquire into the fishing industry of that colony, a suggestion that effort should be made to check the destruction of fish caused by illegal netting, by inviting the New South Wales Government to allow their inspectors on the Murray River to be appointed for the Victorian side of it also. The Select Committee expressed the opinion that unless some such step were taken fish in that river would become exceedingly scarce.

In addition to this unsought-for corroboration of the views we ourselves hold, we obtained, during our recent visit to Victoria, an expression of opinion from some of the members of that Government in the same direction. It needs then only the institution of a conference between the authorities of each colony to have the regulation of these fisheries established on an effective basis. At present we may regard our inland fisheries generally as being at an initial point of development, so that the steps most effective to be taken for their protection and conservation have yet to be determined.

Fish Acclimatisation.

It is regrettable that so little of what might have been accomplished has been effected in this direction. So long back as the year 1889 the matter was brought under the notice of the Commissioners and, with the view to establishing a fish hatchery, a minute inspection made of the river system between Goulburn and Picton. That particular portion of the Colony was selected because it possessed a high altitude and was easily accessible from Sydney.

We attach a sketch map showing that river system; most of the streams delineated on it were visited, the result being that the Wingecarribee River at Berrima was selected as most suited for the hatchery. It was intended that various species of the salmonidæ, viz., the schoodic salmon, the rainbow trout, the brook trout, and others which it was thought would thrive well in a water so admirably adapted for that class of fish, should be propagated there, but, unfortunately, though an amount of £700 was voted by Parliament to build a caretaker's residence and start the hatchery, it was afterwards determined not to proceed with the work.

The only kind of attempt officially made to stock our rivers with trout, has been to import ova from other colonies and hatch it in Sydney. This has been done almost every year, but by the time the fry had lost its yolk-sack the Sydney temperature had increased so much that it had to be sent away for liberation in various rivers, though it had not attained a length much beyond half or three-quarters of an inch. This was in accord with an old-time practice, but it is opposed by American authorities who assert that a few pair of yearling trout are far more efficacious in stocking a stream than thousands of fish liberated in the fry stage.

We think this assertion, at any rate so far as fry-stockage is concerned, finds proof here; for though thousands of fry have been liberated in many waters in the Colony, not much has been heard of their progress, and indeed it is scarcely a matter for surprise, because fish set free at such tender age must be subject to attack and succumb to enemies of various kinds.

Process
wasteful.

Of course it is not contended that none of the fry so liberated will mature, but it is claimed that quite 90 per cent. of it will be lost—if so the process is wasteful in the extreme, and in the same degree proportionately expensive.

Efforts of
Messrs. Gale
and Campbell.

But before any move was made by the Commissioners towards obtaining fry in this way, a successful attempt at introducing the fish itself was made by Messrs. John Gale and F. Campbell, of Queanbeyan. They brought over from Ballarat, Victoria, 300 yearling trout, from 3 to 5 inches long, eighty English perch, and forty Russian carp. By untiring exertion, during a long and tedious journey, occupying over thirty hours, partly by rail and partly by coach, they were successful in reaching Queanbeyan, with all but forty of the fish alive, and the loss of these forty was evidently accidental. The perch and carp were placed in waters near Queanbeyan. About half of the trout yearlings were distributed in the Cotter, Queanbeyan, Molonglo, Yass, and Naas Rivers, and the remainder in the Little River, in the Braidwood district, thirty-four miles further on, and in stream tributaries of the Snowy River, in the Monaro district, 100 miles further on. Subsequent investigations by these enterprising gentlemen showed that in the Queanbeyan River the trout bred marvellously, specimens weighing from 3 lb. to 5½ lb. having been captured; that the Cotter River was teeming with them, and that from thence they had entered the Murrumbidgee River. While they recorded no results from the Yass and Naas Rivers, they report that in the second year after the liberation of the parent fish in the Little and Snowy Rivers, experiments they made resulted in the netting of some hundreds of small fish.

Trout in
Snowy River.

The Snowy River is said now to be swarming with trout of all ages and sizes, most probably the progeny of Messrs. Gale and Campbell's enterprising undertaking.

To the Commissioners of Fisheries may perhaps be accorded credit for the presence of some of these fish in the Monaro country, as they have liberated large quantities of fry there; but as the adult trout is a remarkably predatory fish it is not improbable that that fry may to a large extent have fallen a prey to it.

Sites for
hatcheries.

Nevertheless we are convinced that the Monaro waters are admirably suited to the salmonidæ, and if they were within easy reach of Sydney we think they would be preferable to the Wingecarribee River at Berrima as a hatching station. We favour the latter because of its accessibility, and because being at an altitude of 2,000 feet above the sea level, its waters, even in the height of summer, maintain a low temperature; but we are fully of opinion that it would be judicious to establish hatcheries, not only there, but on the Monaro, New England, and other elevated plateaus.

Erection of
Fish Hatchery
should be
preceded
with.

We think it extremely unfortunate that the Commissioners of Fisheries did not utilise the site at Berrima while the £700 voted for it by Parliament was available, and we strongly recommend that the work should be commenced at once, so that arrangements may be sufficiently advanced by the time the next hatchery season arrives, August, to allow of actual operations being commenced. We make this suggestion with perfect confidence, for during our visit to Victoria and Tasmania we gave especial attention to this matter of trout propagation. We minutely inspected most if not all the hatcheries in those colonies. In corroboration as it were of our suggestions, we have it in evidence from Mr. Philip Seager, a prominent authority on fisheries in Tasmania, that on a recent visit to New South Wales he inspected the river at Perrima, and from the temperature of the water and district found no difference between that place and their own establishment in Tasmania. We have also read his letter to the Commissioners, written when in Sydney, in which he strongly advocates the construction of the ponds. There are hatcheries in at least three of the Australian Colonies; in New Zealand there are several, and we quite disagree with the policy which has hitherto prevented their establishment in New South Wales.

The

The Distribution of our Fish Supply, Market Accommodation and Transit.

The question of fish distribution has constituted one of the most of the many important matters which have engaged our attention. We are strongly convinced that in the preparation of any Bill to govern and control our fisheries, however perfect its provisions may be, the serious obstacle to be encountered is the want of efficient means for distributing the supply. So that while we have, in our opinion, succeeded in preparing a Bill which goes far in the direction of remedying most if not all the grievances under which the fishermen are labouring, and besides offers large facilities for the development of the fishing industry in hitherto untried directions, yet we feel that some arrangement to bring the consumer into closer workable relationship with the producer is absolutely necessary. At the outset we admit the extreme difficulty of suggesting a system to meet this requirement, though we have made an exhaustive study of the question in all its varying stages from the time the fisherman casts his net in the waters to the time when the fish are offered for sale to the consumer.

Mode of distributing supply ineffective.

Consumer should be brought closer to the producer.

The existing mode of distribution is lamentably behind the times.

Certainly compared with the means in use in the early forties we show vast improvement, but yet our arrangements are not nearly up to date, notwithstanding the large additions to the Market at Woolloomooloo, and it cannot be otherwise while the fact remains that in nine-tenths of our inland towns marine fish-food is an unknown commodity, while in the remaining tenth, and in the immediate suburbs of Sydney also, it is quite a rarity, and an expensive luxury.

Fish a rarity in inland towns.

Surely with a coast-line like ours, indented along its entire extent with numberless fish-producing inlets, rivers, and bights, such ought not to be—the evil has resulted from a combination of causes, some at least of which seem capable of remedy. In the first place, the Woolloomooloo Market, from its location, does not possess the requirements which the best authorities have asserted to be essential for a central establishment, namely, ample area and direct access to it from the fishing-grounds by water, rail, and road. Possibly situated as Sydney is, with, from a fisheries point of view, her comparatively imperfect railway system and her varied terminal points of steamboat traffic, it would be difficult to find a market site which would include all these essentials. Still there are sites better suited than the one at Woolloomooloo; take one for instance, the Darling Harbour Railway Terminus, approachable from north and south by each of these means, water, road, and rail. We may be optimistic in hoping for more perfect accommodation when so much expenditure has recently been incurred in bettering the Woolloomooloo Market, but until such facilities as we suggest are provided we must not expect perfection in our mode of fish distribution.

Unsuitableness of Woolloomooloo market location.

Darling Harbour railway terminus suitable for a central market site.

Still something may be done in other ways to improve the position both for the public and the fisherman. For instance, the conditions of rail carriage are capable of amendment, and really the life of a fishery depends largely upon the facilities afforded by the railway both in the matter of transit and freight charges. We are informed that in England liberal concessions are made in these directions.

Importance of railways to fisheries.

Fish from the various ports are there conveyed everywhere in fitly-designed cars, and at a low uniform charge, irrespective of distance. Here, by reason of the system of railways which, with the exception of one at Newcastle, converge at the metropolitan seaport, fish must for the most part be taken to Sydney and sold before it can be forwarded on to remote inland towns. Now this often involves, besides market, cartage and commission dues, re-cartage, and a second charge for railway carriage; it is not surprising that weighted with such multiplied outlay marine fish-food should in many inland towns be all but an unknown article and that fishermen find themselves so frequently face to face with destitution and distress.

Existing inconveniences in railway transit.

We think it should be possible to effect an appreciable reduction in market dues. Let it be considered that in addition to the cost to the producer of getting his fish to market he has to forego, in market dues and middleman's commission, some 10 per cent. of its realised value, together with the other charges enumerated, and perhaps also the steamboat charges, the result involving in some instances a debit balance against the fisherman, to stand as a charge against the next consignment, while to the public the article is at the same time not retailed except at famine prices.

Market dues and other outgoings.

This

Market dues
in Victoria.

This question of market dues and charges some two years since engaged the attention of a Select Committee of the Legislative Assembly of Victoria, who in their report made the following recommendation, and we suggest its consideration in connection with any amendment of charges to be made here:—

“The market dues which fishermen have at present to pay are at a uniform rate of 3d. per basket up to 2 cubic feet.

“This, according to the evidence submitted, is excessive. Your Committee recommend that, in lieu thereof, the following should be the market dues, viz. :—

- (a) Baskets weighing under and up to 30 lb., 1d. per basket.
 - (b) Baskets weighing over 30 lb. and up to 60 lb., 2d. per basket.
 - (c) Baskets weighing over 60 lb. and up to 100 lb., 3d. per basket.
- And over 100 lb. proportionately according to weight.”

Primitive
mode of fish
treatment.

But, while reform in these directions seems possible and is strongly desirable, the fishermen must not forget that they too must contribute towards improvement. What can be much more primitive than the existing mode of fish treatment from the moment of capture? With but a few noteworthy exceptions, fish are bundled from the net into the boat, where they are often exposed to the baneful influences of the summer sun, the risk of being trodden out of shape by the boat's crew, and then having thrown upon them the superincumbent weight of a second or even third catch, until when at last the boat reaches the carrier steamer, the fish, with bursted galls and entrails, are hurriedly thrown into most unsuitable baskets, which after being dipped into the water as a sort of cleansing process are placed on the steamer, perhaps under cover perhaps not.

English prac-
tice to gut fish.

That early putrefaction results, and consignments ultimately arrive at destination in a state quite unfit for human food is not surprising. In England such practices would not be tolerated. On the east coast, at any rate, all the fish are gutted first hand, the railway is brought down to the market, and the fish are taken from the smacks direct to the railway trucks, so that unnecessary cartage and handling is avoided.

English fish-
trucks.

These trucks are in appearance something like our powder vans. They open at the top and are fitted with divisions into which the fish, sorted according to their kinds, are carefully packed and placed. The fish trains, like ours, travel as much as possible by night, so as to avail of the colder atmosphere, though provision is made for the use of ice when necessary.

Climatic ne-
cessities.

If such precautions are found requisite in an English climate, how much more necessary is it that they should be observed here?

Fishermen
should gut
their fish or
provide
covered stor-
age.

We think it should be made compulsory on fishermen to gut their fish immediately upon capture, or at any rate to provide covered storage in their boats, so as to preserve their catch from damage such as we have indicated.

Steam transit.

We have little doubt that with suitable steam transit, fish so cared for could, by such quite simple means, be generally preserved in wholesome condition for a sufficient time to allow of transmission to the central market.

Barrow and
basket system
unsuitable.

Fish-carts
with cool
chambers.

In the further process of distribution amongst consumers, the present objectionable hand-basket and barrow system, under which fish are handled and re-handled by the vendor and intending customers until it is spoiled beyond redemption, should be abolished, and its place taken by the employment of suitable carts constructed on non-heat-conducting principles, and fitted with a centre ice chamber communicating with compartments abutting on to glass fronts for display of the fish according to species, weight, and price. Fish could be travelled in these carts for sale in parts remote from local markets, or to supply previous orders. In such carts fish could be viewed and selected, quite avoiding damage by frequent handling. But a scheme such as this would not be practicable unless enterprise and capital would take it up in conjunction, perhaps, with the fishermen on some mutually equitable basis. Until something in this direction is undertaken complete means for distribution of fish food throughout the city and suburbs cannot be established; for, to ensure its general use, our people must have assurance that, with such a perishable food as fish, they will be able to obtain it free from taint and at small cost. Under the existing barrow and basket system they cannot have that assurance, while under the system

Enterprise
and capital
necessary to
ensure com-
plete system of
distribution.

we

we sketch out, ordered, controlled, and officially supervised as it would be by qualified men, that assurance would grow, the industry would grow, and the public and the fishermen would alike be benefited. Officially supervised.

At present the catches are sent from the several fisheries in baskets and boxes. It is said that by the use of baskets the fish become damaged to a great extent, while those who send it in boxes aver that it suffers no damage whatever. Fish baskets and boxes.

We have no hesitation in suggesting the adoption of the latter means. Adoption of fish boxes.

We learn that in some parts it is the practice to travel fish in large cases supplied with ice, but the arrangements are of such a primitive character that the contents become damaged and oft-times spoilt by the pressure of the ice and the weight of the several superincumbent tiers of fish. Travelling fish in cases objectionable.

Where this mode of transmission is preferred and adopted, the details could be very readily improved by fixing trays of wire netting at intervals in the boxes. The fish laid upon these trays would not suffer undue pressure, while the ice being placed on the top tray, something after the manner adopted in transmitting the ova of salmonidæ, would effect the required reduction of temperature throughout the whole of the contents, a get-a-way for the melted ice being provided at the bottom of the case. This system might be beneficially adopted where better means are not available. Of course where rail-roads are established, along which supplies of fish can be regularly transmitted, it is natural to expect that that means would be availed of; and to lessen the risk of their going bad in transit we suggest the use of refrigerating cars. We have it in evidence from the fishermen that they would gladly avail themselves of such a convenience, providing the charges therefor were made reasonable. We have no grounds for anticipating that the charges would be high, inasmuch as in every place where we have made inquiries respecting freights the fishermen appear perfectly satisfied: indeed they give the Railway Commissioners every credit for their assistance in so helping the development of this important industry. Improved construction of boxes. Refrigerating cars. Moderate railway freights.

When in Melbourne we had afforded to us the opportunity to inspect the mode there in operation for transit of perishable commodities by means of a refrigerating car of new design, which, while more economic in expense of working, was perfect for its purpose in transmitting not alone fish but other readily perishable commodities. In this connection a further recommendation is made on the authority of expert evidence, viz.: a railway cooling car, receiving cold air from machinery fixed on the engine or attached to the car and worked from its wheels. It is stated that this could be done at quite a nominal cost compared with the cost of placing ice in ordinary cars. Refrigerating cars in Victoria. Cooling car.

Our observations have led us to think that either one or other of these cars might with advantage be adopted in this Colony. Their adoption in N.S.W.

We have referred to the baskets used in fish transit—except the huge cases sometimes employed to bring fish from the Clarence River, it is difficult to conceive any kind of package more unsuited to the purpose intended—oval in shape and extending at an angle outwards from the bottom to the top, and deep enough for the fish first thrown into them to be crushed out of shape, a waste of carriage space is involved and conditions for early decomposition are created. Unsuitableness of fish baskets.

In evidence the unsuitableness of these baskets is admitted, and in lieu of them is advocated the employment of shallow boxes of rectangular shape, fitted with locks and constructed of small meshed galvanised wire netting on frames so arranged that when packed in a railway car or steam carrier, currents of air may pass all around and above and below each box; by the adoption of such packages, fish would not be subjected to unnecessary crushing or heat. If, in addition, one or other of the means above suggested were provided for charging the railway fish cars with cold air, the means of transit would be pretty well perfect. One special advantage locked boxes would have over other kinds of packages is that they would aid the prevention of fish pilfering. That is a matter of very general complaint from the fishing stations all along the home division sea-board. Fishermen are not all agreed as to where this pilfering takes place. Some aver that it is done during railway or sea transit, while others attribute it to the wharfmen or the carters; but whoever may be the culprit it is patent that the evil exists, and should, if possible, be checked. Fish boxes of improved construction. Fish pilfering.

It

Care in transmission.

It occurs to us that even locked boxes may not prove an absolute preventive; we think that an additional check would be secured by weighing the boxes at time of consignment, checking that weight at the journey's end, and again on arrival at the market. Viewed according to the rough and ready way in which it is the present custom to travel fish, this system may appear somewhat cumbersome; but as in the transmission of other merchandise care is taken to protect it from robbery, we think as much care ought to be taken in the matter of fish; and when we have in evidence a case where more than one-third of a consignment was stolen in transit, it seems quite worth while to give the subject consideration.

Well-boats for distant fisheries.

In respect to the extensive fisheries to the north and south of the home division, which are so distant as to preclude their being worked under present available facilities during the summer months, it is quite possible that regular supplies might be maintained if the system of travelling in well-boats were brought into operation; indeed, it is surprising that this mode of keeping fish alive during transit, which has been attended by most favourable results elsewhere, has not long since been adopted by our fishermen, for, without doubt, fish so presented to the public would always ensure ready sale and give profitable remuneration to all who would engage in it intelligently and systematically.

Fish-tanks live fish.

A necessary adjunct to the well-boat is the fish-tank, an enclosure of batten work, made to float or sink according to the habits of the particular class of fish confined in it. The Hobart fishermen transfer the unsold portions of their catches from their well-boats to the tanks, which are moored in the Derwent, and in them fish are kept alive until needed for consumption. Such a system might be advantageously adopted by the fishermen in this Colony. We cannot impress too strongly on the minds of those who are anxious to earn a livelihood by fishing the superiority of the well-boat and tank system of fishing over other existing methods. It was so clearly demonstrated to us when in Tasmania, where we saw fish that had been by this method kept alive for periods ranging up to three months, that we should fail in our duty if we did not strongly recommend its adoption here. It is not an easy matter to remove a prejudice, but there are no doubt numbers of our people who do not care to risk eating fish that have been dead any time, but who, if they knew they could procure fish alive, would be prepared to make it an article of frequent consumption.

Market reform.

We desire to strongly emphasise the necessity for reform in regard to the market accommodation now afforded to the fishermen and to the public.

In dealing with this question of accommodation we cannot be too emphatic in denouncing the mode in which business at the Woolloomooloo Market is conducted. According to the evidence of witnesses qualified to speak upon the subject the fish are handled and treated in a most objectionable way, and the manner of their display on the floor, where they are liable to be trodden and spat upon by the heterogenous crowd of humanity which finds its way to the market in the early morning hours, cannot be too strongly deprecated. The system not only creates a prejudice against the use of fish, but besides it offers a premium to pilferers to rob the fishermen of their property.

Deficient oversight.

We think that the regulations enforcing inspection and oversight are not adhered to as rigidly as they might be, consequently a great deal of fish is allowed to pass to the public which although not actually stale at the time would be unfit for consumption an hour or two afterwards.

Treatment of unsound fish.

Again, we have found that when fish have arrived too late for the morning sale it is, irrespective of condition short of absolute unsoundness, stored in the refrigerating room, and later on submitted to public auction. We cannot too strongly express our disapproval of this practice, because fish in that condition when removed from the cool-room and restored to its normal temperature becomes again subject to the progress of decomposition from the point where that progress was arrested. Unless, therefore, the most scrupulous care is exercised in the admission of fish to the ice-house a great risk of danger to the public health is incurred.

Markets open all day.

This brings us to the question of the necessity for markets being kept open all day for the sale of fish. Were this so the public would be able to purchase their supplies as needed.

From

From the evidence obtained, we have no hesitation in suggesting that the whole question of market accommodation and distribution is one that should engage the serious consideration of the Government. As already stated, we believe that the market at Woolloomooloo is inconveniently situated, not only to the general public but to those engaged in the fishing industry. We, therefore, recommend that a site for a central market should be procured near the Darling Harbour Railway Station, and a suitable building erected thereon, provided with all necessary siding and wharf accommodation and conveniences in the shape of the latest improved methods for the treatment of fish. This, with the aid of one or other of the refrigerating cars to which we have referred, would ensure a ready means for the transit of fish to all the inland towns connected with the railway; and it is not too much to anticipate that in many instances fish caught in the afternoon of one day could be placed on the breakfast-table of distant inland centres on the following morning.

Accommodation and distribution.

Market at Darling Harbour.

Early fish supply to inland centres.

We are confident that if our recommendations in this respect were adopted an immense stimulus would be given to the fishing industry consequent upon the improved demand for fresh fish that would arise.

Stimulus to fishing industry.

In devising any new arrangements for the better distribution of our fish supply we would like to see included a system securing the gutting of fish on the waters where captured, before sending to market. We think that such a system could be instituted by offering, at the outset, a small subsidy or special inducement in the way of lowered railway freights. It seems strange indeed that the practice of transmitting fish for long distances in a hot climate like ours, with all the elements of putrefaction present, should have obtained so long without an experiment having been made in the direction we indicate.

System of gutting fish recommended.

If the public could be educated to such a system and assured that it would be carried out under strict supervision it would mean an increased price to the fishermen, and it would mean also employment for those connected with them in carrying out the process. The practice already obtains in other countries; it is generally adopted in the North Sea fisheries where the climatic conditions are not by any means so trying as they are here, and, next to the transit and storage of live fish in well-boats and fish-tanks, it seems to be a most important means for the preservation of a perishable article.

Advantages of the system.

The after market treatment of such a delicate and impermanent food as fish cannot be too carefully guarded. It should be laid out on raised tables constructed of slate, granite, or marble, and maintained at a low temperature. The public should have the right at any time during the day to purchase at the market such supplies of fish as they require; nor should this right be confined to a central market, for we deem it absolutely essential to the complete development of the fishing industry that auxiliary markets should be established in every populated centre. We cannot expect all our people to travel *en masse* to a central market, of necessity situated somewhat out of general reach, so we must have as adjuncts to it these auxiliaries in the city and suburbs established under Municipal or Government control, and in positions most convenient of access by one or more of our means of public transit. These depôts, like the central market, should be arranged for the effective display of the fish and provided with the most perfect system of cold storage, and it should be possible for persons to obtain supplies at these markets at any time of the day. The system might also be extended to the principal inland towns, and preservation effected by means of ice where cold storage proper is not available. Such auxiliaries, while assisting to remove the congestion which confinement to one central market must necessarily entail, would place fish within reach of the masses of the people—the working man being able to obtain his meal of fish as readily as one of steak.

Market conveniences.

Auxiliary markets.

Markets at inland towns.

The evidence we have collected shows that the interference of the middleman in the sale of fish has created a most disastrous effect upon the industry—it would seem that he absorbs all the profit which accrues without sharing any of the risk or labour, and we think the existence of such an institution is a most objectionable feature in the civic administration of the Woolloomooloo Fish Market.

Middleman a block to the industry.

Striking instances have been given to us of fishermen who have had account sales rendered to them from these middlemen to whom they had consigned their take, which, instead of showing profitable returns for hard work and exposure endured, had actually brought them in debt to these same consignees.

Unprofitable returns to fishermen.

It

Fish pilfering.

It has even been represented that in consignments of a given number of full baskets of fish, the returns when to hand showed a deduction from the original quantity sent, on the ground that the baskets when received at the market were only partially full. This, it has been asserted, is one of the means by which the fishermen who ply their vocation on the distant grounds are duped. Another assertion is to the effect that at times the prime fish are picked out and sent away by the agents to their constituents in the interior, account sales being rendered to the fishermen based on the lower rates obtained at auction for the inferior fish.

Fishermen
their own
auctioneers.

There is almost a consensus of opinion that the middleman should be dispensed with, and facilities afforded to the general public to come into direct contact with the producer. At the Hobart Fish Market the fishermen are for the most part their own auctioneers, so that the middleman is almost unknown, and this system seems to work so well in Tasmania that we have no hesitation in recommending its adoption in New South Wales where, with the aid of auxiliary markets, it could be made even more mutually beneficial both to the catcher and the consumer.

Statistics of Fish Supply.

Results of
sales.

The amount realised at the market from sales of fish in 1893 is stated to be £29,647, while in 1894, though the quantity submitted was greater by nearly 1,250 baskets, the returns are quoted at only £25,368, showing a drop of no less than £4,279. Certainly the fishermen did not benefit by this fall, nor did the consumer obtain his supply at a cheaper rate, the complaint being that the prices paid to the hawkers were simply scandalous.

Alleged cause
of deficient
supply.

Opinion has been expressed that our people are not a fish-eating community, and this has been advanced as a reason why the supply apparently available has always been so limited. That such is not by any means the case will be apparent even from a cursory glance at the following tables courteously supplied to us by the Government Statistician. So astoundingly opposite are the conclusions which the figures compel, that, if they originated from any less authority than Mr. Coghlan, we should be almost inclined to doubt their accuracy.

Imports of
fish.

By them, however, we are presented with the facts that during the last five years, notwithstanding we possess in untold quantities a supply of fish of the choicest kinds, we have nevertheless imported, chiefly from the neighbouring Colonies and New Zealand, fresh and frozen fish to the value of £18,777; and dried and preserved fish from Europe, Asia, and America, and the Colonies too, to the value of £422,986.

Results
anticipated
from new
legislation.

In the face of these facts we make bold to say that while it is found profitable to import fish to such an extent that in five years its value in the aggregate has amounted to nearly half a million of pounds sterling, the reason for the paucity of supply from our own waters must be sought for in some other direction than the indifference of our people to fish as an article of food; but whatever may be that reason, we hope, by the impetus we expect to result from the new legislation we propose, and the information and suggestions we offer respecting methods of fish-capture, transit, market accommodation, distribution, &c., New South Wales will take her proper place not only in supplying her own needs, but in making herself known also in the markets of the world.

Possible fish
export.

IMPORTS of Fresh and Frozen Fish into New South Wales

Country.	1890.	1891.	1892.	1893.	1894.	1890-4.
	£	£	£	£	£	£
Victoria	169	260	564	787	213	1,993
Queensland	306	97	297	35	40	775
South Australia	1,254	1,171	1,327	1,013	974	5,739
Tasmania	39	12	3	90	98	242
New Zealand	1,062	1,719	1,588	1,950	1,378	7,697
United States ... ..	.....	405	369	276	121	1,171
United Kingdom ... ..	.....	.....	.....	121	232	353
Canada ... ..	.....	.....	.....	801	6	807
Total Value	£ 2,830	3,664	4,148	5,073	3,062	18,777

IMPORTS of Dried and Preserved Fish into New South Wales.

Country.	1890.	1891.	1892.	1893.	1894.	1890-4.
	£	£	£	£	£	£
United Kingdom	58,803	43,443	39,153	31,617	24,639	197,155
Victoria (<i>via</i>)	4,900	5,708	7,165	6,922	3,195	27,890
Queensland	1,134	3,420	430	532	289	5,805
South Australia (<i>via</i>)	6,309	7,730	4,533	7,165	3,119	28,906
Tasmania	355	9	19	24	68	475
New Zealand	924	918	506	380	485	3,213
Hong Kong	5,657	4,221	2,577	2,394	1,682	16,531
India	545	45	7	.....	.....	597
Belgium	304	35	40	353	65	797
France	548	1,003	84	122	290	2,047
Germany	1,522	597	594	196	331	3,240
Italy	193	57	25	.....	22	297
Japan	2	3	.....	.....	.....	5
Norway	40	110	.....	.....	.....	150
United States	40,229	26,157	27,314	19,028	14,754	127,482
Singapore ... ..	.....	1	.....	.....	.....	1
China ... ..	.....	.....	31	.....	.....	31
Western Australia ... ..	.....	.....	.....	2	.....	2
New Caledonia ... ..	.....	8	.....	271	25	304
Canada ... ..	.....	.....	.....	3,719	4,335	8,054
Ceylon ... ..	.....	.....	.....	.....	4	4
Total Value	£ 120,965	93,465	82,528	72,725	53,303	422,986

The Oyster Fisheries and Legislation affecting them.

The oyster fisheries received much earlier attention in the shape of practical legislation than the net and line fisheries. In the year 1867 Dr. John Bowie Wilson, in conjunction with Mr. James Squire Farnell, were the means of obtaining the passage through Parliament of the Oyster Beds Act of 1868. Its objects were to encourage the formation of artificial beds and the improvement of the natural beds. It was a purely experimental measure, but did good service in its time. Eventually, however, unanticipated difficulties arose concerning the respective rights of lessees and licensed dredgers. The Act was not shaped to determine these difficulties, and its administration became at last hopelessly confused. A Commission appointed to inquire into the matter brought forward a Bill which would have cured the impediments found to exist, but the Government of the day could not find opportunity to bring it before Parliament. Legislation of 1868.

In 1880 a Royal Commission undertook an inquiry into the fisheries generally. So far as the oyster fisheries were concerned, it resulted in the enactment of Part II of the Fisheries Act of 1881, which, after validating the holdings or promises of leases acquired by some persons under the 1868 Act, enacted two separate modes of leasing, termed respectively a long-term lease—30 years—and an annual shore lease. In the long-term lease the rent was fixed at five shillings per acre per annum for the first four years, and twenty shillings per acre for the remainder of the term; the maximum area of any one lease was twenty-five acres. The annual shore lease was really a pre-emptive privilege to holders of riparian land. It gave to such the exclusive right to lease the shore fronting their properties at a rental of twenty shillings per 100 lineal yards, the shore in these cases being defined as between the marginal line, mean high-water mark, and an imaginary line defining an average depth of 3 feet at low water of spring tides. An almost exclusive right to these frontage waters could thus be acquired by these owners at the expense of the general public; we say almost exclusive, because the Act did certainly except from the leases natural oyster-beds and land included in public oyster reserves. The Act provided for working the natural oyster-beds by licensed dredgers at an annual license fee of £10. Legislation of 1881.

A very brief experience of this measure proved that it was unworkable, at least in some respects, and the assistance of the Legislature had again to be invoked—this invocation resulted in the existing Oyster Fisheries Act of 1884. This Act Amended Legislation of 1884.

removed the objectionable monopoly enjoyed by holders of water-frontage lands, and it allows the issue of leases to anyone for a term not exceeding fifteen years, with right of renewal, at a rental of twenty shillings per 100 yards per annum measured along the foreshore. The maximum length to be included in any one lease is 2,000 lineal yards, but as no limitation is made of the number of leases to be granted to any one individual there is practically no limit to the extent of area one person may hold.

Abolition of
royalty.

Leases were, in the first instance, granted subject to payment of a royalty of 3s. per 3-bushel bag of oysters raised, and were made of increased value to the lessee by the removal of the previous exclusion of the right to work natural oyster-beds within them. But, in 1887, an amending Act was passed abolishing the royalty, and with this amendment the Act stands as law to-day. That it has not been successful in promoting the industry is, from the evidence given by various witnesses, fully apparent. The President of the Fisheries Commission tells us that Crown lands are simply becoming denuded, and that although there has been an increase in the output, that result has been caused by over-stripping the leases and robbing the unleased lands adjacent thereto. He claims that leases so stripped are thrown back upon the Crown, and for oyster-culture purposes are made useless for years afterwards. Again, he states that some persons secure a lease of 100 yards or so, not with any intention of working it, but simply as an excuse or a blind for stripping the adjacent unleased lands. Should they be caught in the act of this unique system of robbery, they merely explain that they are using the oysters for their own consumption, and thus, so defective are the provisions of the Act, they avoid all risk of punishment. They really boat those oysters from the Crown lands to their 100-yards' lease, bag them there, brand the bags with their authorised number, and in that way get them to market. Dr. Cox states that many of these lessees apply for release under the excuse that the oysters on their areas had been destroyed by the worms. He affirms that the "man-worm" has been the trouble, not so much the ordinary worm.

Oyster
thieving.

Small
holdings
unsatisfactory

It is quite evident that the leasing of these small lengths of foreshore has been productive of great evils, and even the leasing of maximum lengths of 2,000 yards has not resulted as beneficially as it was expected to do.

Opinions of
witnesses.

Although the opinion of some witnesses is in favour of the smaller leases, yet they do not, for the most part, seem able to advance reasons for their views. One witness told us he would like to have all the leases thrown open and be able to take oysters where and when he liked, although he admitted that even the old licensing system did not prove a success. It is, however, but fair to state that after explanation of the advantages a system of leasing large areas, such as bays, arms of rivers, and such like, would confer, several of those witnesses were prepared to change their opinions.

Large leases
recommended

We strongly favour the plan of leasing in large areas, such as we have sketched in our Bill, and, beyond a nominal rental, requiring only the payment to the Crown of a fee on each bag of oysters raised. At the present time we have no knowledge of the actual state of any of our waters from an oyster-bearing standpoint. Certainly we ought to have official data on which to base the producing capabilities of any given area, but no information whatever in that direction has been gathered by the Fisheries Department, so that while it would be obviously impossible in any one case to fix a rent which would be equitable as between the Crown and the lessee, it would be quite practicable by the imposition of a scheme of payment by results to place both parties to a lease on an indisputably fair footing.

Combatting
worm disease.

We have referred incidentally to the worm disease. We think that beyond prosecuting scientific inquiries alone some practical steps should have long since been devised to combat it.

We are told by some witnesses that its eradication may be almost ensured by a constant stirring of the bottom on which the infected oysters are; again we are told that if the oysters are maintained on platforms raised above low-water mark the worm will disappear; once more, we are advised that if the oysters are removed from their beds and exposed to the sun and air for a certain period they will be ridded of the pest; and lastly, that if a diseased portion of a bed be absolutely stripped and kept stripped of oysters, as well as a margin of bottom around it, the spread of the disease can be checked and the remainder of the bed worked with profit.

Now

Now it would have been quite possible, and eminently proper too, for the Department during all the years in which the worm has been proving so destructive to have tested the efficacy of each of these suggestions, and to have published for general information the results of its investigations. We think that while lessees have been so continually pressed for the payment of rent on leases, which, though perhaps industriously tended had, from natural causes, proved unproductive, the Department should have made effort in the directions indicated in order that if possible relief might have been afforded. In the Bill we submit, we propose the system of payment by results, and we have reason to expect that it will, if proper official supervision be provided, be found to work satisfactorily.

Department
should have
experimented.

Trawling.

In the early part of our report we have referred to the system of capturing fish by trawling. As the beam trawl, though familiar by name, may not be generally known in the Colony, a brief description may be interesting. Its form is a funnel-shaped net of which the mouth is the widest part and from whence it gradually diminishes in size until it narrows almost to a point. The upper edge of the mouth of the net is secured to a wooden beam which rests at each end on an iron shoe or runner called a trawl head. The lower edge of the mouth is secured to a line called the ground rope which is made fast to each end of the beam and hangs in a bight between the trawl heads. Another rope is made fast to the two ends of the beam so as to form a span or bridle, and to the centre of this bridle is bent one end of the drag rope, the other end being secured on the trawling vessel.

Description
of net.

When the trawl is lowered in the water for working, the beam is supported in its position horizontally by the trawl heads, whilst the ground rope rests on the sea bed, thus forming a wide mouth. This apparatus is dragged along the bottom of the sea by the trawling vessel, and every movable object with which it comes in contact is swept into the net, where it remains until it is hauled up, and the contents emptied on the deck of the trawler. This trawl net is most effective for its purpose and would be a useful instrument for testing the resources of our coast line. It does seem passing strange that while fish have been at famine prices during all these years, no persistent efforts have been made to add to our supply by this well tried means of capture which has done so much to develop fisheries in other parts of the world.

Mode of using.

Effective for
fish capture.

Viewed from an economic standpoint alone it has been almost criminal neglect to have allowed such a reasonably probable source of wealth to pass for so long unheeded and untried.

One essential of a trawling ground is that it shall be free from obstructions to the passage of the net. We have at frequent intervals along our coast extensive bights having so far as is known firm bottoms and clear from impediments, along which the trawl could be drawn for miles—there is one between Newcastle and Port Stephens, another off Tuggerah, another off Shoalhaven, and elsewhere without number almost—each of these would doubtless produce large yields, not only of fish but of oysters also, for modern research suggests to us that our oyster supply has its origin in the ocean, not in rivers and inlets as has been supposed; but that is a large question and well worthy of special discussion, so it cannot have more than passing mention here.

Trawling
grounds.

We suppose that the want of a properly equipped steam trawler has been a chief obstacle in the way of proving the suitability of this method of capture, for in this colony there are not, without material alteration, any steamboats which would be suitable for working a trawl net. Such a vessel would require special construction in some points, ample beam, a good hold of the water, and special deck arrangements and appliances.

Steam trawler
and equip-
ment.

On one occasion rough trawling gear was placed on a small steam-tug, but owing to tempestuous weather and the unfitness of the tug, the experiment had after a few attempts to be abandoned. But even in this crude effort, attempted under most unfavorable conditions, a number of valuable fish, some of extremely rare species, were captured, and the existence brought to light of hitherto unknown species of fish, which proved incontestably what a small knowledge we possess of the inhabitants of our ocean floor.

Improvised
trawling
experiment.

New species
of fish.

We

Abundance of
ground fish.

Trawling
experiments
should be
undertaken
by the
Government.

We do know, however, that ground fish of various species exist in abundance, and this alone should be some warrant for expecting successful results from trawling experiments in a vessel suitably constructed, effectively equipped, and manned.

Of course, as we have explained elsewhere, it would be scarcely reasonable to expect private enterprise to step in and prosecute trawling on the bare assumption of possibility of ultimate success; but in view of the importance of the subject we think it is not expecting too much to hope that the Government will take it up as a national matter, and direct the institution of trawl surveys to test the suitability of the bights already named. This, while it would be more expeditious and far less expensive than a hydrographic survey, would supply just the information it would most concern an intending trawler to possess, as for instance not only the depth of water and character of the bottom but the fish producing capabilities as well; while to the public it would evidence the probable value of fish capture by trawling as an item of national economy and wealth.

Synopsis of the Fisheries and Oyster Fisheries Regulation Bill.

This Bill proposes a departure from existing legislation.

The witnesses whom we have examined, including Doctor James C. Cox, the President of the Fisheries Commissioners, seem unanimous in opinion that a change in the administration of the fisheries is absolutely essential. We are thus forced to the conclusion that the future control of the fisheries must be secured by other than the existing means. Indeed, the individual opinion of Dr. Cox, which, from the position he occupies, should command consideration, is that the administration of the fisheries and oyster fisheries should be separately controlled, each by a well-paid officer, but in conjunction with a paid board composed of two or three good business men who would take an interest in those industries.

In the really initial stage in which we find the fisheries at present, we hesitate to recommend a course which, however desirable it might be in itself, would involve a considerable expenditure of money over and beyond what would be absolutely required to cover the pay of a necessary working staff.

We think that, for at any rate some years to come, it would be quite within the capability of one man to control the fisheries and oyster fisheries conjointly. Such a man should be qualified for his task, and, as Dr. Cox suggests, be well paid. We think also that instead of a central paid board, it would be preferable to establish an unpaid board at each of the principal fishing centres. We have found the conditions and requirements vary so at different centres that we are sure they could be much more satisfactorily met and adjusted by local bodies, to whom those requirements would be known, than by a central board, which could only acquire its information second-hand. But, apart from this particular point, such determined hostility is expressed to so many of the provisions in the Acts in force that we have considered it expedient that all the Statutes relating to the fisheries should be repealed, excepting the Acts regulating the Fisheries of Port Hacking, starting afresh on a new basis.

Our Bill, which we entitle the "Fisheries and Oyster Fisheries Regulation Act, 1895," opens by setting out the interpretation to be applied to certain terms which are in repeated use throughout the measure.

After repealing, without prejudice to past operations and rights under them, the enactments previously referred to, it proceeds to declare that the duty of protection, development, and regulation of the fisheries shall be vested in one Commissioner, to be called the Commissioner of Fisheries for New South Wales. It proposes that the Commissioner may be assisted by local boards of advice, each board consisting of three persons, with whom the Commissioner may consult in respect to the fisheries in any particular district. These boards, to be termed local fisheries boards, will be representative of the Government, the local residents, and the fishermen, each being empowered to elect one member. In the past, much complaint has been heard of the injustice caused to fishermen through being governed in their trade by laws in the executive administration of which they have no voice. We think the proposed arrangement will afford all the representation which can be fairly claimed.

Power is taken to appoint officers for purposes of administration, including, as inspectors *ex officio*, police constables and certain employees in the Departments of Customs and Harbours and Rivers, &c. A perusal of the Bill will show that the observance of its provisions will compel the employment of a comprehensive inspecting

inspecting staff, and so, in order to cheapen the cost thereof to the fullest extent possible, it is thus proposed that the services of officers in the Departments referred to shall be availed of.

The considerable knowledge we have gained about our fisheries has served to show us that there remains so much more to be learned respecting them and their possibilities of future development that it would be altogether injudicious to attempt to bind them down, any more than is absolutely necessary, by hard and fast legislation. We have, therefore, provided in the Bill very ample power to the Executive Council to make regulations as to all details whatever. Moreover, we have specified certain different purposes which the Executive in its wisdom may, from time to time, govern by regulation in such directions as may seem fitting. We invite a perusal of these several specified purposes, and especially two new and important items,—namely, the working of deep-sea oyster-beds, and the general direction and control of ocean fisheries,—matters which have hitherto been culpably and completely neglected.

PART I.

Net and Line Fisheries.

With the foregoing explanation of the preliminary provisions, we pass on to the consideration of Part I of the Bill, Net and Line Fisheries.

We have found that much confusion and hardship have arisen to fishermen from the enactment legalising the use of several different kinds of fishing-nets, with various lengths and meshes, so obscurely defined in the Fisheries Act of 1881. Fishermen have, doubtless, frequently been led into infringement of the law from simple inability to comprehend the very abstrusely constructed sections of that Act which deal mostly with the subject. We think that these several kinds of nets may be discarded and the use of others allowed within such limits of length and mesh as may be found suitable for capturing any particular species of fish in any particular waters open to net-fishing.

The ninth section of the Bill shows clearly what we propose, and it will be obvious that it offers a large concession to the licensed fisherman; indeed, recognising the disabilities under which he has so long laboured we have used our utmost endeavours to produce this result, while at the same time taking care, in the public interest, that the efficient conservation of the fisheries shall not be jeopardised; we think the fisherman, in consideration of the enlarged privileges he will enjoy, should the Bill become law, will readily recognise the necessity for the subsequent enactments we have provided for the protection of the public estate. Amongst these conservative provisions are the prohibition of the use of illegal nets; the requirement that all nets must be emptied in at least one foot of water, so as to assist the escape of fry and immature fish, and that persons found with wetted nets in the vicinity of a hauling ground on which small fish are lying dead or stranded must show that they were not the cause of their having been left there; also that nets must be so hung that small fish and fry shall have fair opportunity for escape. We think, however, that the enactment that has hitherto given rise to so much dissatisfaction, and has proved so cruel in its incidence—we mean the punishment of a fisherman by forfeiture of his tools of trade—should be extinguished; and so it will be found that provision for the seizure of fishing-nets has no existence in our Bill. We prefer rather, and we have it in evidence as the desire of fishermen also, that instead of depriving an offender of his means of livelihood, only a fine, or in lieu a term of imprisonment should be imposed.

We have made sufficient provision against the use of sunken nets by requiring that foot lines of nets shall be weighted only to such an extent that when set the top or cork line shall not be sunken below the surface of the water. In making this condition, however, we have had to consider the fact that in some waters, the lakes for instance, the blubber is present in such quantities as to render hauling almost an impossibility. In waters so affected the practice has been to use a net technically termed a diver, this diver is simply a hauling net weighted sufficiently to sink it to the bottom in deep water at a distance from shore. The blubber being usually present for only a few feet below the surface, the net may thus for some considerable distance be drawn towards the shore below the region of its occurrence, and consequently, to a very large extent, escape contact with it. In our opinion this process of netting is absolutely essential in certain waters, such as Lakes Macquarie and Illawarra

Illawarra for instance, where the shallows extend for long distances outwards. We therefore, propose to legalise the use of dive-nets by placing it in the discretion of the Commissioner, after reference to the local fisheries board, to permit them where needed. The stalling of fish and the joining of nets together in such a manner as to unduly diminish the means of escape are also prohibited.

Substantial penalties are proposed for the punishment of persons found in possession of underweight fish. That equitable punishment in this respect should be insisted upon is absolutely essential, having in view the liberal concessions accorded to fishermen by other provisions of the measure.

The Bill then proceeds to deal with the closure of waters against fish capture. It proposes two classes of closures. The first, which is defined as "Close Fisheries," is intended to afford full protection to fish during spawning periods, and authorises the closure of a water during any months in the year. The second is to provide for conservation and continuity of the fish supply, and permits the practically permanent closure of waters as feeding grounds for young fish.

Viewed in the light of the liberal concessions which this Bill affords to fishermen, the necessity for the strict maintenance of these closures will be apparent, so it will not seem surprising that heavy penalties are suggested for any infringement of it in that respect.

Nevertheless, having before us the fact that in waters so closed marketable fish abound, we provide means in the shape of lines and set or drift nets by which they may, under conditions, be captured therein.

The Bill enacts the licensing of fishing boats and of professional and amateur fishermen, whether the fishing be for profit or pleasure. The provisions for licensing netters are much the same as at present, except that aliens must acquire a right to the privilege by first obtaining certificates of naturalization: also, it is made optional for applicants to pay their fees to a Clerk of Petty Sessions, or to the Treasury, or to the local Fisheries Inspector. A new departure is the requirement that every person fishing by line from a boat must hold a license—the fee proposed for this is quite nominal—only half-a-crown per annum. We think this quite equitable, too; because, if by means of legislation the fisheries are to be so regulated and protected that increased means of sport and amusement shall also be created, amateurs should not object to contribute towards such a result. Besides, there is the case of steamboats, which are constantly taking out large parties on fishing excursions. The capture by these parties is often very considerable, and is frequently placed on the market for sale, where it comes in competition with the professional fisherman in the prosecution of his business. We expect a large revenue will be derivable from amateur fishermen without pressing hardly on them individually.

The form in which licenses are at present issued is found to be objectionable, being liable to damage and even destruction from contact with water. We think some other form and substance might with advantage be adopted, for instance, a metal token similar to a railway season ticket. Regarding the idea so favourably, we provide in the Bill for its determination by regulation.

After prescribing to the Commissioner the right to limit the number of boats and men to be employed in any water, the remaining sections of the Bill enact certain usual provisions against fish destruction by explosives, placement of obstructions in the way of hauling nets, malicious disturbance of fish in process of capture, and for securing the identification of offenders.

PART II.

Leases of Crown Lands for General Fisheries Purposes.

This part of the Bill is mainly an adaptation of Part III of the Fisheries Act of 1881, which vests in landowners and holders the right to the influx and efflux of the tide over any area within their holdings which they may desire to lease under it. That enactment has, however, been so far a dead letter. We have thought that the scope of its intention might with advantage be extended so as to legalise the leasing for general fisheries purposes of bays and arms of inlets, as well as lagoons intercepted from tidal influence, whether situated on alienated or Crown lands. We have, therefore, modified the enactment so as to make it apply in that direction. Under this part of our Bill a lease of any such waters can be granted at a rental determined by auction or tender, for a period of fourteen years, vesting in the lessee the property in any

any fish, oysters, or crustacea within the limits of the area leased, power being taken to make regulations in the interests of the Crown for its sufficient control; moreover, a lessee will be required to enter into a bond with two sufficient sureties for the payment of the rent. In case of a lease of a lagoon or water barred from tidal influence, provision is made for admission of the tide by means of a trench or passage through the intervening shore. The remaining sections in this part of the Act supply sundry enactments which are thought necessary for controlling the concessions which a lease under it will confer. Amongst these is an important one, reserving to the Governor the right to cancel a lease for noncompliance with regulations or neglect to take measures for its sufficient development.

PART III.

Leases of Crown Land for Oyster Culture.

The conditions under which land may be leased for oyster culture will be found to be considerably modified. The existing system of leasing on the line of foreshore has, as explained in another part of our Report, not proved a success, and from the evidence taken is shown to be open to many objections. The Bill enacts that leases may be acquired by auction or tender, and may embrace any area in any river or inlet; the term of the lease is limited to ten years, the sale conditions including a nominal rental of 20s. per annum and an obligation to pay 2s. 6d. for every bag of oysters taken. Provision is made also for renewal of the term of lease, subject to such amendments in respect to rent and otherwise as may seem desirable. From date of payment of the first year's rent there will vest in the lessee the exclusive right to plant and take oysters, and a surrender may be accepted after the second year of currency should the area be found on inspection unsuitable for cultivation. A lessee whose rent or fees are in arrear will be barred from taking oysters from his lease, or from leasing a further area until all dues are paid; if a lessee should so mismanage his lease that destruction to the oysters upon it is threatened, further gathering may be stopped and the lease cancelled; to avoid the cost of accurate survey, a lease may be simply described by reference to posts, stakes, &c., or natural features sufficient to ensure definition. Lessees are protected in their holdings from disturbance or interference by unauthorised persons, but it is specially provided that fishermen shall not be barred from pursuing their calling over any parts of areas so leased not actually occupied by layings or deposits of oysters. A lessee, under penalty of cancellation, must, within two years from the date of his lease, have taken proper measures to carry out the required provisions, and when by reason of over-dredging or from any other cause an oyster-bearing area has been denuded, or the oysters thereon have become unfit for consumption as food, the further taking of oysters therefrom may be prohibited. Power is taken to proclaim oyster reserves; and on those reserves, and on Crown lands, and on areas on which dredging is prohibited, oysters are made the property of the Crown and may not be taken therefrom by any person without lawful authority, exception being allowed in favour of persons removing oysters from a reserve or Crown land for their own consumption *on the spot*. Provision is also made for prosecuting persons who may misconduct themselves or behave in a disorderly manner; an information in this respect may be laid by any person in whose sight or hearing such an offence has been committed. Presuming upon the existence of oyster deposits on the sea-coast outside headlands, power is taken to allow such deposits to be dredged under regulation by persons duly licensed in that behalf. Persons dealing in or selling oysters by retail must take out an annual license, for which it is proposed the fee of £1 shall be paid. It has been thought desirable to bring oyster-dealers under the provisions of the Bill, in order that the sale of immature oysters or the sale of oysters unfit for food may be checked, and for this purpose inspectors are authorised to seize and take away any such oysters, which may be disposed of in accordance with regulations to be made for the purpose.

PART IV.

Legal Procedure and Miscellaneous.

This part deals principally with the legal procedure to be observed in respect to informations heard under the Act.

It adopts the provisions of the Acts regulating summary convictions before justices. Provides that all proceedings may be taken by and in the name of any inspector, or any person specially authorised, or any lessee under the Act, and that no information or conviction shall be quashed through any defect or want of form—an alternative of imprisonment in lieu of fine is placed in the discretion of justices.

Persons

Persons aggrieved by any conviction, adjudication, &c., are allowed conditionally a right of appeal. Inspectors and others clothed with authority under the Bill are protected from assault and obstruction, and punishment is provided for persons refusing to give their names and addresses when legally demanded. The production of Treasury receipts, also of leases and licenses or copies thereof, or of license tokens, or *Gazettes* containing notices, regulations, or proclamations are made conclusive evidence in all Courts as to matters severally contained therein.

All fish and oysters illegally in possession of any person may be seized and condemned. The purchaser of a lease of any area is upon payment of the rent therefor for the first year deemed to be in actual possession of such area notwithstanding that the lease deed thereof may not have issued. Also power is reserved to the Governor to resume any area leased under the repealed Acts, subject to payment of compensation to the lessee. The Commissioner is required to direct and carry out experiments in modes of fish capture, also in the culture and propagation of fish and oysters, and to attempt the discovery of oyster-beds off the coast. Usual provisions are enacted to enforce penalties for non-compliance with the Act and Regulations, and special facilities are afforded for recovery of overdue rents and fees. The operative sections are arranged to come into force on the sixtieth day after passing of the Bill.

A report of the state of the fisheries is to be annually submitted to the Minister charged with the administration of the Act, and a copy is to be laid before both Houses of Parliament.

Abstract of some principal Suggestions.

1. The immediate passing into law of our Bill to regulate the Fisheries and Oyster Fisheries of the Colony.
2. A systematic exploration of our sea coast by a properly equipped Trawling Vessel to determine the capabilities of the Deep-sea Fisheries.
3. Transmission of live fish to market by means of Well-boats.
4. Employment of small launches driven by oil engines to facilitate inspectorial supervision of the fisheries.
5. Examination of the Fisheries at Lord Howe Island and Elizabeth Reef.
6. Inquiry into the Crayfish Fisheries.
7. Inquiry into the Inland Waters Fisheries.
8. Establishment of Fish Hatcheries.
9. Improved methods of fish transit.
10. Adoption of refrigerating cars for transit of fish by rail.
11. Packing fish in locked boxes instead of baskets.
12. Improvements in construction of cases for fish transit.
13. Improvements in Market Accommodation.
14. Reduction in market dues.
15. Abolition of the middleman and authority for fishermen to vend their own fish.
16. Erection of a Central Fish Market near Darling Harbour Railway Terminus, with Urban and Suburban Auxiliary Markets.
17. Substitution of fish-carts for the hawkers' basket and barrow system.
18. Gutting fish and improvements in accommodation for fish in fishing-boats.
19. Uniform charge by railway for fish carriage irrespective of distance.
20. Employment of fish tanks in connection with the well-boat system.
21. The development of the Herring Fishery.
22. Institution of experiments for eradicating the worm disease in oysters.

We have the honor to be,

Your Excellency's obedient Servants,

FRANK FARNELL,
PRESIDENT.

R. H. D. WHITE,
Commissioner.

LINDSAY G. THOMPSON,
Commissioner.

Sydney, June 14th, 1895.

58^o VICTORIÆ, 1895.

A BILL

To repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, and to provide for their better development and regulation.

WHEREAS it is expedient to repeal the laws regulating the Fisheries and Oyster Fisheries of the Colony, to make provision for their better development and regulation, and to encourage the artificial propagation of Fish and Oysters: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

Preliminary Provisions—Appointment of Commissioner, &c.

1. This Act may be cited for all purposes as the "Fisheries and Oyster Fisheries Regulation Act, 1895." Short title.

2. In this Act, except when otherwise specially expressed, the following words within inverted commas shall bear the respective meanings hereby assigned to them:—

"Authorised purpose"—Any purpose indicated by the provisions of this Act or the regulations.

"Boat"—Any vessel or punt of any description whatsoever.

"Commissioner"—The Commissioner of Fisheries appointed under this Act.

"Crown Lands"—Any foreshore as well as any land under the sea, within three miles of the coast, or under any tidal or inland water, or under any river, lake, lagoon, or other

- water, in the Colony of New South Wales, the property in which is vested in the Crown, and is not held under lease under this or the repealed Acts.
- “Engine”—Any weir, net, implement, device, or contrivance of any kind for the purpose of taking fish, not authorised by this Act.
- “Fishing-lines”—
- “Hand-line”—Any line intended or used for the purpose of catching fish, to which not more than three fishing-hooks are attached.
- “Long Line or Bultow”—Any line intended or used for the purpose of catching fish, to which four or more fishing-hooks are attached.
- “Fish”—All or any of the varieties of marine or fresh water fishes and crustacea enumerated in the First Schedule hereto; also fish not indigenous to this Colony which may be introduced or be in any inland waters, or which may from time to time be added by regulation.
- “Fisherman”—Any person licensed to catch fish under this Act.
- “Governor”—The Governor with the advice of the Executive Council.
- “Hauling”—shall be deemed to include casting, shooting, fixing, setting, placing, or staking.
- “High-water-mark”—The mean line between high-water at spring and at neap tide.
- “Inland Waters”—All rivers and creeks for that portion of their water-course which is beyond the influence of the tides; also all fresh water lakes, lagoons, and ponds.
- “Inspector”—Inspectors or Sub-Inspectors of Fisheries appointed and Inspectors *ex officio* created under this Act.
- “Justice”—Any Justice of the Peace.
- “Lawful authority”—An authority the nature and effect whereof must be proved by the person who sets it up.
- “Lease”—Any lease issued under this Act or the Acts hereinafter repealed.
- “Leased area”—Any portion of land leased under this Act or the Acts hereinafter repealed.
- “Lessee”—Any person holding a lease under this Act or the enactments hereinafter repealed.
- “Prescribed”—Prescribed by this Act or by regulations or in a lease made thereunder.
- “Regulations”—Regulations made by the Governor in pursuance of the provisions of section seven of this Act.
- “Spat”—The spat, brood, or ware of every kind of oyster below a size which from time to time by regulation under this Act may be declared to be marketable.
- “Tidal Waters”—All waters which ebb and flow over Crown Lands, within the territorial jurisdiction of the Crown in New South Wales, or over lands leased under this Act, and every lake and lagoon in the said Colony ordinarily subject to the influence of the tides (although the communication with the sea may for the time be closed), the soil or bed whereof is the property of the Crown; together with, in each case, the soil of such Crown Lands.

Repeal of
44 Vic. No. 25,
46 Vic. No. 25,
48 Vic. No. 6,
51 Vic. No. 21,
55 Vic. No. 15,
58 Vic. No. 4.

3. The Act intituled “*An Act to provide for the development and regulation of the Fisheries of the Colony*”; the Act intituled “*An Act to amend the Fisheries Act, 1881*”; the Act intituled “*An Act for the Amendment of the ‘Fisheries Act, 1881,’ the Promotion of Oyster Culture, and the Regulation of Oyster Fisheries*”; the Act intituled

intituled "*An Act to abolish the Royalty on Oysters*"; the Act intituled "*An Act for the better preservation of Fish in Inland Waters*"; the Act intituled "*An Act to prevent the use of certain Fishing Nets, known as Sunk Nets, and to make other provision subsidiary thereto*"; and the Act intituled "*An Act to amend the Fisheries Act in certain respects*," are hereby repealed, but except as hereinafter provided, without prejudice to the past operation of, or to any right lawfully created, offence committed, or penalty incurred under, any of the said Acts.

4. The duty of protecting, developing, and regulating the Fisheries of New South Wales shall be vested in a Commissioner, to be called the "Commissioner of Fisheries for New South Wales," to be appointed by the Governor by commission under the Great Seal, and who, by that name, shall be a body corporate, with perpetual succession and a common seal, with power to hold real and personal estate, and to sue and be sued, and to take, and be the subject of all legal proceedings by such name. And the duties, powers, and authority of the said Commissioner shall extend to the territorial limits of the said Colony.

Constitution of Fisheries Commissioner.

5. The Governor, on the recommendation of the Commissioner, may appoint boards of advice, each board to consist of three persons, with whom the Commissioner may, in the general administration of this Act, consult in respect to the fisheries in any district defined by proclamation in the *Gazette*. Such boards shall be termed local fisheries boards, and shall consist of a chairman, being either the Mayor of some municipality in the district or other person, as may be nominated by the Governor, and two other persons, one to be elected by the residents in the district, not being fishermen, and one by the resident fishermen. The mode of election and of conducting the business relegated to such board by this Act shall be determined by regulations.

Local fisheries boards.

6. It shall be lawful for the Governor to appoint such officers as he may think necessary for the purposes of administration of this Act, and to assign to every such officer such title, and, subject to vote by Parliament, such salary as he may think fit. And every such officer shall act under the direction of, and be responsible for the due performance of his duties to, the Commissioner.

Appointment of officers.

7. All officers of police and constables, and, other than the professional and clerical staffs, all persons employed in the Departments of the Marine Board and Customs and Harbours and Rivers, shall be, and have, and are hereby required to exercise, the powers, duties, and authorities of inspectors of fisheries *ex officio*.

Certain persons to be inspectors *ex officio*.

8. It shall be lawful for the Governor to make regulations from time to time for the purpose of giving effect to the provisions of this Act as to all details whatever; and, in addition to any purpose hereinafter mentioned, for any of the purposes following, namely—

Regulations.

- (I) For regulating the conduct of business by the Commissioner, and defining the duties of all officers and other persons clothed with any duty or authority under this Act.
- (II) For prescribing the forms and conditions of all licenses, mode of payment of license fees, as well as special fees for licenses to capture *salmonidæ* and other species of fish not indigenous to the Colony, and the due transmission of and accounting for all moneys to the Treasury and Audit Departments, respectively.
- (III) For prescribing the mode of testing the length of nets, and the dimensions of the meshes of nets, and notwithstanding anything contained in this Act or the Second Schedule hereto, the kinds, and the minimum weights or sizes of any species of fish, legal to be caught, sold, consigned, or exposed for sale.

(IV)

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- (IV) Providing for the sale or other disposal of any underweight fish seized or forfeited under any of the provisions of this Act.
 - (V) Prescribing a scale of rewards (and the terms and conditions of the payment thereof) for the destruction of sharks, or of cormorants, shags, or other birds which by proclamation may be declared to be destructive to fish.
 - (VI) Providing for the hauling or landing of fishing nets in such a manner as to prevent the destruction of underweight fish, and for the general regulation of net and line fishing, as well in regard to modes, places, and times of usage as in all other respects.
 - (VII) For determining all rights of priority in hauling nets, or dredging for oysters, as between fishermen, or fishermen and dredgermen, or between dredgermen only, netting or dredging on the same ground, and preserving good order amongst persons engaged in fishing.
 - (VIII) For taking oysters from Crown lands, under such limitations as to number of licensed dredgers or gatherers as the Commissioner shall deem fit, or the payment of prescribed license fees, and for the seizure and disposal of oysters unlawfully removed from Crown lands or public oyster reserves.
 - (IX) For marking the boundaries of and periodically inspecting public oyster reserves and leased areas. And to give due effect to the intent of this subsection every inspector and every officer duly authorised by the Commissioner shall have a right of entry on all lands whatever for purposes of inspection or survey, or of erecting and maintaining beacons or other marks for, or in connection with, the boundaries of leased areas or public oyster reserves.
 - (X) For the allotment or sale of young or foreshore oysters on public oyster reserves and Crown lands, to the holders of leased areas.
 - (XI) For determining the size of marketable oysters, and the penalties for taking, selling, or exposing for sale unmarketable oysters and oysters not in condition fit for food, and for disposing of or selling oysters, seized or forfeited under this Act.
 - (XII) For the protection and regulation of public oyster reserves and of oysters on Crown lands, for the limitation and regulation of dredging for oysters by divers on such Crown lands, and for the protection and regulation of all boundary beacons, buoys, or other marks.
 - (XIII) For compelling lessees to place and maintain a sufficient stock of oysters on their areas and to return all spat and undersized oysters and oysters not in a condition fit for food, together with all dead shells, cultch, and substances dredged up from beds in such a manner as may be most beneficial for the preservation of such beds, and for enforcing payment of rent or moneys overdue on leased, or applied for, areas.
 - (XIV) For prescribing the terms and conditions under which leases for oyster culture may be granted.
 - (XV) For prescribing the terms and conditions under which deposits of oysters found in the open sea may be worked, and for the general direction and control of the fisheries within territorial limits.
 - (XVI) For preventing the destruction of oysters or fish or injury to fishing or oyster grounds by deposit or placement of filth, refuse, or other deleterious matters, or by discharges from saw-mills, paper-mills, gas-works, or other manufactories,
- or

or boiling-down or wool-washing establishments, and for prohibiting such matters from being deposited in or mingled with tidal or inland waters.

(XVII) For preventing lessees and others from disposing of cultch or any dredged refuse so as to impede the access by water to Crown or private land abutting on leased areas.

It shall be lawful in any such regulations to provide for their enforcement by imprisonment for any term not exceeding *six* calendar months, or by the imposition of a penalty not exceeding in any case the sum of *fifty* pounds. And all such regulations shall, on publication in the *Gazette*, have the full force of law, and a copy thereof shall be laid before the Legislative Council and Legislative Assembly, within fourteen days after the making thereof, if Parliament be then in Session, and if not, then within fourteen days after the commencement of its then next ensuing Session.

PART I.

Net and Line Fisheries.

9. The Governor may, from time to time, declare by proclamation in the *Gazette* the lengths or depths of nets and dimensions of their meshes which in any specified water or waters shall, for the purpose of capturing any declared species of fish, constitute a lawful net: Provided always that any net which shall exceed three hundred fathoms in length, or be of less dimensions than one inch in the mesh shall be unlawful whenever and wherever used.

10. Any person using for fishing purposes in any water, or having in his possession in such water, any net of a length greater or of meshes smaller than stated in the next preceding section, or than shall have been by proclamation declared legal for use in such water, or using the same for any purpose other than that specified by proclamation concerning it shall be deemed to be using an unlawful net, and shall, for the first offence, be liable to a penalty not exceeding *five* pounds and not less than *two* pounds, and for a subsequent offence to a penalty not exceeding *twenty* pounds and not less than *five* pounds. And every person aiding or assisting in the use of such unlawful net, or being in the same boat in use at the time by the offender, shall also be liable to the like penalties.

11. It shall be unlawful to drag or to draw on to the dry land any net containing fish; but all such nets shall be emptied in at least one foot depth of water, and any person offending against this section shall for every such offence be liable to a penalty of not less than *two* pounds and not more than *ten* pounds; and every person assisting or being in the same boat with the person so offending shall be liable to a like penalty.

12. If any fisherman or other person shall be found with a wetted net having the appearance of immediate previous use in the vicinity of any hauling ground, such ground bearing evidence of immediately previous netting, and on which small fish, dead or stranded, are present, such fisherman or other person shall, in the absence of proof to the contrary, be deemed to have contravened the provisions of the next preceding section hereof, and shall, on conviction, be liable to the penalties enacted therein.

13.

Fishing nets how to be hung.

13. Every net shall be deemed to be an unlawful net within the meaning of this Act, if the same, when hung, shall have the netting distributed in less proportion than eighteen inches in length of the netting to every twelve inches in length of the cork and foot lines.

Sunken nets illegal.

14. The foot lines of any net lawful under this Act may be weighted, but only to such an extent that when cast or set, or in process of using, the top or cork line of such net, on which the netting must be directly hung or affixed in the proportions hereinbefore prescribed, shall not be sunk below the surface of the water: Provided always that it shall be in the discretion of the Commissioner, after reference to the local fisheries board in any district where such board has been established to recommend to the Governor that any specified water should be exempted from any of the requirements of this section; and the Governor may, by notice in the *Government Gazette*, declare any such specified water to be exempted accordingly.

Waters not to be stalled.

15. The setting of any engine net, netting, brushwood, or other substance across or within any bay, inlet, river, or creek, or across or around any flat, in tidal waters, in such a manner that fish enclosed thereby are, or may be left, stranded at low tide, or that immature fish may be destroyed thereby is hereby declared to be illegal.

Two or more nets not to be set together.

16. Any two or more nets placed nearer to each other than sixty feet on a haul, or joined or partly joined in such a manner as to diminish the mesh or the means of escape for enclosed fish, shall be deemed to be unlawful nets under this Act.

Penalties for having under-weight fish in possession.

17. If any person shall have in his possession or on his premises or in his boat, or shall sell or consign or expose for sale, any fish of any of the species mentioned in the Second Schedule hereto of a less weight than that set opposite the name of such fish in such Schedule, or prescribed by any regulation, he shall be liable to a penalty not exceeding *two* pounds for the first offence, and for the second or any subsequent offence to a penalty not exceeding *five* pounds and not less than *two* pounds. And all such under-weight fish, together with all other fish found in the same basket or other receptacle, or on the same table, or stand, or residence, or in the same boat, cart, or vessel with such under-weight fish, shall be forfeited and be disposed of in accordance with the regulations. And any inspector may seize any fish which under this section are liable to forfeiture and take the same before any justice, or before the Commissioner or any officer or person appointed by him, or before any member of a local fisheries board, who, upon view thereof, shall declare whether or not such fish are under weight, and if he declare them to be so, shall order them, together with all the other fish found in the same basket or receptacle, to be forfeited and to be disposed of in accordance with the regulations. The provisions of this section shall not apply to any curator of a museum or zoological collector holding a permit from the Commissioner, or to the Commissioner or any inspector of fisheries or lessee capturing or being in possession of fish for purposes of pisciculture, or to any aboriginal taking or being in possession of fish for his own consumption; but in every such case of exemption the proof thereof shall be upon the defendant or person charged.

Proclamation of close fisheries.

18. It shall be lawful for the Commissioner, on the recommendation of the local fisheries board in any district where such board has been established, to declare by notice in the *Gazette* that any specified tidal or inland water or portion thereof shall be exempted from net, line, or engine fishing, or each or any of them, during any specified months in any year. The fisheries in all such waters so specified shall be termed "Close Fisheries," and the months during which the same are so declared exempt "Close months." And if any person shall,
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in any close fishery, during any close month, place any line or engine or haul any net whatever, for the purpose of catching, taking, or enclosing fish, or in such manner that fish might be caught, taken, or enclosed thereby, such person shall be liable to a penalty not exceeding *ten* pounds and not less than *two* pounds. And every person aiding or assisting in the placing of any such line, or hauling of any such net, or being in any boat from which any such line or net shall be placed or hauled, in contravention of the provisions of this section, shall incur a like penalty: Provided always that it shall be lawful for the Commissioner, in like manner, to rescind, vary, or explain any such proclamation.

19. For the more efficient conservation of the fish supply and the protection of the feeding grounds for fry and immature fish, it shall be lawful for the Governor, when so advised by the Commissioner, to declare by proclamation to be published in the *Gazette* and by notice in some newspaper circulating in the nearest police district, that the whole or any defined portion of any inland or tidal water shall, subject to the proviso hereafter enacted, be closed against the use of engines, fishing-nets, fishing-lines, or each or any of them, for such term as the Governor shall think fit. And any such proclamation may be renewed by the Governor, if so advised by the Commissioner, for a further period, or may in like manner be explained, varied, or rescinded at any time whatever.

Proclamation closing waters against use of fishing-nets.

20. If after the publication of any such proclamation as is described in the next preceding section hereof and during the currency thereof, or of any renewal or variation thereof, and during the currency thereof, any person except an inspector shall otherwise than as is hereinafter provided, haul any net or place any fishing-line or engine for the purpose of taking or capturing fish, or by which fish may be taken or captured within the limits of the waters or area defined therein, such person shall be liable for the first offence to a penalty not exceeding *ten* pounds and not less than *five* pounds, and for the second or any subsequent offence to a penalty not exceeding *twenty* pounds and not less than *ten* pounds; and every person aiding or assisting in the hauling or otherwise fixing of such net, fishing-line, or engine, or being in any boat from which any net, fishing-line, or engine shall be hauled or placed in contravention of the provisions of this section, shall incur a like penalty. And every person convicted under this section shall, if holding a license under this Act, be deemed by conviction to have forfeited his license for the year then current. Any inspector may, with or without warrant, apprehend and take before one or more justices any person found offending against the provisions of this section, to be dealt with as hereinafter provided: Provided always that, in any water so closed against the use of fishing nets, it shall be lawful under conditions to be from time to time specified by the Commissioner for any licensed fisherman to capture therein fish of lawful weights by line or by means of a set or drift net which shall not be drawn ashore after the manner of a hauling net, but shall be cast from and hauled into a boat in a depth of water of not less than six feet.

Penalty for fishing in closed waters.

21. If any person not being an inspector shall, except as hereinbefore provided, be found with freshly caught fish or a wetted net in his boat or in his possession in waters which by proclamation under this Act are exempted from line, net, or engine fishing, or are closed against the use of fishing-nets or lines, such person shall be deemed to have been unlawfully catching or attempting to catch fish in contravention of the provisions of this Act, and every person convicted under this section shall be subject to the penalties and forfeitures provided by the next preceding section hereof: Provided always that a right shall be reserved to the defendant to prove that he was not upon such waters for any unlawful purpose under this Act.

Persons not to have freshly caught fish in closed waters.

Net boats to be licensed.

22. Every boat used, or intended to be used, for catching by net, long line, or bultow, any of the varieties of fish enumerated in the First Schedule hereto, shall be licensed. Such license shall be issued in a form or shape to be prescribed by regulations under this Act. The fee for every such boat license shall be twenty shillings, which shall be paid to the local inspector of fisheries, or to the Colonial Treasurer, or some officer authorised by him to receive license fees under this Act; and payment of such fee shall cover the interval from the date of payment to the thirty-first day of December of the same year, unless such boat shall in the meantime have been sold or disposed of by the owner, in which case the license thereof shall be deemed to be void: Provided that after the thirtieth day of June in any year a moiety only of such fee shall be payable. Every boat licensed under this section shall have painted in legible letters of such size and description, and in such conspicuous place as may be prescribed by the regulations, the registration number under letters "L.F.B.," which shall be understood to mean "Licensed fishing-boat."

Fishermen to be licensed.

23. Every person catching fish by means of a net, long line, bultow, or engine in or upon any tidal or inland waters must hold a license, which shall be issued in a form and of such substance as may be prescribed by regulations under this Act. The fee for such license shall be ten shillings, and shall be paid to some one of the persons specified in section twenty-two hereof as entitled to receive license fees. Such license shall cover the interval from the date of payment of the license fee to the thirty-first day of December of the same year: Provided that after the thirtieth day of June in any year a moiety only of such fee shall be payable. If any person shall take or attempt to take fish by a net, long line, bultow, or engine, from any such waters without having first obtained such license, or shall on demand of any inspector fail to produce such license he shall be liable for every such offence to a penalty of not less than *ten* shillings nor more than *forty* shillings: Provided always that any such license issued under this section shall entitle the holder to take fish by hand-line also.

Line fishermen to be licensed.

24. Every person catching fish by hand-line from a boat in or upon any tidal or inland waters must hold a license. The fee for such license shall be two shillings and sixpence, and shall be paid to some one of the persons specified in section twenty-two hereof. Such license shall cover the interval from the date of payment of the license to the thirty-first day of December of the same year. If any person shall take or attempt to take fish in any such waters without having first obtained such license, or shall on demand by any inspector fail to produce such license, he shall be liable for every such offence to a penalty of not less than *five* shillings nor more than *forty* shillings.

Aliens not to be licensed.

25. A license of any kind shall not be issued to any person who is not a natural-born British subject except upon production to the Commissioner by such person of his letters of denization or certificate of naturalization.

26. The Commissioner, on the recommendation of the local fisheries board, may, from time to time, by notice in the *Gazette*, limit the number of boats and men to be employed in fishing at any one time in any water; any person infringing the provisions of any such notice shall be liable to a penalty of not less than *ten* shillings and not more than *two* pounds.

Dynamite not to be used.

27. It shall not be lawful by the explosion of dynamite or any explosive substance, or by means of any poisonous or noxious thing, to destroy or take fish in any tidal or inland waters. And if any person shall explode any dynamite or any such substance in or under such waters, or place or cause to flow thereinto any poisonous or noxious thing, such person and all other persons assisting or being at the time

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in company of such person shall for every such offence be severally liable to a penalty not exceeding *forty* pounds and not less than *ten* pounds. But nothing herein contained shall apply to any person duly authorised (the proof whereof shall be on him) to explode torpedoes or dynamite in any such waters.

28. If in any tidal water any person shall wilfully or maliciously drive or place any stake, log, stone, or other thing whatever, likely to damage a fishing-net if dragged over or against it or within the reach of a fishing-net of lawful length, and if any damage shall be sustained by any lawful fishing-net through coming into contact with such stake, log, stone, or thing, such person shall be liable to a penalty not exceeding *ten* pounds, and in addition shall pay such compensation to the owner of such net as may be awarded by the adjudicating justices. Likewise any person who by placing or mooring a boat in such a position as to obstruct any licensed fisherman from hauling on to a beach with a net, lawful under this Act, shall be liable to a like penalty: Provided always that it shall lie on the informant to prove that such person had been duly warned to abate such obstruction.

Penalty for damaging lawful nets by placing obstacles on hauling ground.

29. It shall not be lawful for any person, by the wilful firing of guns, or by the production of other disturbing noises or sounds, to frighten fish around which nets are being set by any person holding a fisherman's license. If any person shall offend against the provisions of this section he shall be liable to a penalty not exceeding *five* pounds nor less than *three* pounds.

Penalty for disturbing fish in process of being netted.

30. Every person who shall be found using a fishing-net or line in any tidal or inland water in New South Wales shall, on demand, give his true name and residence to any inspector or justice, or to any owner or occupier of land bordering such water, or over which it ebbs and flows. And if any such person shall refuse or neglect to comply with such demand, or shall give a false or fictitious name or residence, he shall be liable to a penalty not less than *one* pound nor more than *ten* pounds.

Netters to give name and residence when demanded, &c.

31. Should such inspector, justice, owner, or occupier suspect that the person so found using a fishing net has given other than his true name or residence, or either, he may thereupon seize the net or boat and hold it until satisfied of such person's identity and actual place of residence; but no claim shall lie for detention or loss of any net or boat so seized.

Identification of offenders.

PART II.

Leases of Crown lands for General Fisheries Purposes.

32. The Governor, on the recommendation of the Commissioner and local fishing board, may lease at a rental determined by auction or tender for the purpose of a fishery any Crown land below high water-mark in any river, creek, arm, or bay in any tidal water or in any lake or lagoon, whether open to or barred from the influence of the tide.

Lagoons and lakes may be leased for fisheries.

33. Any such lease may be granted for a term not exceeding fourteen years, and shall be issued subject to any regulations which from time to time may be made under this Act.

Term of lease.

34. (I) Every such lease shall vest in the lessee the exclusive right during the currency thereof of stocking the area leased with fish of any kind whatsoever, as well as oysters, spat, and other varieties of molluscs, and of taking therefrom any fish or oysters and their shells.

Property in lease.

(II) Of vesting the property (at law or in equity) in any fish or oysters while the same are within the limits of such leased area in such lessee, any rule of law to the contrary notwithstanding.

(III) Of vesting in such lessee the right to the influx and efflux of the tide into and over such area when barred from the influence thereof by means of such admission as a trench or passage through, or by the laying of pipes under the shore, or by such other means as may be prescribed.

(IV) Of vesting in such lessee the right to enter upon the shore, the property of the Crown, for the purpose of constructing works for the admission of tidal waters, and for the repair or renewal of such works, stopping the traffic thereover (if necessary) for any period not exceeding seven days in any one year in order to effect such repair or renewal.

(V) Of abrogating any rule of law so far as it might be held to confer any public right of fishing or taking oysters or fish by nets, lines, or other appliances whatsoever in or upon such area, but subject always to the right of any inspector or authorised officer to enter upon any land included in such lease, and to test its condition by such means as may seem to him proper.

Provision for bridge across trenches, &c.

35. No trench or passage through the shore for the purpose of permitting the tide to ebb and flow to and from such area, or any area leased under this Part, shall at any point exceed a width of twelve feet; and every such trench or passage shall, at the cost of the lessee, be bridged by such a substantial bridge or means of crossing as the lease shall prescribe, or (if none shall be so prescribed) as the Commissioner shall determine. And every such bridge or crossing shall be maintained in good order and repair by such lessee, and shall in every case be furnished with substantial handrails on either side, and be not less than twelve feet wide between the rails.

Lessees to find sureties for payment of rent.

36. Every lessee under this Part shall be required to enter into a bond to the Crown with two sufficient sureties to be approved by the Crown Solicitor in a sum equal to nine times the amount of rent payable under the lease, conditional for the payment of the rent reserved in the lease, as from time to time the same shall become due, and it shall be lawful for the Commissioner to take proceedings thereon, and put such bond in force, notwithstanding that such lease may have been cancelled under any of the provisions of this Act.

Lease may be cancelled.

37. Any lease so granted may be cancelled by the Governor at any time if he shall be of opinion that the conditions therein expressed, or the provisions of any regulation made at any time under this Act, have not been faithfully complied with, and such cancellation shall take effect upon notification thereof in the *Gazette*. Occupation under such lease shall not (except as hereinbefore provided) confer any right or title to the lessee to enter upon or occupy any portion of the shore surrounding or adjacent to his leased area, or to use any portion thereof not included in his lease.

Commissioner may recommend cancellation of lease in certain cases.

38. If it shall appear to the satisfaction of the Commissioner that any lessee has not, within the period of one year from the date of his lease, taken measures proper, in his opinion, for stocking the area with fish and for propagating the same, or that through carelessness or negligence an undue destruction of either mature or immature fish has been caused, then it shall be lawful for him to recommend the cancellation of the lease by the Governor. And the Governor shall have power to cancel the same accordingly by notification in the *Gazette*. And, upon the publication of such notification, all the rights and privileges granted by such lease, and the term thereby demised shall absolutely cease and determine: Provided always that, before making such recommendation, the Commissioner shall cause a notice in writing stating his intention to make such recommendation to be served on the lessee or person for the time being entitled to the lease, or, in case such person cannot be found, he shall cause such notice to

to be inserted as an advertisement at least three times in a newspaper circulating in the police district nearest to or in which the area leased is situated, and also to be published once in the *Gazette*. And no such recommendation shall be made until after the expiration of one calendar month from the service of such notice, or from the date of the last advertisement (whichever shall happen last); and the lease of the land comprised within any such cancelled lease may be disposed of by public auction or tender, subject to the provisions of this Act.

39. The limits of a leased fishery shall in every case be marked Marking limits of leased fishery. by the lessee by substantial stakes placed at a distance not exceeding fifty yards from one another, or (where such staking is not reasonably practicable) in such manner as the regulations shall prescribe. But in any proceedings taken by the lessee of such fishery for larceny or any offence or matter under this Act, it shall not be necessary for him to prove that the requirements of this section have been duly complied with.

PART III.

Leases of Crown land for Oyster Culture.

40. For the purpose of culture and propagation of oysters the Lease for oyster culture. Governor may, on the recommendation of the Commissioner, offer for sale by auction or tender the lease for any term not exceeding ten years, of any specified area of Crown land being within the head lands of any harbour, bay, estuary, port, river, creek, or other inlet, at a rental of twenty shillings per annum, provided that the lessee of any land so leased shall also pay to the Colonial Treasurer a fee of two shillings and sixpence for each and every bag, containing not more than three bushels of oysters, dredged or otherwise taken from any such leased area; and on the application of the lessee during the last year but one of the currency of any such lease the Governor may, on the like recommendation, renew the term for a like period, but subject to such amendments of rent, and such limitations in other respects as may be considered desirable.

41. Every such lease shall vest in the lessee, his executors, Property in lease. administrators, and assigns all oysters within the area leased, and as well the exclusive right, during the currency of the lease or any renewal thereof, of laying and planting oysters on, and of dredging and taking oysters from, the area leased, but subject always to the several provisions of this Act and any regulations made under it, and the right of any inspector or authorised officer to enter upon such area for any authorised purpose.

42. Occupation under any lease shall not give any right to the Abutting land not included in lease. lessee to occupy or use any portion of Crown lands abutting on but not included in his lease, except for such purposes and during such times as may be prescribed.

43. Any leased area may be described in the lease by reference Leased area how described. to posts, stakes, buoys, marks, or natural features showing the limits of such leased area in a manner sufficient to allow of their identification.

44. The Governor may, if recommended by the Commissioner, Surrender of lease. accept a surrender of a lease, after the second year of its currency, in any case where it shall appear, to the satisfaction of the Commissioner, that oyster culture cannot be carried on upon the leased area with any reasonable hope of success, or where, from any other reason, the Commissioner shall report in favour of such surrender.

45.

Lessees in arrear with rent not to apply for further areas.

45. Any lessee who shall be at any time in arrear with the rent or fees due on any one or more leased areas shall, notwithstanding anything in this or the repealed Act provided, not be entitled to take oysters from off such areas, or to lease a further area until such overdue rent shall have been paid.

Commissioner may recommend cancellation of lease in certain cases.

46. If it shall appear to the Commissioner that any lessee has not within a period of two years from the date of his lease taken proper measures to carry out the conditions of his lease, he may recommend the Governor to cancel the lease. And the Governor shall have power to cancel the same accordingly by notification in the *Gazette*, and upon the publication of such notification all rights and privileges granted by such lease, and the unexpired term thereof, shall cease and determine: Provided always, that before making such recommendation the Commissioner shall cause a notice in writing, stating his intention to make such recommendation, to be served on the holder of the lease, or in case such person cannot be found, they shall cause such notice to be inserted at least three times in a newspaper circulating in the police district nearest to the area leased, and also to be published once in the *Gazette*. No such recommendation shall be made until after the expiration of one calendar month from service or the publication of such notice in the *Gazette*.

Cancellation for mismanagement.

47. Upon receipt of a report by an inspector that a leased area is being so stripped of oysters or otherwise mismanaged by the lessee that the production of oysters thereon has, in such inspector's opinion, been so reduced as to threaten its destruction partially or wholly as an oyster-bearing area, further dredging or taking of oysters may be thereupon stopped by the Commissioner, and the Commissioner may call upon the lessee to show cause why he should not recommend the Governor to declare the lease of such lessee to be cancelled. And upon the receipt of a recommendation by the Commissioner recommending the forfeiture of any such lease, the Governor may, by notification in the *Gazette*, declare the same to be, and the same shall thereupon be cancelled accordingly.

Penalty on disorderly person.

48. Any person employed by any lessee or applicant under this Act, or the repealed Acts, for a lease of land abutting on or near to occupied premises, or any lessee or applicant himself who shall, either within view or hearing distance of such premises, conduct himself in a disorderly manner, or use obscene language, to the annoyance of the occupier or other person on such premises, shall for every such offence incur a penalty of not less than *three* pounds. Proceedings under this section may be taken by and in the name of any person in whose sight or hearing such offence shall have been committed.

When natural oyster-bearing areas may be closed.

49. Whenever the Commissioner shall report that the whole or any part of any oyster-bearing area, whether under lease under the repealed Act or this Act or not, has by over-dredging or from any other cause been reduced to such a state that the taking of oysters therefrom ought to be suspended, or that the oysters thereon are in such a condition as to be not fit for consumption as food, the Governor may prohibit, by proclamation in the *Gazette*, for any term not exceeding *three* years, the taking of oysters from such area. And if any person shall without lawful authority, at any time during the period mentioned in such proclamation, take or attempt to take oysters from any area described in such proclamation, such person shall incur a penalty not exceeding *twenty* pounds and not less than *five* pounds. And all oysters and the bags containing them found in the possession of any person so offending may be seized, and upon conviction of the offender shall be forfeited to Her Majesty. And the Governor may in like manner rescind wholly or in part any such proclamation, or any proclamation made under the hereinbefore repealed Act, relating to the

the opening or closing of oyster beds: Provided always that when on areas under lease under the repealed Acts such reduction has, in the opinion of the Commissioner, resulted from natural causes only, such as floods or disease, the lessees of such areas may be relieved from payment of rent for the period of such suspension.

50. It shall not be lawful for any person other than the lessee, ^{Injuries, &c., to} his agents or servants, within the limits of any leased area to do any ^{leases.} of the following acts, viz.:—

- (I) To take or in any way disturb or interfere with any oysters without the consent of the holder of the lease.
- (II) To allow cattle to stray; to cut or lop or remove mangroves or any timber.
- (III) To deposit or remove any stone, ballast, rubbish, or substance, or to dredge or drag with any implement, unless by direction or authority of the Commissioner, or the proper officer of the Department of Harbours and Rivers, or the Marine Board, and in any such case on payment of compensation for damage done (if any).
- (IV) To place any implement or thing likely to injure oysters, except for a lawful purpose of navigation or anchorage.

And if any person does any act in contravention of this section he ^{Penalties.} shall be liable for the first offence to a penalty not exceeding *five* pounds, and for the second offence to a penalty not exceeding *ten* nor less than *five* pounds, and for a third or subsequent offence to a penalty of *twenty* pounds; and shall be liable to make compensation to the lessee for all damage sustained by such lessee by reason of such person's unlawful act, and in default of payment the same may be recovered by the lessee in any Court not incompetent by statute in respect to the amount or nature of the claim, and whether such person has been convicted of an offence under this section or not: Provided that nothing in this section shall apply to fishermen hauling nets or fishing over any part of such leased area not actually occupied by layings or deposits of oysters.

51. The Governor, by notification in the *Gazette*, may declare ^{Portions of certain} any Crown land to be a public oyster reserve for recreation, or to be ^{Crown lands may be} exempt from any power of leasing conferred by this Part, and on the ^{exempt from leasing,} recommendation of the Commissioner in like manner may cancel any ^{or be declared public} such notification wholly or in part. ^{oyster reserves.}

52. Oysters on a public oyster reserve for recreation, or on ^{Penalty for unlawful} Crown lands, or on areas proclaimed under section forty-eight of this ^{dredging or taking} Act, also oysters taken therefrom without lawful authority, shall be ^{of oysters.} deemed to be the property of Her Majesty; and if any person, without lawful authority, shall dredge for or otherwise take any oysters from any such public oyster reserve or Crown lands, or shall be found dredging for or taking or attempting to take oysters within the limits of such reserve or Crown lands or proclaimed areas, he shall incur a penalty not exceeding *twenty* pounds and not less than *five* pounds, and all oysters found in his possession shall be deemed to be oysters unlawfully taken by him, and shall, on his conviction, be forfeited to the use of Her Majesty.

53. Nothing in this Act shall render liable to a penalty any ^{Persons may take} person who takes oysters from any oyster reserve for recreation, or any ^{oysters for their own} Crown land, for his own consumption on the spot, unless such oysters ^{consumption.} shall be in a spawning condition, or shall have spat in quantity attached, in which case it shall be within the discretion of any inspector to prohibit the taking of oysters from any such oyster reserve or Crown land; and any person who shall take oysters therefrom after being warned against doing so by any inspector shall, on conviction, be liable to a penalty of not less than *three* pounds.

Penalty on burning
live oysters for lime.

54. Every person who shall gather or burn live oysters for the purpose of converting their shells into lime whether he be the holder of a leased area or not, shall incur for every such offence a penalty not exceeding *fifty* pounds.

Deep sea oyster
deposits.

55. It shall not be lawful for any lease to be granted of any oyster bed under the open sea outside the headlands of any bay or estuary, within three miles of the coast, but the same may, on the approval of the Commissioner, be dredged by persons duly licensed in that behalf, subject to the provisions of this Act, and any regulations made under its authority.

Licensing of oyster
dealers.

56. Every person dealing in or selling oysters by retail shall take out an annual license for which a fee of one pound shall be paid. Such license shall entitle the holder to sell and dispose of oysters on any specified premises, or from any cart, stand, basket, or other receptacle, during the year commencing on the first day of January and ending on the thirty-first day of December, and shall be renewed annually by a like payment within fourteen days after the first-mentioned day: Provided that on applications for licenses made after the thirtieth day of June in any year one moiety only of such license fee shall be payable. Such licenses may be granted by the Commissioner or by any Police Magistrate or Clerk of Petty Sessions, and the fee shall be paid to the Colonial Treasurer or some officer authorised by him. And every person who shall so deal in or sell oysters without holding a license under this section shall be liable to a penalty not exceeding *ten* pounds and not less than *one* pound.

Inspector may enter
premises and seize
unmarketable
oysters.

57. Any inspector may enter any fish market, premises, place, or dwelling, or go on board any boat, and seize and take away any unmarketable oysters, or any parcel of oysters in which unmarketable oysters or oysters diseased or out of condition may be found: Provided always that on sufficient grounds being shown it shall be competent for the Commissioner to restore to the owner any or all of the oysters so seized.

PART IV.

Legal Procedure—Miscellaneous.

Procedure.

58. All offences, penalties, and forfeitures under this Act or any regulations made thereunder may be heard, determined, and recovered, and all proceedings therefor may be taken, in a summary way, by and in the name of any inspector, or by and in the name of any person specially authorised by the Commissioner, or by and in the name of any person holding a lease under this or the repealed Acts before any two or more justices, in pursuance of the provisions of the Acts regulating summary convictions before justices: Provided that if any person shall be adjudged to pay any sum, by way of penalty or otherwise, the adjudicating justices shall order such sum to be paid (together with costs to be fixed by the said justices) either forthwith or within such period as the said justices shall appoint, and if such sum and costs (if any) shall not be paid at the time so appointed, the same shall be levied by distress and sale of the offender's goods and chattels, and for want of sufficient distress, or, in the discretion of such justices, without any such distress, such offender may be imprisoned, with or without hard labour, for any term not exceeding *three* calendar months unless such sum be sooner paid. In all cases where the defendant or person charged with any offence under this Act shall plead any of the

the exemptions therein contained the proof thereof shall be upon such defendant or person charged: Provided also that no information or conviction under this Act shall be quashed through any defect or want of form.

59. It shall be competent for any justices before whom any Appeal. offence against the provisions of this Act or any regulation made under it may be heard to impose in lieu of the penalty therefor prescribed a term of imprisonment not to exceed *thirty* days.

60. Any person aggrieved by any conviction, order, or adjudication of justices under this Act, and who shall have paid into the hands of such justices, or one of them, the full amount of any penalty or sum awarded against him, together with costs, within the period fixed by the justices after such conviction, order, or adjudication, may appeal therefrom to the next Court of Quarter Sessions holden in the district in which the subject matter of the appeal arose, unless such Sessions shall be held within fourteen days from the date of such conviction, order, or adjudication, and, in that case to the Court of Quarter Sessions then next following. And such Court shall have power to hear and determine the matter in a summary way in accordance with the Acts in force regulating appeals from summary convictions. And the decision of such Court shall be final and conclusive: Provided always that the appellant shall, within seven days from the date of such aforesaid conviction, order, or adjudication, have given written notice of his intention to appeal, stating the grounds thereof to the, or one of the, adjudicating justices, and to the prosecutor: Provided also that such appellant shall enter into a bond, with two sureties approved by such justices, conditioned to prosecute such appeal with effect, and to abide the event thereof, and to pay the full amount of all costs which may be awarded against him.

61. Any person who shall assault, resist, or obstruct, or encourage Assaulting, &c., inspectors and others in execution of their duty. any other person to assault, resist, or obstruct, or shall use abusive language to any inspector, or other person whomsoever in the execution of his duty or authority under this Act shall incur a penalty not exceeding *ten* pounds nor less than *one* pound, or be liable to imprisonment not exceeding *six* calendar months. And the adjudicating justices may, in addition to any such penalty, order a sufficient sum to be paid by the offender to cover any damage or injury sustained by the person so assaulted, resisted, or obstructed, which sum shall be recoverable in the same manner as a penalty under this Act.

62. Any inspector may, with or without warrant, apprehend and lodge with the gaoler or person in charge of any gaol, watch-house, lock-up, or police station any person found offending against any of the provisions of this Act, or who, on demand made, shall refuse to give his true name and address, or whom such inspector may have reason to suspect has given a fictitious name and address or incorrect information as to the ownership of any net or other article seized under any of the provisions of this Act. Offenders may be apprehended and bailed.

63. The production of any of the undermentioned documents, writings, or publications shall be conclusive evidence in all Courts as to the several matters contained therein, and in the case of a lease or license, that the same was duly issued, viz.:— What instrument, &c., to be evidence.

- (I) A receipt showing that the rent on any lease has been paid into the Colonial Treasury.
- (II) A lease signed by the Governor or a copy thereof bearing the common seal of the Commissioner.
- (III) Any license or a copy thereof or token issued in pursuance of this Act, or regulations made under it.
- (IV) A copy of the *Gazette* containing any notice, regulation, or proclamation purporting to be made under this Act.

Search for and seizure of fish.

64. All fish and oysters of which the taking possession, exposure for sale, consignment or purchase for sale is prohibited by this Act may be searched for, seized, condemned, and dealt with according to law by any inspector or by any person holding the written authority of any justice, or any search warrant under the hand and seal of any justice, or authorised by any regulation under this Act.

Unlawful taking of oysters from contiguous leases.

65. Whenever a person shall be charged with taking oysters from any leases which may be contiguous to another or others, it shall be sufficient in alleging and proving the place from which such oysters were stolen, to allege and prove that such oysters were stolen from one or other of such contiguous leases, and that the same belonged to, and were in the lawful possession of, one or other of the lessees or owners thereof.

Limitation.

66. Every area leased under this Act shall be subject to all reclamation rights conferred by the Crown Lands Act, 1885, or any Act amending the same, and to such conditions and provisions and limitations as may from time to time be prescribed by the regulations or approved by the Governor.

Property under leases.

67. The purchaser of the lease of any area under this Act shall, upon payment of the rent therefor for the first year, be deemed to be in actual and absolute possession of such area for all purposes of this Act, notwithstanding that the deed of lease shall not have been issued; and such purchaser, or any inspector, may seize any fish or oysters removed therefrom without lawful authority; and any person who shall be found unlawfully dredging, taking, or attempting to take fish or oysters in such area, shall be liable to a penalty not exceeding *twenty-five* pounds and not less than *ten* pounds, and all fish or oysters found at the time in possession of such person shall be deemed to have been unlawfully taken by him, and may be forthwith returned to that area.

Compensation for loss of holding.

68. The Governor may, on the recommendation of the Commissioner, resume any area, a lease whereof has been granted under any of the Acts hereinbefore repealed, but subject to the payment by the Crown to the lessee thereof of compensation for the loss of such area: Provided that should the lessee of any area so resumed be dissatisfied with the amount of compensation offered to him he may elect to refer the matter to arbitration under the Arbitration Act fifty-fifth Victoria number thirty-two.

Recovery of rents and fees.

69. All rents due and payable under the provisions of this Act may be sued for and recovered by the Commissioner on behalf of the Governor. All fees due and payable under the provisions of this Act may be sued for and recovered by the Commissioner on behalf of the Crown. In legal proceedings by the Commissioner on behalf of the Crown under the provisions of this section, the Commissioner shall, in regard to costs, have the same rights and be subject to the same liabilities as the Attorney General in proceedings instituted by the Attorney General on behalf of the Crown.

Commissioner to institute experiments.

70. It shall be lawful for the Commissioner, and he is hereby required from time to time to direct the institution and carrying out of experiments in modes of fish capture, in the culture and propagation of fish and oysters, and to attempt the discovery of fishing grounds and oyster beds off the sea coast. For the purposes of this section the Governor may by notification in the *Gazette* declare any Crown land to be reserved for experiments in the culture and propagation of fish or oysters. Crown land so reserved shall be deemed to be vested in the Commissioner who shall have and exercise over it all the powers and authorities which by this Act are conferred on a lessee.

71. Any person who shall commit any act in breach of or be guilty of any default of, or non-compliance with any of the requirements or prohibitions of this Act, or any regulations hereafter made under it, shall in every case where no penalty has been enacted, be liable to a penalty of not less than *forty* shillings nor more than *ten* pounds, and to the forfeitures prescribed by section seventeen hereof: Provided always that, for the purposes of this section, the word fish shall, where necessary, be deemed to include also oysters, the spat of oysters, and crustacea.

72. The provisions contained in sections four, five, six, seven, and eight shall come into force immediately upon the passing of this Act, and all the remaining sections shall come into force on the sixtieth day after such passing.

73. The Commissioner shall as soon as possible after the thirty-first day of December in every year report to the Minister charged with the administration of this Act as to the state of the fisheries of the Colony, and such report shall be laid before both Houses of Parliament.

SCHEDULES.

FIRST SCHEDULE.

Marine Fishes.

Schnapper or Bream.	Perch.
Black Bream.	Flounder.
Flathead.	Sole.
Whiting.	Mullet—
Tarwhine.	Sea (including the variety commonly known as hard gut mullet).
Blackfish.	Flat-tail.
Garfish.	Sand.
Long Tom.	Talleygalann.
Pike.	Trevally.
Teraglin.	Rock Cod.
Silver Belly.	

Crustacea.

Crayfish (Saltwater).	Murray River Lobster (Freshwater).
Prawns.	Crayfish (of kinds).

Freshwater Fishes.

Murray Cod.	Tench.
Perch (of kinds).	Bream (of kinds).
Carp.	

And fish not indigenous to the Colony which may be introduced or be in any inland waters.

Fisheries and Oyster Fisheries Regulations.

SECOND SCHEDULE.

Lawful Weights for Fish.

Description of Fish.	Weight avoirdupois or size.
<i>Marine Fishes.</i>	
Schnapper or Red Bream	12 ounces.
Bream (Black)	6 "
Tarwhine	6 "
Blackfish	6 "
Rock Cod (Black or Red)	12 "
Gurnet	8 "
Flathead	12 "
Mullet of any variety	6 "
Whiting... ..	6 "
Flounder	6 "
Sole	6 "
Pike	8 "
Trevally... ..	6 "
Garfish	2 "
Long Tom	12 "
Teraglin... ..	16 "
Silver Belly	3 "
<i>Freshwater Fishes.</i>	
Cod (or Murray Cod)	16 ounces.
Perch (of kinds)	8 "
Carp	6 "
Tench	6 "
Bream (of kinds)	6 "
Catfish	6 "
<i>Lawful lengths for Crustacea, measured along the body from the eye to the tip of the tail, 10 inches.</i>	
Crayfish (Saltwater) from eye to tip of tail	10 inches.
Prawns	1½ "
Murray River Lobster (Freshwater)... ..	8 "

ROYAL COMMISSION ON FISHERIES.

MINUTES OF EVIDENCE.

THE TASMANIAN FISHERIES.

THURSDAY, 24 JANUARY, 1895.

[The Commission met at the Town Hall, Hobart, at 10.45 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

L. G. THOMPSON, Esq., J.P.

Alexander Morton, Esq., Curator of the Tasmanian Museum, Hobart, and a Member of the Tasmanian Fisheries Commission, sworn and examined:—

1. *President.*] I understand you are one of the members of the Tasmanian Fisheries Commission? Yes.
2. You are able to afford this Commission some information with respect to the fisheries of Tasmania? I have prepared a short statement which, by permission of the Royal Commission, I will read. It deals generally with the fisheries of Tasmania, and has reference to sealing.
3. The Commission will be glad to listen to your remarks, Mr. Morton. Proceed, please? *Fisheries of Tasmania.*—I cannot do better than refer the Royal Commission to the most able and comprehensive report prepared by my friend, Mr. R. M. Johnston, F.L.S. This report was read as a paper before the Royal Society of Tasmania on the 7th August, 1882. I consider it the most practical and valuable report on the fisheries question that has ever been published in Australasia. As regards our class of fishing boats, Hobart may safely claim to possess the best fishing boats in the southern hemisphere. An improvement I consider might be made, however, in the fisheries. What is required is a well-organised system of scientific investigation—I mean the Government, through the Fisheries Board, should at different seasons of the year visit the different fishing grounds, and with the aid of trawls and by other means examine and see at what time and at what places the different classes of fish are to be found. With the aid of a suitable steamer these examinations could be made at parts along the coast further than where the fishing boats now visit. By this means it is quite possible new fishing banks would be discovered, for we often hear from the fishermen themselves the following remark:—“I can’t understand how it is we do not get any fish at this place; last time I was here we got a good haul.” Is it not just possible the fish may at certain seasons go further out to sea on other banks? Such a system of investigation as that I have referred to would, I feel certain, prove beneficial to Tasmania. As a result the Colony would derive a large revenue, as it is well known that the fishing industry is a most important one, if properly looked after. There is another point, one that I have strongly advocated ever since I came to Tasmania, and that is the establishment at different parts of our coasts of fishing villages. At present all the boats have to come to Hobart with their cargoes, many times having too great a quantity needed for home consumption. Now, if these fishing villages could be formed—the Government to grant a few acres of land, cottages to be erected, and the fishermen to pay a small rental for (say) fifteen years, when the allotment would become the occupant’s property—the fishing boats, when loaded, instead of having to come up to the town, could come to a station, when, by the aid of a small steamer fitted with a well, as in the fishing boats, they could send to Hobart fish necessary for the home consumption, and the rest could be cured at the several stations for exporting. I feel satisfied this suggestion, if carried out, would work well. As a further encouragement the Government might be induced to offer a bonus for (say) the first 100 or 200 tons of preserved fish exported from the Colony. From my knowledge of the fisheries of New South Wales I feel satisfied that a class of fishing boats similar to that we have in Tasmania could be introduced with beneficial effect into that Colony. In case that was done the boats would, I think, have to anchor in another place than Woolloomooloo Bay, owing to the water in that part of Sydney Harbour being foul. Well-boat fishing on the coast of New South Wales ought to prove beneficial to the fishermen and to the consumer, as it would in all probability ensure a supply of fresh fish for the people of the Colony just as we have it in Hobart, where the people purchase their fish-food alive. *Seals and Sealing.*—In the early days sealing in Tasmanian waters was a very important industry, but owing to the want of proper supervision the seal nearly became extinct. Peron, in 1801 and 1802, found British seamen in Bass’ Straits killing all that came in their way. The schooner “Endeavour” from 9th March, 1803, to 28th May, 1804, got 9,514 skins. The schooner “Surprise” from 11th March, 1803, to 15th September, 1803, got 15,480 skins. In September, 1803, a vessel brought into Sydney 11,000 skins. It is on record that during the years 1803 and 1804 upwards of 36,000 skins were sent from the islands in Bass’ Straits, the slaughter being made without regard to sex or season. During recent years sealing has been carried on in Bass’ Straits, and some six years back representations were made to the Tasmanian Fisheries Commission that, owing to the killing of seals of both sexes and all sizes, in a short time the islands would be stripped of all the seals. The Commission advised the Government to close the seal fishing for three years, which was done with most satisfactory results. Considering that the fur seal is identical with the true fur seal of Alaska, it is absolutely essential from a commercial point of view that the Government should take all necessary steps to see the law carried out in having a close season, and that the females should be preserved. At the present time the sealing industry only gives employment to a few men in the Straits.

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- A. Morton,
Esq.
24 Jan., 1896.
4. Can you tell us anything with regard to the artificial propagation and acclimatisation of marine or fresh-water fishes in Tasmania? I may say that some years ago the cucumber mullet was very plentiful in the southern waters; of late years they have become almost extinct. It is the most delicate fish in Tasmanian waters. About five years ago we got several thousands, I may say millions, of ova brought down from the north-west coast. We hatched them in our ponds and liberated them in the Derwent. They are now being caught, and we hope this fish will become more plentiful. The only other fish we have gone in for propagating, with the exception of the salmonidæ, is the English perch—they have done well here.
5. Your experiments have not been attended with any bad results? No.
6. You are a Member of the Tasmanian Fisheries Commission? Yes.
7. Of whom does that Board consist? It numbers twenty-five persons. The Government of the day thought it well to appoint Members of Parliament belonging to different districts, but the whole of the work devolves upon about seven members.
8. According to that statement there is no necessity for the retention of so large a body? Not the slightest necessity.
9. What are your powers? We have very considerable powers.
10. Have you power to make regulations without reference to the Minister? Most decidedly; we can close fishing places.
11. Can you close fisheries without reference to the Minister? All we have to do at any time is to publish the intention of the Fisheries Commissioners in the newspapers for one month.
12. Are the fishermen represented on your Board? Yes. I should say that prior to the existence of the present Commission we had a body called the Salmon Commissioners. When the present Commission was formed, the fishermen wished Mr. Thomas Rush, a representative and a practical fisherman, to represent them on the Board. It was at the request of the fishermen he was elected to a seat on the Commission.
13. So that the fishermen themselves only have one practical representative on the Commission? Yes.
14. In regard to the sizes of meshes and nets, can you vary the sizes by regulation? Yes.
15. On the whole your Act works satisfactorily? Satisfactorily.
16. Has it been reported to your Commission that there has been a decrease of fish in certain places in the Derwent? We have a great number of anglers here, chiefly rod-fishing. There is more rod-fishing done in Tasmania than in any of the Colonies. There were complaints, and we passed a regulation that no seining should be permitted beyond a certain point in the river. We do not allow the fishermen to use the seine, the draw-net, or the graball in places affected by the regulation.
17. *Mr. White.*] You define your waters for rod and for net fishing? Yes. Prior to the passing of the regulation the fishermen used to scrape in everything they could. This was brought under the notice of the Commission, and the practice was stopped. We do not allow graballs in certain waters—it is not a very arbitrary rule.
18. *President.*] In regard to your oyster fisheries, how do you account for the present condition of the oyster fisheries here? That is a matter I am not in a position to speak very strongly upon. A few years ago oysters were in abundance here—so plentiful were they that they used to burn them for lime. I think the extinction, or almost complete extinction, of the oyster is due to the want of proper supervision. I have not been able to trace any of the worm disease you have in New South Wales. There are good beds in the sea from which numbers have been taken, and it is quite possible there may be plenty of oyster-beds there unknown to us. What is needed is a thorough examination of our beds—the sea-beds should be tested and explored. This would in all probability lead to good discoveries.
19. You think the oyster-beds here might be resuscitated? I am of that opinion.
20. In regard to lobster fisheries, have you any regulation as to a close season? Yes.
21. What months in the year—during the spawning period, I suppose? Yes.
22. *Mr. White.*] Are you of opinion that the oysters have been dying out owing to their having been taken in an indiscriminate manner? That has helped to bring about the existing condition of affairs. They were exceedingly plentiful at one time.
23. Can you punish for oyster-stealing? Under certain limitations it is permissible to fish for oysters for about four or five months in the year.
24. What extent of leases can be taken up for oyster culture? I think we have reduced it to 10 acres. I think it is in the Act—you will find it in our regulations.
25. When the roe is in the lobster are the fishermen allowed to take them? I think not.
26. *Mr. Thompson.*] You say the seals in Tasmanian waters are the same as the Alaska fur seal;—are they identical with the seals frequenting the coast of New South Wales? They are identical. We have two seals in our waters—you also have them in New South Wales. They are the brown seal and the sea leopard. The specimens sent home to the Fisheries Exhibition in 1883 were the first seen in Europe from Australia.
27. Can the fur of our seals be improved? I am unable to say. The Tasmanian seal is pronounced by eminent authorities to be identical with the Alaska seal. The fur of the last-named seal is denser and better than ours, owing to the colder climate.
28. If the seals were attended to something might be done to improve their commercial value? Certainly.
29. The Commission are very much impressed with the idea of establishing well-boats in New South Wales, waters. Our idea of a well-boat is somewhat different to yours. You have a centreboard running right through the well. I saw dead fish in some of the wells in the boats;—was that due, think you, to the centreboard impeding the free circulation of water? No; fish may be damaged in being taken out of the net, and if the well-boats are overtaken by a dead calm, that would tend to prevent the circulation of the water.
30. Fish caught by line would not be damaged by the net? No.
31. Our idea was to have fins fore and aft of the well? It might answer.
32. As regards the preservation of fish by closures—you close certain waters completely against netting? Yes. We have found it necessary to do so. Only the other day some dozens of small flounders were taken to the Chief Secretary (Hon. Wm. Moore), having been scraped out of the little shallow bays, which are the favourite resorts of this and other kinds of fish during the early stages of growth.
33. Generally speaking, I suppose we may understand that if those waters are properly protected, and the taking of undersized fish by rod and line prevented, nets of any size may be used in the open waters? Most certainly.

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34. Of course the closures should be made with discretion? Of course.
35. What is a graball; it is rather an indefinite term? Graballs run to different lengths—they are leaded and have corks. The fishermen set them in a half circle. Many of our varieties are surface fish, and they get caught with this net.
36. It is a set net? Yes, it is a set net.
37. You say 10 acres is the maximum for an oyster lease? It is only along the coast. A line is taken from a point along a certain number of yards at high-water mark, and then we measure the distance. We can do nothing with the sea oyster-beds.
38. You have no sea oyster-beds here? Oh, yes; Mr. Saville Kent, late Inspector of Fisheries, got all his oysters from the sea-beds at and near Schouten Island. By means of a dredge he got thousands of oysters, and these were placed in the inlets.
39. What depth of water were they taken from? Ten to 20 fathoms.
40. You think it is probable they died through not having been placed in similar depths of water? We cannot say; none of our artificial beds are a success.
41. *Mr. White.*] Is anything done to prevent robbery from leased oyster-beds? If a man finds he is robbed he reports to the police. Our law is perfect in that respect; thieves are punished.
42. *Mr. Thompson.*] Have you power to declare a close season for crayfish? Yes.
43. Do you think it would be desirable, for the protection of crayfish, to close alternately, say for a year or so, some of the portions of the coast where they abound, and so compel the fishermen to obtain their supplies from other parts, instead of allowing them to work the same ground season after season? I think it would be a good thing to protect them in that way. I should strongly advise you, where you find your crayfish grounds are being stripped or the fish nearly exterminated, to close the waters altogether and give them a chance. Our crayfish is more delicate than that found in New South Wales.
44. *President.*] Can you give us any information as to your lake fishing? We have only introduced the salmonidæ there. It has been a great success, and will prove, indirectly, a great source of revenue to the Colony.
45. Would it be an advantage to encourage marine pisciculture? I am of that opinion. I look upon the fishing industry as about the fifth industry in the Colony of Tasmania. Everything possible should be done to encourage the fishing industry and place it under proper supervision, and this not only for the sake of the fishermen themselves but for the present and future good of the Colony.

Mr. John Whelan, Inspector of the Fish Market, Hobart, sworn and examined:—

46. *President.*] You are the inspector charged with the control of the Fish-market in Hobart? I am.
47. The Commissioners are desirous of obtaining some information respecting the distribution of the fish and the working of the Act of Parliament in force here. You have a good opportunity of coming into contact with all the fishermen as well as the vendors? Yes, I have.
48. What is your opinion of the Act;—does it work smoothly? As to the Fisheries Act I may say there are complaints that the Fisheries Board do nothing only prevent people catching fish.
49. The Board consists of twenty-five members? Mostly Civil servants.
50. We are told the work devolves mostly upon two or three persons? That is so.
51. Have you formed an opinion as to what would be the best plan to adopt? It would be better to have three or four active workers than the present big Board.
52. The fish brought to the Hobart Market is sold by the fishermen themselves? Yes; there is no barrier between the producer and the consumer.
53. No middlemen? No middlemen.
54. The system of well-boat fishing—of course from your knowledge of the subject you will be able to express an opinion as to whether it works satisfactorily? I do not think anything could work more satisfactorily. Of course I have seen the well-boats crowded to excess, and the fish inconvenienced thereby, but that is remedied by putting them in large boxes or tanks, kept in the water, in which they get a better circulation of air.
55. The fish do not deteriorate in those boxes? They do not. The last report of our Health Officer relative to the state of the fish-boxes and sale of fish is as follows:—

Mr.
J. Whelan.
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I have the honor to report that, in accordance with your instructions, I have inspected the fish-boxes now used for the storage of live fish with a view to determine if the methods adopted are in any way detrimental to the health of the community. These boxes, in number sixteen or thereabouts, are anchored in rows just in front of the present fish-market, and to them are transferred live fish brought up in the wells of the fishing boats. This morning, during market hours, I investigated the methods adopted, and I am satisfied that so far from being detrimental the boxes are alike a boon to the public and to the fishermen. When placed on the market from the boxes the fish are fresh and lively, a few only being dead and rejected. In some boxes not a dead fish was to be seen, and I am informed that they readily feed in the boxes, and may be kept in this way for a considerable period; also that the fish live better in these boxes than in the wells of the boats, and this is readily believable as the boxes float on the surface of the water, and each movement tends to change the water through the slits and holes on all sides. On several occasions there has been great mortality among the fish in these boxes, dozens having to be thrown away owing to their being poisoned with tar, or tar water from the gasworks; but this is a rare occurrence, I am informed, especially lately. To the fisherman they are a great advantage, as by selling their fish to the owners of the boxes they can at once start for more; otherwise they must keep the fish in the wells, in which the mortality is great in the still water, or force a market at perhaps a very low price. To the public and invalids they are also a boon, as they can have fish every day, even when no fishing boats are up, owing to rough weather or prolonged calms. And as long as a proper supervision is exercised to see that all dead fish are daily removed from the boxes, and only those sold which are fit for food, no harm, in my opinion, can ensue. It has been suggested that typhoid might be spread by the fish in these boxes becoming contaminated by any germs reaching the harbour from the sewers; there was a probability of this in the case of the oysters, generally eaten raw, but none whatever in the case of fish, always cooked before being eaten.

56. With reference to the charges made by the Municipal authorities, do the fishermen complain of those charges being excessive? No.
57. What are the charges? 6d. for a boat of a size not exceeding a whaleboat, for any larger size, 1s. This entitles a fisherman to a stand in the market for the display and sale of his fish.
58. That is, the fisherman pays 6d. or 1s., according to the size of his boat, for the right to dispose of the whole of the catch in the fish-market? Yes.
59. The general public is not prevented in any way from purchasing at the market? Certainly not. Policemen are in attendance at the market, and I also attend every morning. We do everything we can to induce the public to attend the fish auction sales.

- Mr. J. Whelan.
24 Jan., 1895.
60. A very large percentage of the fish brought to the Hobart market is sold alive, is it not? It is mostly sold in a live state. Fish can be kept a fortnight or longer in the wells; it is not so in the Australian Colonies.
61. Do I understand that the sums charged—1s. and 6d. respectively—for the different sizes of fishing craft are the only dues charged by the Municipal authorities here? Those are all. Of course the fisherman may employ an agent and pay him, but we do not recognise any agents; we treat with the fishermen direct.
62. Is the Hobart fish-market open all day for sales? Yes; at any time; but the sales transacted after 8 o'clock are more of a private character than is the case in the early morning, when the fisherman himself sells his own fish at public auction. After the early morning sales are over, buyers come to the market at all hours and purchase fish as they want it. All fish sold at auction or privately is closely inspected before being offered to the public.
63. Have you power to condemn fishing nets of illegal size? Yes.
64. You have regulations to guide you? We have.
65. Mr. White.] Do you know much about the oyster fisheries? No; I have not much knowledge of them.
66. Crayfish? Crayfish are sold at the market—oysters are not.
67. Are you of opinion there should be a close season for crayfish? It would be all the better for the fish and for the public in the long run.
68. Crayfish make their appearance in certain seasons and then go away again, do they not? Yes.
69. Does not the taking of the crayfish at improper seasons tend to decrease the supply very largely? Yes; but they are not much good, although they are useful for food.
70. Mr. Thompson.] Do the crayfish cast their shell every year and come to this coast after shedding? Crayfish ought to be protected when the shell is soft.
71. Can they be protected by closing certain waters at different times? Yes.
72. As to the Fisheries Commission—are there any Members of Parliament on the Commission? I do not think so—there are Civil Servants on it.
73. How is the Commission selected;—what are the qualifications necessary for membership? I cannot say. I only know two practical men on the Commission—Mr. Seal (the President) and Mr. Rush.
74. The fish in the wells are sometimes damaged as a consequence of overcrowding? Yes; that is so.
75. What is done with the fish that die in the wells? They are placed on the slabs in the market for sale if they are passed by myself as fit for food.
76. The people do not care for dead fish, do they? Sometimes they buy it, but at about 60 per cent. below the regular market prices. I might also state that there is an arrangement between the fishermen and a person whom they employ as broker. The individual in question is not connected with the Council in any way. He advances the fishermen the money for their catch in order that they may get back to the fishing grounds, instead of waiting round in the town collecting the money. The broker collects the money. He takes the risk, and for this he makes a charge of 9d. in the £1.
77. Am I right in supposing the fish hawkers are charged 1½d. per day for a license to sell fish? Yes; it is a daily license of 1½d.—a daily certificate that they were at the market, and the fish were passed as fresh.
78. President.] Can you tell us what quantity of fish passed through the market last year? There is no record kept now. Sometime ago the Fisheries Board paid me £10 yearly to obtain the information, which I produced. I am not paid now, therefore the information is not supplied.
79. Has there been a depletion of the fish supply in the rivers? A great falling off. The men complain that they have to go further away for fish.
80. Is that the result of over-netting—too many men being on the one fishing ground? I do not know how to account for it. The kingfish is extinct.
81. What did kingfish bring here? They used to bring about 5s. per dozen.
82. How long have you been in the employ of the Municipal authorities here? About eight years.
83. You have carefully watched the operations of the Fisheries Board? Yes.
84. Would it be better to have one good man to control and administer the fisheries rather than five Commissioners—say you had a gentleman like Mr. Seal? Mr. Seal is an independent man.
85. Supposing you could get a man with Mr. Seal's qualifications, do you think it would be better to pay him to administer and control the fisheries rather than to have an honorary board of twenty-five members? I am quite certain it would. I am sure it would, not only in the fisheries but in everything else.

Mr. William Gates, fisherman, Hobart, sworn and examined:—

- Mr. W. Gates.
24 Jan., 1895.
86. President.] You are a practical fisherman? Yes.
87. How long have you been engaged in fishing? Between eighteen and twenty years.
88. During that time you have devoted your attention to deep-sea fishing? Mostly deep-sea fishing.
89. Will you tell us how you conduct your fishing operations? I will speak of line-fishing and of net-fishing. We mostly fish about Tasman's Island, Maria Island, and Schouten's Island—that is for deep-sea fishing. We fish in from 30 to 65 fathoms of water. It is pretty rough fishing—coral reefs. Sometimes we do not catch much in the deep water, and pretty often we have strong tides to contend against, from two to four-knot tides. When those tides are running we have to use up to 180 fathoms of line, although we may only be fishing in 60 fathoms of water. We use from 4 lb to 7 lb. weight of sinkers. Our in-shore fishing is mostly net fishing. We use what we call graballs. On an average they are about 25 fathoms long, with a 4½ in. to 4¾ in. mesh. We catch with them silver trumpeter, and what we call school fish.
90. What depth is the graball? About 6 feet.
91. What description of fish do you catch with the deep-sea hand-lines? Real trumpeter, perch, rock cod, and gurnet.
92. You fish from a well-boat, properly equipped? Yes.
93. After landing your fish what do you do with it? As we take the fish up we throw him under our arm and put him in the well.
94. You do not prick them—prick the air bladder—at all? No.
95. Even though you do not prick them they live in your well-boats for a good while? Oh, yes.
96. What is the longest period you have kept fish in your well-boat? I have known bastard trumpeter to live for six weeks, and the real trumpeter to keep for two months; of course we feed them.
97. What do you feed them on? Mostly crayfish or shark. We jag it about and hang it in the well; the fish feed on it at will.
- 98.

98. How long do your fishing cruises generally last? Sometimes eight days; at other times two or three weeks; in the winter up to four weeks.
- 98½. On your return to Hobart you transfer your fish to the fish-boxes in the harbour? Yes; we transfer the greater portion of the catch, in order to give them more room. We thin out the fish in the wells, so to speak, and put a lot in the fish-boxes. They live better like that.
99. How many men constitute the crew of your fishing craft? Two only.
100. Do you find this system of fishing fairly remunerative? It is falling off these last two or three years.
101. What is the reason for this state of things? Owing to the scarcity of fish.
102. If you could get the fish to market there is a strong demand for them? Yes.
103. What is the average cost of a well-boat? Our big half-decked boats run about 35 feet to 40 feet long, beam 9 feet to 11 feet, and depth about 3 feet 6 inches. With her equipment such a boat would cost about £130. I have one which was built three and a half years ago; she cost £145. She is now on the slip at Battery Point. I shall be glad to show her to the Commission, if you would like to see her.
104. Thank you, Mr. Gates; we will probably avail ourselves of the opportunity this afternoon. Now, as to the Fisheries Act, do you find that the Act they have in force here works smoothly? Fairly well.
105. You do not complain of any unduly hard provisions? No, I cannot say that I do.
106. You approve of the method of selling and distribution in force in Hobart? I do, very much.
107. You have more confidence in handling and selling the fish yourself than if you entrusted the duty to a middleman? Certainly.
108. Have you done much fishing for crayfish? Yes.
109. Do you fish all the year round for them? No—the men as a body do; but there is a clause in the Act which does not allow us to take soft-shelled crayfish.
110. That is about the months of November and December, is it not? Yes.
111. Of course, being a fisherman, you have naturally observed any deposits of oysters you may have come across at different places;—can you account for the oyster-beds being deserted at the present time? I do not know that they are deserted. There are beds at different places. Others know of them besides myself.
112. Are the oysters of good size and quality? Fairly good; but the shells are soft—that makes them bad for carrying. Up in the vicinity of Schouten Island there are plenty. Oysters can readily be got there.
113. Are those shores worked or leased? Mostly leased, but not much worked.
114. Have you seen any evidence of deep-sea deposits of oysters? I cannot say that I have.
115. *Mr. White.*] You are prohibited from capturing crayfish when they are shedding their shell and when they are full of roe? There is no set time here. I know of an island on one side of which you can get crayfish good for food, and on the opposite side of that island the crayfish are soft-shelled. At the other end you will find the crayfish shedding the roe.
116. Are you of opinion the close season for crayfish should be longer than it is at present, for the purpose of affording protection to the fish? In my opinion we have no close season. There should be a close season—the fish ought to be protected. There is a difference of opinion as to whether the fish is soft-shelled or hard-shelled.
117. Do many fish die in the well during the time you are out on your cruises? Not as a rule.
118. If they die, what do they do with them? We mostly throw them overboard.
119. Would it not pay you to salt them? No.
120. Why not? In Tasmania people only buy live fish as a rule. If they are dead half their value is gone. It does not pay to export them.
121. Why? Because the duties in the other Colonies on salted fish block us.
122. Can you stand a heavy sea in your well-boat? We encounter all sorts of weather.
123. You can stay out in any weather? We can always find a harbour within 10 or 20 miles.
124. *Mr. Thompson.*] You do not think the well-boats need be made any stronger? No.
125. Would it not be better, when you get on good ground, to hang on to it instead of running the risk of losing it by leaving in rough weather? We always take cross bearings, and can readily pick up our grounds again.
126. Your boats average in depth from 3 ft. 6 in. to 4 ft., and have a draught of about 2 ft. 6 in.—I suppose there would be no advantage in increasing the draught to give more accommodation to the crew? What we have is sufficient.
127. Does the casing of the centreboard interfere with the draught in the well—I mean with the free circulation of the water? No.
128. Would it be any advantage to have centreboards fore-and-aft of the well? I do not think so. The centreboard as we have it is really an advantage, inasmuch as it keeps the water more in position.
129. You spoke of crayfish shedding the roe;—what do you mean by that? When the roe first forms it gets hard and goes along to the tail.
130. In New South Wales we call it, when in that stage, berried fish;—would you protect them when they are in that condition? It is necessary to protect them when they are shedding the roe.
131. You never think of taking a berried fish? With the roe on the tail?
132. Yes? We are not allowed to take them then.
133. The close season you suggest is for soft-shelled crayfish? They are soft-shelled at different times in different places.
134. Would a closure of three months yearly cover all this difference in time? Yes; the greater part of it.
135. There are oysters at Schouten Island—are they exposed to the sea? No; the place is not exposed to the sea altogether, it is more in the harbour. [*The witness at this stage pointed out on the map the places where the oysters are found at Schouten Island.*]
136. Where do those oysters come from? I cannot say; there is a river away up in the head of the island, but I do not think they come from there.
137. *President.*] Have you ever noticed any indications of rock oysters? None, on the outside.
138. *Mr. Thompson.*] About the deep-sea fish in the well—you say they do not get inflated with wind, and you have no occasion to prick them; have they very large sounds? Yes, fairly large.
139. Have you ever tried pricking? Yes; but I never did any good with it. None of our men prick.
140. How do you measure a grabball? From end to end, diagonally.

Mr. Daniel Jones, fisherman, Hobart, sworn and examined:—

- Mr. D. Jones. 141. *President.*] You have fished in waters other than those of Tasmania? Yes, I have.
 24 Jan., 1895. 142. Deep-sea or net-fishing, or both? Both. Deep-sea fishing and net-fishing in the seasons—we used to take our fish to Melbourne.
 143. You adopt the well-boat system? Yes.
 144. What crew do you carry? Four men.
 145. How long are you away from Hobart on your fishing cruises? Say about four weeks—according to the weather and the sort of catch we have.
 146. It depends upon the catch;—what do you consider a catch? With our vessel, the craft we used to sail in from here to Melbourne, about 300 miles, we would put in about twenty-five to thirty score of large crayfish, and from ten to fifteen dozen of trumpeter.
 147. That would be the result of your operations for a week or a fortnight? Yes.
 148. Have you found any difficulty in keeping these trumpeter and crayfish? Yes, I have. We have to feed them regularly.
 149. Do you adopt the process of pricking—allowing the air to escape from the air-bladder? I have never found it to answer, only with the schnapper on the coast of New South Wales.
 150. Have you fished on the New South Wales coast? Yes, on the Sir John Young Banks and elsewhere.
 151. What was the name of your boat—the “Rachel Thompson”? Yes.
 152. You made only one trip to Sydney? Only one, but we remained on the coast for six months.
 153. And you did very well? Very well.
 154. You adopted the process of pricking with the schnapper and it answered well? Yes; we were chartered by the Commissioners ten years ago to test the New South Wales waters, and to see what kind of fish we could fetch into Sydney alive in the well. After we were done with the Commissioners we started fishing on the coast.
 155. All your experiments proved successful? Yes; the schnapper and nannegai were the best living fish in the well.
 156. As to the success of your experiments, do they include the trials made at the instigation of the Commissioners? We were about a month in the service of the Commissioners; we fished about Botany, and down to the Five Islands, off Wollongong. We secured a good deal of fish. The vessel was thrown open for inspection on her return to Sydney, to give the public an opportunity of seeing fish kept alive in the well. We were lying abreast of Mr. Fred. Want’s place, in Double Bay, for four or five days.
 157. Do you find that the system of well-boat fishing is profitable? There is not a great deal in the fishing industry here now. Without our well-boat we could not make a do of it at all.
 158. Do the regulations framed by the Municipal authorities for the sale of fish work satisfactorily? Very satisfactorily.
 159. What is your opinion of the institution called the Fisheries Commission here? It is hardly necessary to have it. One practical man, well paid, with a good knowledge of the subject, would be better than an honorary board.
 160. You have no complaint to make about your Act? No; the only difficulty is about the crayfish. It has to be a 12-inch crayfish before it is saleable here. Very often you get a good big crayfish at 11½ inches—good in bulk—but it would not pass.
 161. Would it be better to have a regulation permitting sale by weight rather than by length? I never went into the question.
 162. Is there not a possibility of the crayfish grounds becoming extinct if wholesale fishing is carried on? Yes, there is.
 163. Should there not be a close season? There is a difference of five or six weeks sometimes between the time the crayfish found at different places are soft-shelled. There is a place at Maria Island where we sometimes get good loads of crayfish. At the other end of the island we cannot get them, and you will not get a fish on the mainland. We have the system of preventing female crayfish coming into the market with the spawn under their tail. In Sydney I always see crayfish with the spawn under their tail. It is a great sin; they have no chance to breed.
 164. In regard to oyster fisheries, you appear to be in a bad way down here? We have plenty of oyster-beds here but they are not looked after and they are not worked. Twenty-two years ago there were oysters at Spring Bay, Swansea, and South Bruni. They have worked those places out, but I know places on the coast, plenty of them, where I can dredge good mud oysters.
 165. Have you any rock oysters? No rock oysters.
 166. Has nothing been done in the way of artificial propagation of oysters? They did start fetching oysters from Schouten and they commenced to make artificial beds, but I do not know whether much came of it.
 167. Do you think deep-sea fishing on the New South Wales coast would ultimately be a success? We found nothing else but schnapper in any depth of water—that was by line fishing.
 168. You did not go north? No, near to Sydney. When I traded to the Richmond River and the ship has been in stays, wherever I could take a sounding I could always get schnapper—that was from Port Stephens past the Clarence to the Richmond River.
 169. You see no difficulty in the way of carrying out the system of well-boat fishing in New South Wales waters? The fishermen there do not understand it. It would be advisable to get practical men to work with the fishermen there and show them the grounds. They would have to be educated in the way of handling the fish.
 170. If any fish die in the wells when out fishing what do you do with them? Salt and cure them, put them in barrels and place them on the market.
 171. This market? Yes, they are used for smoking.
 172. Do you send fish to the other Colonies? Yes, to Sydney and Melbourne.
 173. Is there sufficient inducement to send fish to the other Colonies? Yes.
 174. *Mr. White.*] What is the length of your boat? Forty-five feet on the keel, 12 feet beam, 6 feet depth. She is a decked boat, ketch-rigged.
 175. What did she cost? £700, with all appliances. She is about a 30-ton boat.
 176. She will stand any weather, I suppose? Any weather. We traded to Melbourne, backwards and forwards through the Straits, and on the Sydney coast. She behaved well in a gale of wind. She is of Huon pine, and has a centreboard. With the centreboard she draws 10 or 12 feet.

177. Would you recommend a half-decked boat for work on the New South Wales coast? No, not a half-decked boat; because if the sea breaks about she is smothered. With a deck on her the water would roll off. Some of the open boats here have nearly been lost at times. Open boats have nothing to save them—a decked boat is all right. Mr. D. Jones.
24 Jan., 1895.
178. Have you regulations here dealing with the size and length of your nets? There are no stipulations so far as the length of the net is concerned; but there are regulations for seining.
179. *Mr. Thompson.*] Would you suggest the employment, for the New South Wales fisheries, of a stronger and larger boat than those used here? Yes.
180. What do you think of a boat about 40 feet long, 12 feet beam, and 6 feet deep, having sufficient accommodation for a crew of three or four, so that with the use of a sea-anchor she could ride out any storm at sea? She would be all right; but if you have too many fish in the well you will kill them if you ride out in too heavy a wind.
181. Then you think when lying-to in a heavy gale the motion would be too great for the fish in the well? Yes; if you could get a harbour it would be much better to ride the gale out there. You want a sheltered place, but not too calm water—a little motion is wanted.
182. Your centreboard is in the centre of the well;—is that an advantage? A great advantage; it gives such a lot of ventilation to the well. In our well we have four compartments. The fish cannot knock themselves about when the well is divided into compartments.
183. What do you catch crayfish with here? We use the pots and rings.
184. Did the schnapper live in the well-boat in New South Wales waters? Yes, they did very well. You must not overcrowd them.
185. Did you prick them at all? Yes.
186. When the barnacles are on the crayfish that is an evidence that they are fit to take? Exactly.
187. *President.*] Have you ever seen any indications of the presence of the herring on this coast, or on the New South Wales coast? No; they say they are up north, but I have never seen them about Hobart.
188. Have you seen the pilchard? Not here; in Victorian waters.

Philip Samuel Seager, Esq., Registrar of the Supreme Court of Tasmania, and a Member of the Tasmanian Fisheries Commission, sworn and examined:—

189. *President.*] You are Registrar of the Supreme Court of Tasmania and a member of the Fisheries Commission? Yes. P. S. Seager,
Esq.
24 Jan., 1895.
190. How long have you been on that Commission? Since its appointment. I was formerly secretary to the body that preceded it—the Salmon Commission.
191. What functions had the Salmon Commission? It was appointed entirely in relation to experimental work in introducing salmonidæ to Tasmanian waters.
192. The present Commission deals with the administration of the Act and also with the finances? Yes, subject to the approval of the Governor-in-Council.
193. You have power to disburse any sums of money you may receive as revenue? Yes, under the Act.
194. Does the body work smoothly as at present constituted? Yes.
195. Might the number be lessened? I have always felt the number to be too large.
196. You have discovered that the duties are generally left to the working bees? The attendance at our Board meetings is satisfactory, but I think that a small Board works better than a large one. I speak with the experience of being a member of five different Boards in Hobart connected with the Government. I favour a small executive Board.
197. Then you think that perhaps four or five men might be better than the present large Commission? I favour a smaller Board; but I do not wish it to be understood that I am making any reflections on the present Commission.
198. Would you favour the appointment of a gentleman at a salary to control the fisheries? The difficulty is in getting a suitable person.
199. How many men are employed directly in the fishing industry here? Well, speaking roughly, in 1888 there were eighty-six boats and 175 men engaged in the industry. There were about eighty fish hawkers indirectly interested.
200. Are the fishermen licensed? No; their boats are licensed. A register is kept of their boats; they do not pay any fee.
201. You state the Commission have power to make regulations subject to the approval of the Governor-in-Council? Yes; those regulations must be advertised a month before they are submitted. That is a most inconvenient provision in the Act. It entails considerable delay and expense, and does not produce good results.
202. Have you noticed any diminution in the fish supply during the last few years? It is reported that there is a diminution.
203. Can you tell the cause of it? It is attributed in the report of our Royal Commission to over-fishing.
204. You have power to proclaim closures? We do so.
205. How are you guided in your action in that respect;—have you any inspectors? We have power to appoint inspectors; the officers of the Police Department perform those duties as a rule.
206. Do the fishermen complain of the hardship of the law? No; on the contrary, we have petitions from them asking for closures. There is, on the other hand, a strong feeling manifested by amateurs against the protection of the fisheries—they like to draw nets freely. I may say that owing to changes in our monetary position it was necessary to dispense with the services of the water bailiff for the Derwent. The moment the fact became known poaching commenced. Public feeling was aroused, and pressure was brought to bear upon the Government, leading to his reappointment; that is evidence that protection of the breeding grounds is of value. This occurred within the last two or three weeks.
207. Can you give the Commission the value of last year's catch in Tasmania? It is very difficult to estimate the value of the fish sales, as no systematic register has been kept for the whole Colony. The actual value of the fish sold in Hobart Fish-market during the year 1888 was £5,399 16s. I have no later returns before me. If I may be permitted to offer a suggestion, I may say that I think it would be a good thing to have a record kept of the variety and number of fish caught.* If some officer were deputed to attend to this we should have a valuable record. 208.

* NOTE (on revision):—This might be done by preparing a printed list of marketable fish, supplying each fisherman with a number of copies, and requiring him to fill in one on each trip showing his catch.

- P. S. Seager, Esq.
24 Jan., 1895.
208. Your Commission has control of the inland and marine fisheries of the Colony, but not the fish-market? The market is under the control of the municipality.
209. How do you exercise supervision over the fisheries, say 100 miles from here? Entirely through the police.
210. Have you paid much attention to the oyster fisheries here? A little attention. The Commission prepared a report upon them. It was laid before Parliament; I will give you a copy. We know that oysters exist out in the open sea at Schouten Island. It is an industry that would be profitable, but no one touches it.
211. Have you any rock oysters here? I believe not.
212. With regard to crayfish, you have a regulation concerning them? Section 35 of our Fisheries Act is as follows:—

If any person shall, at any time after the passing of this Act, either buy or sell, or cause to be bought or sold, or shall offer or expose for sale, or shall have in his possession or control, any fish known as or called the crayfish, of a size less than shall be prescribed by the Commissioners as aforesaid, or any female of such fish of whatsoever size having eggs or spawn attached beneath its body, or which has been captured with eggs or spawn so attached, he shall upon conviction forfeit and pay for every such offence a penalty or sum not exceeding five pounds.

The following regulation was made in 1890 by the Commissioners of Fisheries:—

1. The taking of crayfish when soft-shelled is hereby prohibited; and any person who shall take, or who shall either buy or sell, or cause to be bought or sold, or shall offer or expose for sale, or shall have in his possession or control, any soft-shelled cray-fish, shall be liable to a penalty not exceeding five pounds.

213. Have you any auxiliary markets in which fish can be bought and sold? The Hobart market is the only one in the Colony.

214. In regard to the sizes and meshes of nets have you power to alter those meshes and sizes? We have fixed the meshes by regulation, and the regulation was prepared with the concurrence of the fishermen.

215. I suppose the fishermen are directly represented on your Commission? We have a member who was a practical fisherman, and who now keeps a fishmonger's establishment. He was appointed to the Commission because he was a representative fisherman and for the purpose of representing the fishermen.

216. You exercise control and supervision over the acclimatisation ponds at New Norfolk? Entire control. They are leased from Mr. Reid.

217. It has practically been a huge experiment all through? It is, historically, the first establishment of the kind in Australasia; it is of great interest to visitors from all the Colonies.

218. Your efforts there have been attended by success? Yes; from an economic standpoint the establishment is a great success.

219. You are acquainted with New South Wales;—do you think an establishment on similar lines in a suitable locality would be successful? I see no reason why it should not be so. In company with Mr. Lindsay Thompson, in 1891, I visited Berrima, in New South Wales. While there I inspected a river, and from the temperature of the water and district I certainly saw no difference between that place and our own establishment in Tasmania.

220. Can you give us the temperature of the ponds at New Norfolk? I will endeavour to obtain it and forward it to you.

221. What about well-boat fishing? It is the system that has always been adopted here as long as I can remember. It has been very successfully carried out. The fisherman comes into port with his catch, and if he does not sell all his fish he is not a loser, because he keeps the fish alive in the boat or in boxes immersed in the river.

222. Do you think the same system would prove successful if adopted in New South Wales? If you moored your boats near Watson's Bay I see no reason why the fish should not live in the wells in your waters. I do not like the arrangements of your market at Woolloomooloo; I saw the fish laid out on the floor for sale in your market. I saw them gutting fish in the troughs—a most unpleasant odour prevailed, and I was very much disgusted.

223. You have raised tables in your market and the boats lay alongside, so that there is no possibility of contamination by people treading on them or spitting upon them? There is no such risk. Captain Armstrong inaugurated a system of fish paddocks here, but it did not succeed; he proposed to establish a reserve stock of fish so as to supply the market as necessary. I think it is a feasible scheme.

224. The New Norfolk establishment;—can you give us a brief description of it, together with the varieties of fish? We have brown trout, the true salmon, salmon-trout, Loch Leven trout, and Californian trout. There are others, but we do not exactly know what they are. There are four circular ponds, varying from 127 feet to 136 feet in circumference, and a long serpentine pond, with a circumference of 650 feet. All the ponds have suitable gravel beds, and are connected with rills measuring altogether 677 feet in length, in which the spawning fish from each pond make their redds during the spawning season. The rills are supplied with water from the river Plenty, conveyed in wooden troughing and a water-race about a mile long, which, having passed through the various rills and ponds, again finds its way into the Plenty through a troughing below the last pond. The hatching-house is of fair size. It originally contained a series of hatching boxes set in the floor, arranged on a similar method to those then in use at the famous hatching-house at Stormontfield, in England; but a few years ago these were removed, and the present more modern method substituted, which is known as the "Williamson double rill system," a plate of which will be found in Vol. 1872-73 "Fresh Water Fisheries of the United States," together with a letter-press description of the method of use at p. 585 of the same vol. There is an intake trough fed from the main troughing from the Plenty. This intake is tapped by wooden taps to supply the five hatching boxes, from which the water is again led off by other wooden taps at the end of each trough, and from thence to the main rills feeding the ponds. Small wire trays are used in the spawning season for the reception of ova, and these can be multiplied to the capacity of each hatching box. The method has been found very successful and the mortality comparatively small. When the ova are hatched the young fry are kept for a considerable period in the hatching boxes, until they commence to feed well and are available for distribution. This distribution is effected by means of oval-shaped tins, tapering towards the top, with perforated tin lids. A caretaker's residence, with ornamental grounds, completes the establishment. In addition to the ova obtained from the breeding

breeding stock, many thousands are taken from fish captured by means of a simply devised fish-trap on the River Plenty, adjacent to the ponds. The dry method of artificial fertilisation is adopted. The fish bred in the ponds include salmon, (*Salmo Salar*) salmon trout, (*S. Trutta*) brown trout (*S. Fario*), Loch Leven trout (*S. Levenensis*), and American trout (*S. Fontinalis*). One interesting experiment at the ponds deserves mention. For years predatory birds (cormorants) were very troublesome, and great losses resulted. It occurred, however, to the President (Mr. Seal) and Mr. Webster, another member, that if wires were spread across the ponds the danger would be averted. The experiment has been carried out with the greatest success. Parallel wires at distances of about a foot apart are placed across all the ponds. Should a bird succeed in getting into a pond he is unable to rise and is speedily destroyed, but it is found that since the wires have been placed across the ponds the birds have avoided the locality.

225. *Mr. Thompson.*] Do amateurs pay a license for marine fishing? No; we have always thought that we ought to license their nets—something very nominal,—2s. 6d. or so.

226. *President.*] What is your revenue? About £150 yearly.

227. What is the license fee for salmon-fishing? It is 10s. for the season, 5s. for a month, and 2s. 6d. for a week. This allows them to fish anywhere.

228. *Mr. Thompson.*] If help is afforded to amateurs to get their fishing, is it not reasonable that they should contribute something toward the expenses? It has been strongly advocated by amateurs in this Colony that we should impose a fee of 2s. 6d. per rod, but there are difficulties in the way.

P. S. Seager,
Esq.
24 Jan., 1895.

Matthew Seal, Esq., President of the Tasmanian Fisheries Commission, sworn and examined:—

229. *President.*] You are President of the Tasmanian Fisheries Commission? I am. I have occupied the position for nine or ten years.
230. You have taken an active interest in the fishing industry for a number of years, and have watched its development from time to time? Yes.
231. Have you devoted any attention specially to the development of the deep-sea fisheries of Tasmania? No, it is rather beyond our scope. When we get beyond the estuary of the Derwent we are out of the pale, as it were.
232. The Commission makes regulations to control the fisheries? Yes, we have power to proclaim seasons and so forth.
233. I understand there is something like twenty-five members on your Commission;—is it absolutely necessary to have such a large number? I think it is a mistake.
234. Do you think the work might be better done by one man? I think so, supposing you had one man at the head of affairs, with a board of advice, say three or four. One man as Commissioner of Fisheries, a paid officer, and a board of advice, would be better.
235. You have no inspectors directly under your supervision? Only one man as water bailiff; his work is to look after the conservation of the home fisheries.
236. Have you noticed any depletion in the fish supply in the home waters lately? Many years ago the best market fish were more numerous than now.
237. To what do you attribute the diminution of the fish in your home fisheries? The excessive netting with the seine net.
238. You have power to make regulations as to the size of mesh, length of net, and size of fish? Yes.
239. You have also power to proclaim closures, and have exercised that power to great advantage? Very much so, in some instances.
240. You are familiar with deep-sea fishing with well-boats? Yes.
241. Has that system proved successful? Yes; the fact is the fishermen could not bring their fish to market without them.
242. I understand you have given great attention to the question of the artificial propagation and acclimatisation of fish? Yes.
243. Your operations have been successful in every instance? I think so. The great drawback to all our efforts is simply the want of protection in the inland rivers, especially on the spawning-grounds. They are netting everywhere.
244. Have you given any attention to the oyster fisheries? We have, to a limited extent only.
245. Have you done anything in the way of resuscitating the old oyster fisheries? We have; but so far without great results.
246. In regard to crayfish, you have a close season for them? No, not exactly; they are not allowed to take females with eggs or spawn attached. The fish cast their shells periodically; soft-shelled fish are not in condition, and they are not allowed to take them. The season varies very much on different parts of the coast, and the fishermen can always get crayfish somewhere. When the crayfish has a soft shell it is not in season.
247. Have you any knowledge of our New South Wales fisheries? I cannot say that I have.
248. Is it not reasonable to expect that the well-boat system could be carried out there? Certainly, the same as in Tasmania.
249. Providing we can get a temperature something approaching what you have at New Norfolk, can we not do what you have done there? With the brown trout I think you can succeed as well as we have here. In Ballarat the water is as warm as it is in New South Wales. I see no reason why fish should not be successfully acclimatised in New South Wales.
250. Your Commission issue a report every year? Yes.
251. *Mr. White.*] You have full power under your Act to punish for offences? Yes; if any offence comes within the knowledge of the water bailiff he reports it, and the offenders are summoned.
252. Your Act provides for penalties for breaches of the law? Yes.
253. *Mr. Thompson.*] You have power under your Fisheries Act to set out times and seasons when the taking of the several species of fish shall be prohibited;—do you do much in that way? We have never done anything in that way in regard to sea fish, only in so far as the nets are concerned, and regulating the size of the fish.
254. About garfish, you allow a small net for catching them? The bunt of the net is much smaller in a garfish net than in another net; we have two sizes. One is used in the summer-time and the other in the winter.

M. Seal, Esq.
24 Jan., 1895.

- M. Seal, Esq.
24 Jan., 1895.
255. I suppose you allow those nets to be used at any time, only at a certain distance from the mouths of estuaries—I am referring to garfish? Well, take Brown's River, we do not allow them to fish within a certain distance of the mouth of that river. That part is marked off.
256. Suppose a school of garfish was seen there, could they not be taken? Not according to law, not within the proscribed grounds; but it is done. With regard to the estuary of the Derwent they are only allowed to fish within a certain distance with the net at all; they can use the graball between sunrise and sunset within certain limits.
257. Where they use seines how do they provide for the protection of small fish—do they haul them ashore or empty them in the water? We have no law to provide for that; they do as they like. They always drag them right on shore. Of course the culch—that is the sea debris—brings up a lot of undersized and very immature fish. They are emptied out on the beach, and all destroyed.
258. Is there no punishment for this destruction? No.

Mr. Frederick Self, Water Bailiff to the Tasmanian Fisheries Commission, sworn and examined:—

- Mr. F. Self.
24 Jan., 1895.
259. *President.*] What position do you hold in connection with the fisheries here? Water bailiff.
260. How long have you held that position? Seven years.
261. You have a pretty good knowledge of the way in which the fishermen conduct their operations? Yes, I was fishing years before I became water bailiff.
262. You are also aware that there has been considerable destruction of fish in these waters? Yes.
263. Have you found any difficulty in carrying out the intentions of the Fisheries Act? No; the fishermen are very law-abiding.
264. They seem to be met in every reasonable way by the provisions of the Act? Yes.
265. Still you think it necessary to have inspectors to supervise the fisheries? Yes, there is more trouble from the amateur fishermen.
266. Do the amateur fishermen destroy many fry? Yes; in the first three weeks of this year a good deal of destruction went on, owing to my temporary retirement from the position I hold, and there being no one to look after the river.
267. As a rule you find the professional fishermen obey the law? They give me all the assistance they can. Professional men are very law-abiding as a rule; they do not go in for illegal acts.
268. You have jurisdiction only over the fisheries? Yes.
269. Directly they bring their fish in from the sea, and are within the home waters, your authority commences? Yes.
270. Has the system of well-boat fishing been a success? Yes; in the old days when they had dry seine boats they had to come into the market every day, but with the well-boats they can watch a school of fish and take a week or more on their trip.
271. Have you ever heard of loss of life at sea through stress of weather in connection with these boats? Not during my time.
272. They are of first-class character and able to ride out a heavy sea? Yes.
273. Do you think the system of sale now prevailing at the fish market—the fishermen being brought into direct contact with the consumer—works well? It does; it works well. The dues are very light: 1s. for a big boat, and 6d. for a small one.
274. In regard to oyster fisheries, do you know of the existence of any deposits of rock oysters? No; I had some rock oysters at my place on the Derwent, but they came from Sydney. We have the mud oyster here.
275. Is your place nearer to the sea than Hobart? About 3 miles from here, but the water is quite as salt as it is near the town.
276. Where are the mud oyster deposits? Scattered all along the shore in the river.
277. Nothing appears to have been done to develop this industry? Nothing; you can pick up a bucketful at low tide.
278. Have you any oyster leases? Outside, but not on the Derwent. There are acres of oysters out the Schouten's way; the shell is soft and the oyster poor.
279. Have you noticed any quantity of crayfish coming into the market? Yes; we get a great many; there are restrictions placed on the size of the crayfish.
280. Is the fish supply diminishing? Yes; all our fish, trumpeter and bastard trumpeter.
281. Do you think the provision which makes it compulsory on the part of the fishermen to refrain from taking female crayfish is a good one? I do.
282. *Mr. Thompson.*] Your amateur fishermen;—are they net or line men? Net mostly; nearly all the yachts carry nets. The amateur fishermen sneak up the river, put their nets down, and get away again.
283. What are they—seine nets? Seine nets and graballs.
284. The graball is a fixed net? Yes, a fixed net. The graball is set outwards from the shore, and the seine net is hauled on the beach.
285. Do you find one local bailiff sufficient for this work? Oh, no; the water is too great to look after them.
286. Have you a free pass on the railway to help you do your work? I have a free pass and it helps me greatly.
287. In your fish-market you have slabs to show the fish on;—is that a better plan than putting them on the floor? Oh, yes; the old system of having them on the floor was no good.
288. Those rock oysters up your way—I think I sent them down to Mr. Seager;—have they grown at all? Yes; but they have shown no sign of spatting.

Mr. Frederick Pender, Commission Agent at the Hobart Fish Market, sworn and examined:—

- Mr. F. Pender
24 Jan., 1895.
289. *President.*] What is your occupation? I am a commission agent at the Fish Market, and also an exporter of fish.
290. Do you export your fish to the other Colonies? Principally to Melbourne; we have sent fish to Sydney.
291. Do you export cured or smoked fish? No; all fresh on account of the duties on the other side.
292. How do you send them fresh? Pack them alive to Victoria. 293.

293. Are your operations of very great extent? No; of late years things have fallen off, and as we are obliged to send them fresh it is against us.
294. How long have you been engaged in this business? Thirteen or fourteen years.
295. You have watched pretty closely the operations of the fishermen? I am their agent. I am thinking of putting up a place for the preservation of fish down the Derwent. At times there are tons of barracouta, and we can load a ship in a day. When the fish are in the humour they will jump aboard.
296. What are the average prices of the best species of fish? The big trumpeter is the dearest; last season they went from £1 to £4 per dozen.
297. What size were they? From 4 lb. to 20 lb. or 30 lb.—perhaps a little more.
298. What is the average price of your flounders? The average price is about 6s. per dozen; that is the price dealers have been giving for them alive; but flounders have been sold around the town dead at 2s. per dozen.
299. You are acquainted with the well-boat system of fishing;—has it proved a success? A decided success—the stuff is always in better order here than in Sydney.
300. Do you know of any conflict having taken place between the fishermen and the Fisheries Commission? They have worked fairly well together.
301. The fishermen do not complain of any hardships—do not complain of the Act? No.
302. *Mr. White.*] What is the duty on smoked fish? One penny or 2d. on the other side.
303. Would it not pay to salt the fish and send it over to the other Colonies? No; the fish we send is heavy, and it would not pay.
304. The fishermen, generally;—are they an honest class of men? They are decent, honest men so far as I know.

Mr. F. Pender
24 Jan., 1895.

THE VICTORIAN FISHERIES.

SATURDAY, 2 FEBRUARY, 1895.

[*The Commission met at Queenscliff, at 2.30 p.m.*]

Present:—

THE HON. R. H. D. WHITE, M.L.C., ACTING-PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Captain John Pratt, Master of the schooner "Elsinore," Queenscliff, sworn and examined:—

305. *Acting-President.*] What is the tonnage of your schooner? Thirty-five tons.
306. You have been engaged in fishing at King's Island, Tasmania, for some time? Yes, for the last four years.
307. What sort of fish do you generally catch? Crayfish only.
308. Do you catch them with the pots and hooks? Yes, pots and hooks.
309. What quantity do you generally catch at a time? Twenty or thirty dozen.
310. You generally bring in about how many? About a hundred and forty or a hundred and fifty dozen at a time.
311. Do you keep them in water after you catch them? Yes, in the well fitted in the schooner.
312. Do you catch crayfish at all times of the year, or is there a close season? No close season that I know of.
313. Do you catch the female with the coral when they have it under the tail? No, we do not catch any of those; we do not catch them with the spawn in them.
314. What months are the best for catching them? February and March are about the best.
315. Do you find that they shift about to different places? Yes, they shift about a good deal; they go away and come back again.
316. Is it your opinion they come in to spawn, or is it their feeding-ground? I think, as you find the fish in one place, they come in from deeper water.
317. Do you get a regular price at the market? The market varies greatly.
318. What is the usual price? They run from about 2s. to 7s. and 8s. per dozen.
319. Do you sell direct yourself or through the market? They all go to the market, and are there sold by the city auctioneer.
320. Have you tried to keep them in floating boxes here? Yes, but they did not do very long in the boxes; they got poor.
321. It is best to get them into the market quickly? Yes, as soon as possible.
322. Do many die in the wells? In hot weather a good many die; in cool weather they do right enough.
323. Do you attempt to feed them? Yes, on shark or any other fish we can get.
324. What crew do you carry on the schooner? Three.
325. I suppose she will stand almost any weather? Oh, yes; she has been pretty well tried these last three years.
326. *Mr. Thompson.*] You catch only crayfish? Yes.
327. Do you use both methods—pot and net? Yes.
328. At what time do these fish have ova under their tails? In June.
329. Where do you catch them? At the Three Hummocks Island on the Tasmanian coast.
330. Are those fish in Victorian waters? Yes.
331. How is it you go so far away? Because we get a good catch there.
332. How far is the island you speak of? A hundred and thirty miles from Queenscliff; King's Island is about 95 miles away.
333. How do you get your fish from here to Melbourne? Bag them, then land them in Queenscliff, from whence they are sent by train.
334. Do they arrive in Melbourne alive? Yes.
335. Not much damaged? Not much damaged.
336. At what period of time do they have the soft shell? Just before Christmas, the male fish.
337. You discard soft-shell fish? Yes; you won't get them when the shell is soft.
338. What is the regulation length of a marketable crayfish? Ten inches from the eye to the tip of the tail.

Capt. J. Pratt.
2 Feb., 1895.

- Capt. J. Pratt. 339. Are there many people engaged in this crayfish business? Yes, there are; it was a good business some years ago.
- 2 Feb., 1895. 340. Have you any idea of the weekly quantity necessary to supply the Melbourne market? I suppose this week there has been one hundred and twenty dozen in the market every day.
341. You do not go in for any other kind of fishing? It would not pay me to carry crayfish and scale fish.
342. Do you think well-boat fishing would answer in Victorian waters? You mean to bring the fish in alive; I think the schnapper would do very well in the wells.

Mr. Benjamin Chidgey, fisherman, Queenscliff, sworn and examined:—

- Mr. B. Chidgey. 343. *Acting-President.*] What is your occupation? I am a fisherman and owner of the half-decked fishing boat "Olive."
- Feb., 1895. 344. What length is your boat? Twenty-two feet 9 inches.
345. What sort of fishing do you engage in? Hook and line—net fishing occasionally.
346. Do you fish inside or outside the Heads? Principally inside of late years.
347. What do you catch? Different sorts—yellow tail, schnapper, trumpeter, whiting, flathead, pike, salmon, and other varieties.
348. When do you fish? In the day-time, and catch the evening train. When we miss it we catch the morning train.
349. Your fish are sent dead to the market? Yes; I have sent flounders alive from here, but they would be dead when they reached the market.
350. How many men are engaged in your boat? Two hands.
351. Taking an average for the year, what quantities do you send to market? Well, I could hardly tell you just now. Years ago we used to catch three times the quantity we are getting now of all sorts.
352. Then the fish are decreasing? Decreasing fast.
353. What do you attribute that to? Overworking.
354. Are not numbers of small fish destroyed, thus decreasing the supply? I cannot say that it is so; you cannot help killing some small fish at times.
355. What length of net do you use? About 60 fathoms.
356. What mesh? I have been using a 4-inch mesh.
357. Are you regulated as to the mesh here? No; by the size of the fish.
358. Are there no regulations to prevent your taking very small fish? No; if we catch undersized fish we incur a penalty.
359. Have you to throw many fish away, or do they generally get to market in fair condition, sending them as you do by train? A few men have lost a lot of salmon lately.
360. As a rule you get them to market in very fair condition? Our fish arrive in very fresh condition.
361. How do you send your catch to market? In baskets, by the ordinary carriages on the railway.
362. About how many boats are engaged in the class of fishing you go in for? There are between forty and fifty fishing-boats at Queenscliff—they go out daily.
363. Are they large or small boats? From 20-foot to 30-foot boats.
364. Do your boats stand any weather? Our boats will stand a fair sea.
365. Have you tried the well-boat system for keeping fish alive? No; I think the well stops the speed of the boat. We have to go a long way for fish, and the well, we think, would be against us.
366. Do you belong to a fishing association, or are you on your own account? Every man for himself.
367. Do you get along pretty harmoniously together? Yes, we do; sometimes we are a little annoyed by the mesh nets on the other shore when we are hooking.
368. Fishermen are allowed to mesh where they please? There is no restriction; they can put the nets where they choose.
369. You can catch up to what weight or size? For different classes of fish there are different weights—trout, mullet, ruffy, 2 ounces weight.
370. Have you any close season here? No regulations for closing the waters in Hobson's Bay.
371. Do you think if a portion of the bay was closed fish would multiply? It might do good.
372. *Mr. Thompson.*] You say no portion of the bay is closed? I think there is a portion a quarter of a mile on each side of St. Kilda pier and at the mouth of the Yarra.
373. The trout you refer to;—what fish are they? Australian salmon trout.
374. You say the fish supply is decreasing? Yes.
375. What is the remedy for that? So long as the waters are fished all the year round it must be so.
376. You think the fish would benefit from a close season? I do.
377. Your seine nets;—do you haul them ashore or empty them in the water? The best part of us empty them in the water to let the small fish go.
378. What depth of water do you fish in when line-fishing? From 8 to 12 fathoms inside the Heads.
379. I notice some of your baskets are like those in use in New South Wales;—do you think they are the best for the purpose? Well, this basket [*producing one—a long, narrow, shallow basket*] is for barracouta. It is a good basket for the purpose.
380. Do you find that any pilfering takes place during the transit of the fish from Queenscliff to the Melbourne market? Yes.
381. If you were to discard those baskets and substitute in their place boxes of galvanised wire netting, with an iron frame and a lock, would that not prevent pilfering? I should think it would. It would be a good thing to have ice in the boxes.
382. You do not use a well-boat yourself—have you seen them used here? I have seen one or two well-boats—they answered very well.
383. Are you of opinion that fish would live in well-boats? I am sure of it. Flounders and other varieties would live in the wells. When I am fishing at Mud Island I keep flounders alive until I land my catch.
384. Do you send your fish cleaned to market? As they are caught.
385. Would it not be better to gut them? Yes, especially if done in the saltwater; fish would keep as long again.
386. You recommend that fish should be gutted? I would, if it could be done.

387. What kind of net do you use? I use a net of 4-inch mesh and 60 fathoms.
 388. Do you use that as a seine? Yes.
 389. You have a mesh net here? Yes; a set net.
 390. What is the mesh of that? From about 2 to 2½ inches.
 391. Is it measured on the diagonal? Measured on the diagonal.
 392. What fish does it catch? All kinds.
 393. I think I heard you say the nets are baited for flathead? Baited about half-way down the net.
 394. Have you ever used a trammel net? No. There is one working here, but it frightens the fish.
 395. The salmon you get in Victorian waters;—is it a good fish? In September or October it is a good fish.
 396. Is it in roe then? I have caught them in roe.
 397. You call them salmon trout as well as salmon? Yes.
 398. We call them the arripis in Sydney? Yes; that is the fish. I was catching fish near to Balmain, in Sydney Harbour, as far back as 1859.
 399. Do you smoke or cure any of your catch? Last year we cured some barracouta. It answered very well.
 400. What class of fishing boats is employed here? Boats of my class, but a little longer.
 401. They could not ride out a heavy storm? No; the waves would make a clean sweep over them.
 402. *Acting-President.*] What did the cured barracouta fetch? I think they sold at from 6s. to 9s. per dozen. That was selling them here at Queenscliff, retail.
 403. Do you have any difficulties among yourselves when on the fishing grounds? We work pretty well together. The mesh-nets monopolise the grounds sometimes, and we line fishermen cannot get on to them.
 404. At what depth do you generally work when line-fishing? About 30 fathoms; that would be some 15 or 16 miles off.

Mr.
B. Chidgey.
2 Feb., 1895.

Mr. George Werry, fisherman, Queenscliff, sworn and examined:—

405. *Acting-President.*] You are the owner of a fishing boat? Yes. She is named the "Surge"; she is 18 feet long and 2 feet 6 inches deep.
 406. Where do you fish? Inside, with a seine.
 407. Do you fish all the year round? Yes.
 408. What fish do you chiefly catch? The Australian salmon, crayfish, trout, and mullet.
 409. What is the length of your seine? Different lengths; the salmon net is 200 fathoms, and the other net about 112 fathoms.
 410. What is the mesh of the big net? From 2 to 3½ inches.
 411. And the other net? From 1 inch to 2½ inches.
 412. Is the mesh of your nets regulated? There is no law dealing with the mesh.
 413. Do you haul the net inshore? On the beach.
 414. Do many small fish get destroyed? We do not have the net right inshore. We pick out the marketable fish and turn the small ones out, when they swim away.
 415. How many are engaged with you? Four persons.
 416. What do you do with your fish? Send them to Melbourne by train.
 417. In baskets? Yes.
 418. Do you lose any of your fish in transit? I have missed a basket now and then. There are complaints, but I do not complain much.
 419. Do you make a fair living? Prices are bad.
 420. Is the fish supply increasing or decreasing of late years? It is decreasing. As to the school fish, we get just as many now as we did in the early days. The salmon appear in as big shoals as ever.
 421. The fish you get in the Bay, are they decreasing? They are not so plentiful.
 422. How do you account for that? There are so many fishing in the Bay now to what there were in the old days. There are between fifty or sixty boats at work now.
 423. If a portion of the waters were closed would the fish get a better chance of breeding? It would be quieter for the fish, but I do not think our fish breed here. We get small fish in different parts.
 424. *Mr. Thompson.*] You say the supply of fish is steadily decreasing;—how are you going to manage by-and-bye, when the fish have gone? The school-fish—salmon and garfish—will always come to this coast.
 425. You consider nearly all the fish here are migratory? Yes; all but the flounder.
 426. Where does the flounder spawn? In the channel, I think. The salmon spawn out at sea.
 427. The salmon spawn at sea? I fancy so.
 428. You send your fish to market clean? No.
 429. Would it not be a benefit to the people to get their fish cleaned? Most decidedly; they would keep better.
 430. In regard to the different nets—you may do as you like in regard to the nets, you say? You can use 10 fathoms or 500 fathoms.
 431. *Acting-President.*] Do the fishermen complain of the present system of disposing of fish in the Melbourne market? I think it could be made a little better. Our fish go to the market, and if they cannot sell them they will condemn them.

Mr. G. Werry.
2 Feb., 1895.

Mr. Cuthbert Fox, fisherman, Queenscliff, sworn and examined:—

432. *Acting-President.*] You are the owner of a fishing boat? Yes; a half-decked boat, 23 feet long.
 433. You have been fishing outside a good deal? Yes; outside and inside, Port Albert, and everywhere.
 434. What distance do you fish from the land when outside? About 12 or 13 miles.
 435. What fish do you get on those grounds? Principally barracouta.
 436. Any schnapper? We get schnapper within 3 or 4 miles off the shore—not many schnapper caught on the Victorian coast now.
 437. Have you had any experience in trawling? I have known every expedition that went out trawling from Victoria. It was about 1859 that the first expedition went out—a cutter named the "Pomona."
 438. Had they a proper beam trawl-net? Yes.

Mr. C. Fox.
2 Feb., 1895.

- Mr. C. Fox. 439. What length of beam? It would not be so large; the vessel was not more than 20 tons, it was only a small trawl. The next expedition fitted out for deep-sea fishing was a three-masted lugger of about 30 or 40 tons. They had drift nets, trawls, and seines. They did no good—they did not catch much fish.
- 2 Feb., 1895. 440. Did they lose their nets? Yes; a school of barracouta got among them.
441. In your fishing you sound a good deal? Yes.
442. Do you come across any reefs? No reefs about 7 or 8 miles out.
443. Mr. Thompson.] Are not oyster-beds discovered by trawling? They say so. In England you get a lot of oysters in your trawls.

MONDAY, 4 FEBRUARY, 1895.

[The Commission met on the Jetty at Welshpool, Corner Inlet, at 3 p.m.]

Present:—

THE HON. R. H. D. WHITE, ACTING-PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. William Moore, fisherman, Welshpool, Corner Inlet, sworn and examined:—

- Mr. W. Moore. 444. Acting-President.] How long have you been fishing? Since 1857.
- 4 Feb., 1895. 445. Where have you fished chiefly? Port Phillip Bay, Westernport Bay, Corner Inlet, Mallacoota, as well as outside.
446. How long have you been at Welshpool? Since the opening of the railway—about four years.
447. How many men and boats are employed hereabouts? There are about eighteen sailing boats, eleven flats, and fifty men. There is a floating population—besides people come from Port Albert, Franklin, and Toora. In the winter-time we have an addition of about fourteen boats.
448. How long does it take you to send your catch to town? About ten hours by rail.
449. Do the fish get to market in pretty good condition? We ice them all.
450. Where do you obtain your supply of ice from? From the Railway Department in Melbourne. Some get ice from the fish auctioneers in the Melbourne market.
451. The fish generally arrive in good condition? Very good. Two years ago it cost us as much as 16s. for 2 cwt. of ice delivered here by rail, now the price is reduced to 3s. for the same quantity.
452. The class of fishing you do here is net-fishing chiefly—I suppose you do line-fishing as well? Chiefly net-fishing, but there is a lot of line-fishing done.
453. Do you use the seine or set nets? Set nets and seines—three or four different kinds of seines.
454. You are allowed to use any nets you please? Yes; but set nets ought to be done away with; they frighten more fish than any other.
455. Do your fishermen haul fish on the banks or discharge the nets in the water? In the water.
456. Young fish are caught even under the present mode of capture? Undoubtedly so. I have seen all the different laws of Victoria tried to prevent the destruction of young fish, but they have been found not to answer, because if the mesh is small enough to save fish fit for market there would be smaller fish of other species meshed and killed.
457. What marketable fish do you catch here? Schnapper, whiting, pike, yellow-tail, garfish, kingfish, flathead, mullet, silver-fish, Australian trout, flounders, and soles.
458. What extent of waters do your fishermen work over in Corner Inlet? We work over a stretch of water about 34 miles long by about from one-half to 4 or 5 miles wide.
459. Do the fish you send from here fetch satisfactory prices? Yes, since we have been sending them in ice. Before we used the ice it did not pay at all—it was like throwing the fish away to send them to market.
460. The fishermen generally are satisfied with the returns they get now? Yes.
461. Mr. Thompson.] What is the mesh of the set nets? The mesh of the set nets is from 2 to 2½ inches.
462. Is that regulated by law? No; by the fishermen themselves. There are no restrictions on any nets in Victoria either as regards length or mesh.
463. Do you think there should be any restrictions on the sizes of the nets or mesh? No.
464. What is the usual size of the net used here? About one inch in the bunt and 1½ inches in the wings.
465. Is that a garfish net? Yes it is.
466. Then you do not discriminate between a garfish net and an all-round net? No.
467. Have you done any trawling on this coast? Some years ago I was trying to trawl at Mud Island. I caught flounders and flathead. A vessel was fitted out by the Victorian Government. They went to King's Island and lay there until they nearly grounded on their beef-bones. They came back again and reported there were no fish in Bass Straits, but they did not have the trawl down more than once. That was about twenty years ago.
468. What was the size of your trawl? About 15 feet at the mouth.
469. Are you of opinion that trawling would suit on the Victorian coast? It might at the Ninety-mile Beach. The kind of fish that is here could be caught in the trawl right enough. There are plenty of plaice, flounders, and soles. They could get the proper Dutch plaice, too. They do not come into the bays; they are outside.
470. Do you think that trawling, if properly carried out, would be successful? I think so. I fail to see why it should not be successful.
471. Do you think that drift or herring nets could be advantageously used on this coast? Yes, I do. mackerel and mackerel trevalli could be caught by thousands of tons. I have steamed from Cape Everard right up to Gabo Island through one unbroken mass of those fish.
472. Do you know a net called the trammel net? Yes.
473. How do you think that would answer? I think the elaborate rigging of it would hardly pay for the results.
474. I notice you have fish-baskets here;—can you improve on that method of carrying fish? Boxes would be better, our boxes are better.

475. Supposing the railway authorities, instead of sending you ice, were to send you a cool car? That would be a wonderful improvement in the conveyance of fish.
476. In that case a box, with the sides and ends of wire netting, would be an improvement? Yes, a very great improvement.
477. You think it would be better than closed boxes? Yes.
478. Are there any waters in Victoria closed against the use of fishing-nets? Yes; all rivers and river mouths are closed.
479. For what distance? About a quarter of a mile from each side of the river.
480. How far out? About the same distance—that is, for net-fishing.
481. What are the conditions of your oyster leases? A lease costs £1; they give it to you for four years, and you pay 10s. a year for 300 acres; but that is not oysters, only a piece of ground to cultivate oysters on.
482. For cultivation only, then? Yes; they do not lease oyster beds in Victoria.
483. Have you any success with this cultivation? Yes.
484. What process of cultivation do you pursue? I save the spat with faggots made out of horizontal boughs with the bark on. I find it is better than anything else you can use here.
485. Do you allude to the rock oyster? No, a very good kind of mud oyster. Of course they cannot compete with the Sydney rock oyster, or the Queensland oyster. At Mallacoota there were some splendid oysters, but the New South Wales boats from down Twofold Bay way went in there and destroyed them all.
486. Is that place sometimes called the Genoa River? The Genoa River runs into Mallacoota Lake.
487. Then I suppose the oysters there partook of the character of the New South Wales oyster—the Womboyne oyster, for instance? They are better; they are the finest oysters I ever saw in any of the colonies. They are like the Womboyne oysters.
488. What are the railway charges for the carriage of fish—from Welshpool to Melbourne? If you send a ton, about £1 7s. 6d.; a box of 60lb. would cost 1s. 4d.
489. What does the Railway Department charge you for carrying ice? Fifteen shillings a ton for the ice, and 10s. for the carriage from Melbourne to Welshpool—120 miles.
490. Is the fish supply of Victoria decreasing? I think so in Port Phillip Bay and Westernport Bay, but not anywhere else.
491. What is the cause of the decrease in those places? I believe the set nets are the cause of it.
492. Supposing set nets were allowed, but of a larger mesh, to catch only marketable fish? It would be, all the same; they only frighten the garfish away.

TUESDAY, 5 FEBRUARY, 1895.

[The Commission met at "Smith's Hotel," Port Albert, at 11:30 a.m.]

Present:—

THE HON. R. H. D. WHITE, M.L.C., ACTING-PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Henry Avery, Secretary to the Port Albert Fishermen's Association, sworn and examined:—

493. *Acting-President.*] You are secretary to the Fishermen's Association, and the owner of a fishing boat? Yes, the "Cliffy."
494. What tonnage is she? Three tons; she is an open boat, half-decked with a centreboard.
495. How long have you been engaged in fishing? About fourteen years.
496. Are there many fishing boats here? About twenty boats, including Port Albert and Tarraville. About fifty men are engaged in fishing.
497. What extent of water do you fish over? About 15 miles—that is, east and west from Port Albert.
498. Net or line fishing? Nearly all seine-fishing.
499. About what quantity of fish do you send to market, on an average? Not more than fifty baskets per day.
500. What class of fish do you catch? Flounders principally, in the summer—schnapper, pike, garfish, mullet, Australian trout and flathead. Garfish is the principal trade in the winter-time, and trevally.
501. How do you send your fish to market—by train? Yes, packed in ice in boxes.
502. Do you get a fair price for them in Melbourne? We get a fair price providing we get them to market in good condition.
503. How many hours are they in transit from here to Melbourne? They are twenty-four hours old when they get to market.
504. Do the fishermen here make a good living? Yes; those who own good boats and good gear make a good living.
505. Are they satisfied with the way the sales are conducted and the returns come in? I believe the majority are not satisfied.
506. For what reason? They think the salesmen do not handle the catches properly—do not sell it as it should be sold.
507. What other way do they propose to better the existing system? They consider the salesmen are buyers and sellers and buy a lot of the stuff in at their own prices. It is not properly submitted to public competition.
508. What facilities have you from the Government or the fish market for getting your fish to market—do they send you the ice? The Railway Department are prepared to supply any quantity of ice, delivered at the nearest station to any fishing port, at a uniform charge of 25s. per ton. The cost of the ice is 15s. per ton, and there is 10s. for freight.
509. I suppose the fishermen look upon that as a great boon? Yes; some of them were paying about £3 per ton to private agents for ice.
510. What do the fishermen propose as a better way of selling or getting rid of their fish? I believe the fishermen think that public competition at auction sales would be best.

Mr.
W. Moore.
4 Feb., 1895.

Mr.
H. Avery.
5 Feb., 1895.

Mr.
H. Avery.
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511. Do you know what they do in Hobart or other places? Only from hearsay; they sell at the wharf, I believe, but we cannot. Our difficulty in Victoria is—our ports are so far away from the market.
512. The facilities the Melbourne Corporation give you for keeping fish in cool rooms must be a boon to the fishermen? Yes; but we can do better if we have a plentiful supply of ice.
513. What length of seines do you use chiefly? About 150 fathoms.
514. What depth? Twelve to 22 feet; 12 feet at the end, 22 feet in the middle.
515. And what mesh is generally used? From 1¼ inch to 2 inches.
516. Have you set net-fishing? Yes, we had; we have knocked it off of late years.
517. Your mesh is not regulated by law, but chiefly left to the fishermen to regulate at discretion? The regulation size is by weight.
518. Do you consider the fishermen destroy young fish by using so small a mesh? I do not think so.
519. They never haul their nets right inshore; they are compelled to discharge in the water? Yes; it is much easier.
520. Have you any oyster-fishing here? The beds are closed. There is no fishing for oysters here, although there are several beds at Port Albert.
521. Mud oysters? Mud oysters.
522. Do you send many oysters to market? None have been sent that I know of during the last fourteen years, with the exception of oysters taken outside, along the coast, of which there are plenty.
523. That class of oyster could not compete with the good rock oyster you import? No; we cannot compete with the imported rock oyster.
524. You do not consider there is much to be done in the oyster trade here? No; not a great deal.
525. You have a Fishermen's Association;—what is its object? To benefit the fishermen generally. If it had not been for the Association I should not have been here to-day; they did not know when the "Lady Loch" would be here so they asked me to keep watch and give evidence.
526. What kind of outside fishing do you do—any net-fishing? It is mostly done with seines.
527. That is the sea-fishing? Yes; off the beaches.
528. What length of net do you use when outside? 150 fathoms long by the same depth, and 1¼ inch mesh for taking garfish.
529. Do you know of any other net being used on the beach—what they call a funnel net? That would be what we call a bag, I expect. That is for taking salmon or trevally.
530. The larger fish? Yes; much larger fish.
531. They get large hauls, do they not? Yes. It is used on the beach on account of the heavy surf. The fish go into the bag, and the men in the boats fasten a loop around the mouth of the bag. The fish are not taken to the beach at all; they are baled out of the bag into the boat.
532. Do you know of any school-fishing or trawling on this coast? I believe trawling has been done here, but not by our men.
533. How is it the fishermen do not try outside work more? They do not know where to look for the banks—it costs too much to find them.*
534. These open waters—does over-fishing lessen the supply here? These waters are continually being supplied with fresh fish, which come in from outside. Over-fishing might interfere with the supply of flounders, and that class of fish, but not with the other sorts.
535. Then the people here are pretty contented, and work well together? Yes; they have good and bad seasons; the present season is a very bad one.
536. How do you account for that? Fish is scarce, and it is a bad time of the year for outside work; too much easterly weather.
537. What distance off the coast do you generally fish for schnapper? I fish about a mile and a half from the coast.
538. Are they plentiful or scarce? I have found them pretty plentiful, but we can only go on the ground in good weather.
539. What quantity of schnapper do you get at a catch? Half a ton for a night's hooking with three men; that would be about an average in good weather.
540. Do you find the schnapper generally stay about the same grounds, or do they go away? They seem to stick pretty well to the known grounds.
541. *Mr. Thompson.*] The sales in the Melbourne markets are conducted by agents at the present time? Yes.
542. You are in favour of Corporation salesmen? Yes.
543. In Hobart they have a system by which the fishermen sell the fish themselves. I suppose you could not do that here; you must employ an agent? Yes; it is too far away from the market for us to sell ourselves.
544. Would it not be possible for the Fishermen's Association to appoint somebody to sell for them? Several of the Melbourne agents at the present time have been put there by the fishermen. The feeling among the fishermen is that there are too many salesmen in the market.
545. Do you send your fish cleaned to market? No; I have tried it, but could not sell it.
546. Do you think a system like that would be advantageous to the public? It would be the best thing that could be done. The fish would not go bad.
547. If the Government were to encourage such a system, do you think it would be satisfactory to the public? Yes, I do.
548. You send your fish away in ice; I noticed some being packed at Welshpool yesterday;—do you not find that the fish at the bottom of the boxes are very much compressed and bruised by the weight of the topmost fish resting on them? Yes, they are.
549. Would it be an advantage if, instead of the Railway Department furnishing you with ice, they were to supply you with a refrigerating car for the purpose? For my part I would sooner have a supply of ice than the car, because I could handle my fish more rapidly.
550. Have you any idea where the fish propagate here—do they propagate in the sea or in the inlets? I think a certain class spawn in the inlets.
551. What fish spawn in the inlets? Flounders and pike, I think—they are the most noticeable anyway.
552. I presume your oysters cannot be carried because the shell is so porous that it lets the water out? Yes.

553.

* NOTE (on revision):—This answer refers to trawling.

553. Have you ever tried carrying them in moss? No; I have not been in the oyster trade.
554. Have you had any experience of well-boats? No; I have seen one or two come to this port with fish.
555. In what state were the fish when they arrived here? The crayfish were very good, but the other fish were not so good; the boats were too small, the fish in them got knocked about—the well was not big enough to carry the fish properly.
556. Do you take any steps to preserve your fish? In warm weather we sometimes take ice with us, and pack the fish as we catch them.
557. You fish mostly at night? Nearly all night-fishing.
558. You have no garfish up here, have you? Yes, in the winter large quantities are taken.
559. Do you consider there is a necessity for closing a portion of your waters against net-fishing? Not in these parts.

Mr.
H. Avery.
5 Feb., 1895

WEDNESDAY, 6 FEBRUARY, 1895.

[The Commission met on board the Victorian Government steamer "Lady Loch," at Cunninghame, Lakes Entrance, Gippsland, at 9'30 a.m.]

Present:—

THE HON. R. H. D. WHITE, M.L.C., ACTING-PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Thomas Jemmeson, fisherman, Cunninghame, Lakes Entrance, Gippsland, sworn and examined:—

560. *Acting-President.*] You are the owner of a boat? Yes, the "Ada."
561. What length is she? Twenty-five feet long, 8 ft. beam, 2 ft. 6 in. deep; she is half decked and Freuch lugger rigged.
562. *Mr. Thompson.*] Has she a centreboard? Yes.
563. *Acting-President.*] Can you stand any weather in your boat off the coast? Oh, yes; we came from Tasmania in one of the same size and class.
564. How many fishermen are there at this end of the Lakes? From twenty-five to thirty boats, and about ninety men.
565. What sort of fishing is it chiefly? One portion out and the other portion inside.
566. What net do you fish with? We use a 2-inch net—cotton and hemp.
567. What length? About 150 fathoms long; it is 22 feet in the centre, and runs out to the pole about 15 feet.
568. Is it a funnel net? Yes; I will give you a description. The centre of the net is split from corkline to leadline, and a bag composed of 2½ and 2 inch of heavy stuff is laced on to each side of the split.
569. What size is the bag—about? We use a bag about 30 feet across the bottom in width, and about 5 fathoms in length.
570. You do not pull your fish in at all then? We merely unlace the bag, and put a line around the mouth of it. We do not bring the net inshore; we stand in the water, put a line around the mouth of the bag, unlace the bag from the net, and then tow the bag and the fish into the Lake's Entrance channel. Then we put the fish into paddocks, thus keeping them alive until we want them.
571. How do they live in those paddocks;—do many die? They live pretty well unless you drag them through the sand and choke them. I have had them there for three months at a time.
572. What class of fish have you had in the paddocks? Salmon, silver fish, yellow-tail, Australian trout—that is all we get.
573. Can you show us a funnel net before we go away? Yes.
574. What other class of fishing do you go in for? We do not do much hooking. We hook schnapper at the fall of the year.
575. How far out? About 6 miles along the coast, at a place called the Red Bluff, at the end of the Ninety-mile Beach.
576. What months do you generally fish for schnapper? From April till the end of July.
577. Do you get any quantity? Yes; we have got 100 and 120 in a day.
578. How many boats were there on the ground at that particular time? Seven or eight. I have seen twenty boats there. They are pretty big fish, averaging about 12 lb.
579. How do you get your fish to market? By steamer. We pay 5d. per basket to have them taken to Sale, and I think it is 7d. per basket from Sale to Melbourne by train.
580. How do you keep your fish;—do you get ice or send them away as you catch them? We have nothing at all. We have had an awful lot of fish condemned this year through not having cool trucks or ice.
581. If an ice-house were erected here, would that assist in preserving your fish? I think it would be better if ice could be stored at Cunninghame and at Paynesville, higher up.
582. If they were packed in ice you believe they would go to market all right? Yes; I am sure of it.
583. What quantity of fish have you had condemned this year? During the last three months I should think one boat had over 100 baskets condemned.
584. Do you get fair prices for the fish? They have been going very low this year.
585. Are the fishermen satisfied with the way the fish are disposed of in the market? They have several complaints; they are not satisfied.
586. What do they complain of? They complain that their stuff is not sold over the table in the market. It is this way: Each salesman has an up-country trade, and he takes the stuff away. He picks out what he wants, but it does not go into the market. He gives the price that the same sort fetches in the market. All our fish ought to be sold at public auction.
587. What do the fishermen suggest as a remedy for this? I think if one man were put in by the fishermen to sell for them it would be better—a representative from each district. Those representatives would know the class of fish every morning, and a price could be put on them, according to the quality of the fish. What the fishermen want is a uniform price per pound. That would be more satisfactory. Our representatives could put a price per pound on the several kinds of fish, and people who wanted it could come and get it. The fishermen would be satisfied with a fair thing. There is about £6,000 or £7,000 paid away yearly to the principal salesmen now for conducting the sales in the market. Each

Mr.
T. Jemmeson.
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- Mr. T. Jemmeson. man has his own office, and so forth. The plant of one man would be sufficient to do all the work and thus lessen the charges. We have to pay 10 per cent. now, and we think the work might be done for 5 per cent.
- 6 Feb., 1895. 588. You do not mean that one salesman could do the selling at the market? No, not by himself; the representative of the fishermen would employ men to sell the catch as it was received.
589. You do not do much lake fishing here? You will get evidence concerning that at Paynesville.
590. *Mr. Thompson.*] The net you spoke of, you do not divide it into bunt and wings, you have one general mesh throughout? Yes.
591. The fish you catch outside, do you get most of them into your paddocks alive? Yes, mostly alive.
592. Do you feed the fish in the paddocks? No; but they would be better for being fed. I have had them feed out of my hands. They get very thin without being fed.
593. Did you ever see a well-boat? No.
594. What is the distance your fish have to be taken to Sale? Sixty odd miles.
595. The fish are taken by steamer that distance? Yes.
596. At Sale they are put in the railway trucks and sent to Melbourne direct? Yes; it is 120 miles from Sale to Melbourne.
597. How many hours elapse from the time you send the fish away from this place until they reach Melbourne? They leave here at 8 in the morning and arrive at Melbourne at 12 o'clock at night. They are sent to market, and sold at 6 o'clock the next morning.
598. Do you know anything about trawling? I never did any.
599. Do you get crayfish or lobsters here? Not here.
600. What are the nationalities of the fishermen employed here—are they British subjects, or Greeks, or Italians? There are very few Italians, but we have a lot of foreigners—Russian Finns, Swedes, and such like.
601. What is the proportion? There are more Europeans than any others. There are two Chinese crews fishing.

WEDNESDAY, 6 FEBRUARY, 1895.

[The Committee met at the "Temperance Hotel," Paynesville, Gippsland Lakes, at 1:30 p.m.]

Present:—

THE HON. R. H. D. WHITE, M.L.C., ACTING-PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Thomas Murray, fisherman, Paynesville, sworn and examined:—

- Mr. T. Murray 602. *Acting-President.*] You have a boat of your own? Yes.
- 6 Feb., 1895. 603. What size? Twenty-nine feet nine inches; half decked.
604. What fishing do you go in for? Meshing, principally.
605. What length of mesh net do you use? 680 fathoms; that is for perch.
606. What mesh? From $3\frac{1}{4}$ in. to 4 in.
607. What is the depth? About 7 feet.
608. Do you set your net in shallow water? In all depths, from shallow to 20 feet. It all depends where we are fishing.
609. Do you get good hauls? Fish have been extraordinarily scarce these last twelve months. I have never seen anything like it in these parts.
610. How do you account for the scarcity? Twelve months ago we had a very heavy flood, and everything seems to have been swept out of the lakes. Before that there was a good show for fish. The ground was disturbed by the heavy flood, and that had a great deal to do with the scarcity. There is any quantity of fish up the rivers. At the present time there are tons and tons in the Mitchell River.
611. What quantity did you get, say, five years ago? As many as from 500 to 600 baskets per week. We averaged between 500 and 600 per week.
612. And now? Now, you will not see a basket in a week.
613. Do they come in from the sea? I think so.
614. How many men and boats are there on the lakes altogether? About 180 men and forty boats on Lakes Wellington, Victoria, and King.
615. You are hauling every day;—do you think that has anything to do with the scarcity of fish? My opinion is that the scarcity is to some extent in consequence of the continuous fishing.
616. Would it be a good thing to close one of the lakes for a time, so that the fish might have time to breed and increase? I think it would be a good thing to close the waters. The rivers are closed within a quarter of a mile of their mouths. If we get three days' heavy rain tons of fish come down from the rivers to the lakes. The lakes are fed from the sea and the rivers. We get a quantity of salmon and yellow-tail and skipjacks in the lakes.
617. Do you manage to get your fish to market all right? We have a great difficulty. The train journey to Melbourne is right enough, but our fish remain at the railway station in Melbourne. They ought to be taken direct into the market. A great number of our fish go up the country and they are never seen in the market.
618. Do your fish reach the market in pretty good condition? During the hot weather some were condemned, but they carry very well in the cool cars on the railway.
619. There is no ice in those cars? No; I believe the cool cars are better than ice.
620. *Mr. Thompson.*] What nets do you use? The mesh nets are for bream and perch and the smaller net is for mullet.
621. *Acting-President.*] You have seine nets? We have the bream seine and the garfish seine; also the flounder seine.
622. *Mr. Thompson.*] How far is Paynesville from the sea? It is about 16 miles from here to Lakes Entrance.
623. Do the garfish travel all this way? Yes; they have been seen as far up as Sale—60 odd miles from the ocean.

TUESDAY,

TUESDAY, 12 FEBRUARY, 1895.

[The Commission met at "Menzies' Hotel," Melbourne, at 3 p.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

John Clayton, Esq., Town Clerk, Melbourne, sworn and examined:—

624. *President.*] You occupy the position of Town Clerk of Melbourne? Yes.

625. How long have you held the position? Three and a half years; but I have been in the service of the Council for over ten years.

626. You have had a good opportunity during your connection with the City Council of becoming conversant with the system of fish distribution adopted at the Fish-market in Melbourne? The Market Committee of the Council controls the market and the officers in charge.

627. You desire to make a statement? To facilitate your inquiry I have made notes of matters likely to be of interest. I may say that our sources of supply are from Warrnambool and Port Fairy on the one side of the bay. Then we come round to Hobson's Bay and the fishing stations in it. From thence we go to Westernport Bay, Corner Inlet, Port Albert, and the Gippsland Lakes. In addition to that, we have the fish from the Murray River, extending from Echuca to Euston, 100 miles beyond Swan Hill. Our means of conveyance is principally by rail; a small portion by road from the nearer fishing stations, and the fish caught in the deep-sea and sometimes down Warrnambool way come by water. Our imported fish are chiefly the blue cod, from New Zealand, and schnapper and whiting, from South Australia—that is, treating the Murray fish as Victorian fish. I have a return showing the fish sold in the Melbourne market during the year 1894. It is as follows:—189,520 baskets of sea-fish, 7,056 baskets of Murray fish, 1,286 boxes of imported fish, 14,354 bags of oysters, 564 bags of eels, 465 baskets of prawns, 19,122 dozens of crayfish, and 7 turtle. With reference to our Fish-market, I will forward a plan, showing details, together with the cost of the same, to the office of the Commission in Sydney. Regarding the delivery to market, the plan shows railway connection, with the receiving platform alongside the market entrance; but this, although specially designed for the purpose, has not yet been utilised, owing to the Railway Department feeling compelled to place an extra charge of 1d. per basket for shunting upon all fish which would come into the market. The result is that the fish which comes by rail from various parts of the colony is taken to the Spencer-street station, and has to be taken thence by carts to the Fish-market, entailing further handling and knocking about. The fish is taken by carts into the market in the early hours of the morning. Trolleys are provided so that it can be run to any part of the market, either from the carts or from the railway platform. The principle of the market is a series of raised stands upon which the salesmen sell the fish. These stands are of slate, and the whole of the market is paved with asphalt. The walls are lined with tiles, so that the whole of the building can be cleansed and hosed down immediately the sales are over. The market is under the control of an inspector and collectors, the duties of the inspector being to exercise a strict supervision over the quality of all fish and other produce brought into the market. The inspector, also, has powers of seizure and condemnation. When fish is condemned, the inspector issues a ticket to that effect, which is forwarded to the fisherman by the salesman to account for the disposal of his fish. Any fish seized is placed in the deadhouse and destroyed by disinfectants, to prevent its use for food, and then carted away to the desiccator and converted into manure. I hand in a return showing the quantity of fish condemned during the year 1894:—4,871 baskets of sea-fish, 295 baskets of Murray fish, 102 dozens of crayfish, 16 bags of eels, 52 bags of oysters, 93 boxes of imported fish, and 3 baskets of prawns. Seized under the Fisheries Act:—824 baskets of fish, nearly the whole of which were sent to the different charitable institutions for the inmates. As to the method of sale at the market, there are about ten salesmen or auctioneers to whom the fish is consigned by the auctioneers. They take delivery at the railway station and cart to the market, and sell on the stands as already described. The sales are conducted by auction, the whole of the salesmen selling at the same time. The first sale commences at a quarter to 6 o'clock in the morning. In the past a quantity of fish has been consigned by the salesmen to the country districts before the auction sales commenced. This practice has been complained of by the fishermen. New regulations have been prepared to deal with this and other matters which have been sources of complaint on the part of the fishermen.

628. *Mr. Thompson.*] Fish forwarded to the market is sent into the country without being offered at public auction and the fishermen complain of that? Yes; the salesmen have certain country customers. When the fish is brought to the market they select what they require and send it away by the early trains to the country before commencing to sell in the market. This has been the cause of great complaint on the part of the fishermen, who alleged that there was no check upon the returns furnished to them for the fish so disposed of. To meet these and other matters which were the subjects of complaint by the fishermen, special regulations were prepared, a copy of which I hand in. The fish is usually sold by the basket, the principal exceptions being Murray cod, and the larger fish, which are sold at per pound, and flounders, which are sold at per dozen. To facilitate inspection by the buyers, wooden platforms have been placed on top of the slate stands, making those stands from 1 to 2 feet higher than originally designed. This has been found to be a distinct advantage.

629. *President.*] What about the agents' charges? The agents' charges for the work performed by them range from 7½ per cent. to 10 per cent. on the proceeds of the sales. Concerning the regulations, I should say that at the opening of the new market the Council endeavoured to deal with the complaints made by the fishermen from time to time; but which, owing to want of space and convenience in the old market, could not then be dealt with. The first of the new regulations I have alluded to, is as follows:—

1. The market shall be open for the sale of fish, poultry, wild-fowl, hares, rabbits, and the like, at half-past 4 o'clock, ante meridian, on every day, excepting on Sundays and Christmas Days, on which days no business shall be transacted therein; and the market shall close daily at 5 o'clock post meridian.

As you see this regulation provides for the sales commencing at 5 o'clock with a view to ensuring that the fish sent to the country districts shall be sold at auction in open market prior to being sent away. No persons

J. Clayton,
Esq.

12 Feb., 1895.

J. Clayton, Esq.
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sons are permitted to act as salesmen except with the approval of the City Council; and such permission may be cancelled at any time for sufficient cause. To meet a complaint made, rule 8 provides that—

8. No salesman or auctioneer shall act as, or take part, directly or indirectly, in the business of a buyer or forwarding agent either on his own behalf or as agent for others.

Rule 9 was specially drawn up in order that the inspector shall be in a position to obtain, when necessary, full information from the salesmen as to the prices realised for all fish brought into the market. It reads as follows:—

9. Each salesman or auctioneer shall furnish daily to the market inspector a true and correct return of the fish and other marketable produce sold by him each day, and of the prices realised for such fish and other produce; he shall keep proper books containing such information, and also the names of the persons on whose behalf such goods are offered for sale by him, and shall produce his books to the market inspector at all times when required. He shall give to the market inspector or the lessee of the market, whenever required, correct information as to the goods which have been brought into the market by him or on his behalf, and shall, at the time of offering any such goods for sale, publicly announce the name of the person on whose behalf they are offered for sale.

630. You have no control over the fishermen so far as licenses are concerned? No.

631. *Mr. Thompson.*] You have no control over the fishing grounds? No. The Council's control is limited to the city boundaries. Our inspector also acts as an inspector under the Fisheries Act, and receives an additional salary from the Government for his services in that capacity.

632. He really administers the Act in your Fish-market? Yes, that is so. The business transacted at the market is shown in daily and weekly returns of quantities sold and prices realised. The revenue of the Council is derived from dues levied upon all fish brought into the market. The scale is as follows:—

CITY OF MELBOURNE.

MARKET dues and tolls to be levied in the General Markets of the City of Melbourne.

Upon fish.

Every basket containing fish, and of capacity not exceeding 2 cubic feet, or for so much unpacked fish as shall not exceed what such basket could contain	d.
Salt, dried, and smoked fish, per cwt.....	3
Oysters, per bushel	6
Lobsters, crayfish, or crabs, per dozen	1
Shrimps, per gallon	2
Cockles, periwinkles, and small shell-fish, per gallon	1

As to hawking Produce purchased in any general market of the City.

	Day.	Week.	Month.	Quarter.
For every cart with vegetables, fruit, or fish.....	1s.	3s.	8s.	20s.
For every wheelbarrow with vegetables, fruit, or fish.....	6d.	2s.	6s.	15s.
For every handbasket with vegetables, fruit, or fish	3d.	1s.	3s.	8s.

JOHN CLAYTON,
Town Clerk.

The Council has under consideration a scheme by which the dues upon the cheaper or commoner fish may be greatly reduced, and at the same time be more equitable with regard to the better quality of fish—the proposition being to charge a percentage upon the proceeds of the sales. The fishermen in different parts of the Colony are now being consulted in regard to this matter, and it is expected to be given effect to in the course of a few weeks. It is the intention of the Council to make an appreciable reduction as far as the cheaper class of fish is concerned. This, of course, will result in a considerable reduction in the total revenue derivable from the Fish-market.

633. *President.*] Your salesmen have offices in the market, have they not? The salesmen, in addition to their stands, are provided with offices or stores which are built around the market, each stand opening off the office. For this accommodation they pay a rental of 25s. weekly.

634. What does that 25s. per week cover? It is charged for the use of the offices and stand which is used not only for the sale of fish, but of rabbits, wild fowl, and other marketable produce. Alongside the market, as shown on the plan, the Council has erected cold storage chambers for the storage of not only fish, but meat, butter, and other produce for export. As regards the Fish-market the cold storage is provided at a charge of 1s. per basket of fish per week, or any lesser period. The word basket means a capacity of 2 cubic feet—although smaller-sized baskets are largely used by the fishermen as they produce better returns.

635. *Mr. Thompson.*] I suppose the fish placed in the smaller baskets are generally the finer fish? Generally the better fish. I may add that when a large consignment of fish is placed in the cold storage chambers a special charge, as low as one-half of the general rate, is made—for instance, when one of the deep-sea boats brings a load of fish to market. Another system of charge is that by which a space can be taken for a fixed period, the chambers being divided into small compartments for which a weekly rent is charged on the basis of 1s. per square foot floor space. In this compartment the holder may place whatever quantity he pleases, subject to such supervision and conditions as are deemed necessary to prevent injury to other goods in the chambers.

636. Can he increase his accommodation by using shelves? Yes; he may use the space to the best advantage.

637. What is the height of the chambers? About 9 feet.

638. *President.*] Now as to your method of distribution? The principal method of distribution is by hawkers who purchase at the sales and distribute by means of cart, hand truck, and basket, in the different suburbs. A few shopkeepers in the city and suburbs also distribute from their establishments to various places. This question of distribution is one of the most difficult problems we have to deal with in connection with the fishing industry, as it affects every branch, from the fisherman to the consumer. It is hoped to partially overcome this difficulty by instituting earlier sales in the Fish-market, which will allow of sufficient time to enable the hawker to get the fish to the consumer in time for breakfast the same morning. Under present conditions a very large proportion of the fish is distributed too late to be used until dinner-time at the earliest. Some of the results of the existing system are the

absence

absence of fresh fish for breakfast—which tends to discourage its use—and the loss sustained by both fisherman and consumer in consequence of the fish turning bad before sale or consumption. As the value of every fish which goes bad while in the hawkker's hands has to be charged upon those remaining to be sold, this considerably increases the cost to the consumer without giving any additional profit to either the hawkker or fisherman.

J. Clayton,
Esq.
12 Feb., 1895.

639. Have you any arrangement by which the hawkkers can clean their fish before leaving the market? No, not cleaning in your—the Sydney—sense of the term, although ample provision is made for washing either in or out of the baskets, so that every fish can be sent out perfectly clean and fresh.

640. *Mr. Thompson.*] Would you consider it an advantage for the fish to be delivered cleaned and gutted to the consumer? No doubt it would be a very great advantage because of the difficulty with the domestics.

641. Would such a scheme be practical? Certainly—it is not impracticable.

642. Have you any auxiliary markets in the Melbourne suburbs? No. Of course there are suburban markets for the sale of ordinary marketable produce; but I am not aware of any fish being disposed of there. They could hardly be termed auxiliary markets as they are held on different days and the produce, in the main, goes to them direct and not through the central market.

FISHERIES OF NEW SOUTH WALES.

THE SOUTHERN HOME FISHERIES: CROOKHAVEN AND SHOALHAVEN RIVERS' FISHERIES.

FRIDAY, 8 MARCH, 1895.

[*The Commission met at the "Albion Hotel," Nowra, at 2:30 p.m.*]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

L. G. THOMPSON, Esq., J.P.

Mr. George Haiser, oyster lessee, Greenwell Point, Crookhaven River, sworn and examined:—

643. *President.*] Your name is George Haiser, and you reside at Greenwell Point, Crookhaven River? Yes; I have lived there between thirteen and fourteen years.

644. Have you been engaged in connection with the oyster fisheries there? Yes.

645. Had you any connection with oyster fisheries prior to living at Greenwell Point? Yes, for twenty odd years, at Bateman's Bay, the Clyde River, the Tuross River, Durras Lake and Pambula Lake.

646. Your experience, then, in connection with oyster fisheries extends over a period of how many years? Thirty-five years.

647. And have you during that time watched closely everything connected with the growth of oysters? I have for the last twenty years.

648. In what condition were the oyster-beds when you first commenced to have anything to do with oyster fisheries? In splendid condition.

649. Has their condition altered since? Yes; very much so.

650. Can you give the Commission an opinion as to the causes which have operated detrimentally to the development of the oyster fisheries? Well, there is the overworking of the beds by the different small lessees. They go on stripping the ground from one place to another, and the beds are not given sufficient time to recoup themselves.

651. What do you mean by overworking—overdredging? Yes.

652. As to the disease which has attacked the oysters, what is the nature of the disease? In my opinion the disease is caused by floods, and the drainage from the swamps at the heads of the rivers.

653. In what manner does the disease attack the oyster? At first while the oysters are feeding they swallow the impure water, and they have not sufficient strength to spew it out again.

654. Have you discovered anything in the shape of a worm which has attacked the oyster? Yes; I have.

655. Can you give the Commission any information in regard to the disease;—can you account for its being located in different districts? About five years ago I first discovered the disease here in the Crookhaven River. I had a bed of 600 bags laid down, and I was just working that bed for market when I saw the black mud in them. I told my men not to gather any more oysters from the bed as it might recover; I thought the disease might work out of them; but it did not—it killed the whole bed of oysters, and I got no return from them.

656. Where did you get the spat from? From the river, close to the breeding grounds.

657. You hold some oyster leases;—what is the total extent? Something like 7,000 yards at the present time, in different localities.

658. Where are they located? In the Currumbene Creek, the Crookhaven River, and a small lease on the Manning River.

659. Have you given personal supervision to the oyster lease you have on the Manning? No; I have not been there.

660. Have you had any return from that lease? Yes.

661. Did you put down any spat there? No; it is natural growth.

662. Which of the places where you have placed spat for the purpose of artificially propagating the oyster has proved to be the best fattening ground? Currumbene Creek.

663. As an oyster lessee, what, in your opinion, is the best locality to select for oyster breeding or fattening, that is, having regard to the soil and the condition of water best suited to their development? Currumbene Creek is the only place for laying down—the Shoalhaven is too muddy.

664. Has the Currumbene Creek a regular supply of fresh water, and is the influence of the tide felt there? Yes; I had a lease of 1,000 yards in Jervis Bay; those oysters I have sent to Melbourne, but the disease is in them, although I did not know anything about it, and I cannot sell them.

665. Where did you get those oysters to lay down? From my breeding grounds.

666. Do you think the disease was in the spat? No; I attribute it to nothing else but the number of floods we have had, one after the other.

667.

Mr.
G. Haiser.
8 Mar., 1895.

- Mr. G. Haiser.
8 Mar., 1895.
667. Are there any other oyster lessees besides you down here? Yes; Lonesborough—I do not know of anyone else.
668. Where is your market? Melbourne.
669. You do not supply the Sydney market at all? No; very little.
670. What do you obtain for your oysters? At present the return has been as low as from 30s. to 5s. per bag.
671. How do you account for the decline in the price? The market being glutted.
672. Did you have to pay anything for the spat you laid down? Yes; the rent for the oyster leases. I had to wait for many years before I could get spat, and I did not take spat from Crown lands.
673. Have you any men working for you? Yes; six men.
674. Do you keep them constantly employed? Not in the winter. In the summer I sometimes employ as many as nine or ten men.
675. Do your beds suffer from the effects of frost? No.
676. You have never found the very cold weather act detrimentally to the oyster deposits? No.
677. What is your idea regarding the present system under which the foreshores are leased for oyster propagation;—can you suggest any improvement in the method of leasing, so that more encouragement might be given to those desirous of engaging in oyster culture? I can. Lessees should find security for the fulfilment of the conditions of their leases—sureties of (say) £200 for the proper fulfilment of the conditions. Then the wholesale destruction of the beds would not take place.
678. I suppose you have always respected the regulation in regard to the size of oysters to be sent to market; you have taken care not to send immature oysters to market? I have; at times it is impossible to avoid sending a small oyster; for instance, when oysters grow on top of each other.
679. Speaking from your experience, can you tell the Commission whether you favour the proposal for the leasing of a river, or an arm of a river, for the purpose of oyster culture, instead of favouring the system of letting 100 yards to anyone who cares to apply? I would suggest the river, because the man who has an arm would live upon the other man, by deriving benefit from the spawn which would come from the other leases on the river on to his lease.
680. As to the growth of oysters in the localities where you have held leases in this portion of the Colony—how long does it take for an oyster to become marketable from the time you lay it down? I have known them to be marketable in two years where the grounds are good, and I have known them to be as long as seven years before they become marketable. On the Manning River—I have only had that lease twelve months—from the natural deposits I have taken twenty-eight bags of oysters.
681. Where did those twenty-eight bags come from? From my lease of 200 yards.
682. Were there any oysters there when you took up the lease? No; not any. I was informed there were none on the lease. I have not been to the Manning myself.
683. You are led to believe that spat being deposited on that lease at the beginning of the twelve months, at the end of the twelve months you were able to gather twenty-eight bags of oysters from it? Yes. I had a bed at Newcastle; it was thoroughly cleaned, and in about three months afterwards the whole flat was covered with good marketable oysters.
684. *Mr. White.*] Grown in that time? Yes, grown in that time.
685. *President.*] In the Hunter River? Yes.
686. *Mr. Thompson.*] Fullerton Cove? Yes.
687. *President.*] During the time you have held these leases I suppose you have had several transactions with the Department of Fisheries in Sydney, presided over by the five Commissioners? Yes.
688. Have those transactions with the Commissioners been satisfactory in their nature? Very unsatisfactory.
689. In what way;—can you give the Commission the grounds of your dissatisfaction? Well, I have simply looked upon the Act where it says the inspectors shall go round and see the condition of the leases. I have asked for an inspector, and could never get any of my beds inspected. The leases get no protection whatever. I have only had inspectors down to see the leases twice in ten years.
690. Although you applied on every occasion for them to come and inspect? Yes.
691. Is your complaint, then, against the present Fisheries Commission, that they have not shown that interest in regard to the oyster fisheries which might have been expected of them? Yes; they have not. I do not know where the fault lies, but the oyster industry has not received justice. It has been very much neglected in the past.
692. Is there a fair prospect of those beds being resuscitated and an improvement being brought about if proper attention is given to the question? Yes; there is.
693. Have the Fisheries Commissioners on any occasion visited your oyster leases? No.
694. Have you ever known them to visit the oyster fisheries at the Shoalhaven and Crookhaven Rivers, or any other fisheries here? No; I have not.
695. If they had visited these fisheries you would have known of it? I have no doubt about that.
696. Have you any complaint to make in regard to the amount you are charged for your leases? It is hard upon a man, after paying five or six years' rent, and his crop of oysters has failed during all that period, that he should still have to pay rent.
697. Are you in favour of the amendment of the present Act to give discretionary power to the authorities to allow of a remission of rent under such circumstances or conditions? Yes; as an encouragement to those engaged in oyster culture. We receive no encouragement whatever at present.
698. Have you thought out the question of altering the administrative authority which we have at present;—have you thought of any other plan that would be more satisfactory, or that would work better in the interests of the public and of the oyster lessees and fishermen generally? I think it would be better to have the department placed under one responsible head. I mean one person to administer the Act under the Minister, and to have control of the fisheries of the Colony.
699. Then you favour the appointment of one man as Commissioner, a man with a good knowledge of the fisheries, and having an intimate acquaintance with the provisions of the Act,—a man who would devote the whole of his time to his duties, and be paid for his services? Yes; I favour that. I think it would be the best thing in the interests of the oyster fisheries, and of the fisheries generally.
700. Would you favour the appointment of local boards to advise on certain matters connected with the fisheries;—do you think such boards would assist the Commissioner? I can hardly give an opinion.

Mr.
G. Hauser.
8 Mar., 1895.

701. Are there many net fishermen in this portion of the Colony? A good many. They are scattered right down to St. George's Basin. At present I suppose there would be about seven or eight boats and about thirty or forty men.
702. How do they get their fish to market? By train and steamer.
703. Do they rely on the inlets for their fish supply or go outside? There is very little outside fishing. It is nearly all inside work.
704. Have you ever heard the fishermen complain of the provisions of the present Fisheries Act bearing harshly upon them? I have.
705. I asked you a question some time ago in regard to the best localities for laying down oysters; what I wanted to elicit from you was whether you can tell the Commission the nature of the soil or bottom best suited for the artificial propagation of oysters? A hard gravelly bottom.
706. A mud bottom is not so good? Not so good. A little good, so long as the oyster is not covered.
707. *Mr. White.*] You say you have about 7,000 yards of leased oyster-beds? Yes.
708. And that there is only one other lessee besides yourself here? Yes.
709. What frontage has he? I really cannot say.
710. *President.*] He will be examined.
711. *Mr. White.*] In your 7,000 yards how much do you set apart for growing spat, and how much for growing oysters? About 5,000 yards for spat, and the other 2,000 yards for cultivation.
- 711½. Then you give the 5,000 yards a reasonable spell, so as to get spat to cultivate the beds? Yes; I work portions of that 5,000 yards at intervals for spat collecting, so as to place it on the 2,000 yards where I cultivate the oysters.
712. Supposing the Government allowed somebody to have 100 yards lease in between your oyster grounds do you think you would be safe? No, I would not be safe. I would be in danger.
713. Any small leases in between your lease would simply be a premium for stealing? Yes, they would.
714. Is there any oyster stealing here? Yes.
715. To such an extent as to injure oyster culture generally? Yes.
716. Have steps been taken to secure the thieves? Several times I have asked for permission to prosecute, but I have never obtained any convictions. I have caught the thieves, and could have obtained convictions from time to time, but I was induced to let them off.
717. Off your 2,000 yards of cultivating grounds, what quantity of oysters do you send to market during the year? About 250 bags.
718. You employ as many as six men at times to help you get those 250 bags? Yes.
719. And you get from £1 to £1 5s. per bag? I have. This year—it was one shipment while the floods were in Queensland—I got as high as 50s. per bag.
720. Roughly speaking, what do you consider you make a year after paying rent for your leases? I have lost during the last three years. About three years ago I could clear about £300 or £400. During the last two or three years I have lost money. I am going back.
721. The worm disease;—does it clear out your beds altogether, or only partially? The whole of my breeding grounds have been destroyed by the worm. The disease is going out of my beds in the Shoalhaven, but has shown itself in Jervis Bay, and it being deep water, about 10 feet, it will clean the bed out.
722. How many bags of oysters do you take off the rocks in the shape of spat or brood to put on your breeding grounds in a year? I take about 500 or 600 bags off the 5,000 yards to put on my cultivating grounds.
723. How many years is it since the worm appeared here? The worm appeared in these beds about five years ago.
724. Do you remember the worm in the Newcastle district? Some years back it cleared out the whole of the beds there; about thirteen years ago.
725. Did you ever hear that the disease was discovered years before the time you speak of? No.
726. *Mr. Thompson.*] Thirty years ago? No.
727. *Mr. White.*] Do you sell any of your oysters in the Sydney market? Very few.
728. How do you sell there? I send them to an agent.
729. Are they satisfactorily dealt with by the salesman in the Sydney market? No.
730. Do you trust to an agent in the Melbourne market? Yes; to my sorrow.
731. You do not get fair play, then? I do not get fair play either in the Melbourne or the Sydney market with my oysters.
732. *Mr. Thompson.*] I understand you favour the idea of leasing whole rivers, but not the arms? Yes; not the arms.
733. What is the reason for that—because one man cultivates his oysters and the spat flows from his area on to another area belonging to a man who does not cultivate at all? Yes.
734. Do you think there are oyster-beds in the open sea? I do not know.
735. Do you ever see any oysters on the rocks outside the headlands? Yes.
736. Where do they come from? I cannot say. They may flow out from the mouths of the rivers.
737. Do you recollect that under the Act of 1868 oyster lessees had to find sureties in ten times the amount of their rent? Yes; I do.
738. That was not found to work well—it prevented leasing, did it not? Yes.
739. I suppose you know that neither the Government nor the Fisheries Department have any knowledge of the market value of the different oyster-beds—that is to say, they have no data on which to found it? They have no data which would guide the Commissioners, and it is a matter which has been neglected by them.
740. Do you not think, under these circumstances, that it would be equitable to fix the rent by results—I mean, to fix the rent in the shape of a royalty or fee on the number of bags of marketable oysters raised? Yes; that would be a very good thing, indeed. I would prefer to pay by results, that is, at so much per bag of oysters raised.
741. Can you account for the disease in the oysters at Jervis Bay? I have been told that diseased oysters were deposited in my deep-water bed, and in this way the disease has been communicated to them, but I cannot swear to this. I was told it, though.
742. How do the oysters in deep water recuperate themselves; that is, how are the deep beds supplied? I have to lay down spat in the deep beds. It is an artificial growth.

- Mr. G. Haiser. 743. Out of what depth of water do you take the oysters you lay down? Two feet of water.
 744. And you put them in what depth? In from 6 to 8 and 10 feet at low water.
 8 Mar., 1895. 745. Do you find the oysters suffer through being placed in the greater depth of water? No; they thrive well.
 746. Then you think nothing of the contention usually expressed that oysters must not be deposited in water deeper than that from which they have been taken? No; my oysters have grown splendidly.
 747. This disease in the oysters in Jervis Bay;—are you sure it is the result of the worm? I have seen the worm in the oyster.
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- Mr. R. Lonesborough, fisherman, Greenwell Point, Crookhaven River, sworn and examined:—
 8 Mar., 1895. Mr. R. Lonesborough. 748. *President.*] Where do you reside? On the Crookhaven River.
 749. How long have you resided there? Twenty-six years.
 750. Have you been engaged in connection with the development of the oyster fisheries for some time? Yes.
 751. For how many years? Fourteen or fifteen years.
 752. You have been net fishing as well? Yes; we carry on net fishing and oyster fishing.
 753. What extent of foreshore have you for oyster culture? I have 100 yards, and my father has 900 yards. We work the 1,000 yards between us.
 754. Do the leases adjoin each other? No; there are 200 yards in the Crookhaven River, where we live, and 300 yards on the shore where we live. Then there are 100 yards at Crookhaven Heads, 100 yards at Jervis Bay, and 200 yards at Jervis Bay. My 100 yards adjoin my father's, at Crookhaven Heads.
 755. Do you know whether any profit has been made from those beds? We have made a little profit out of them this year, more than last year—our market is in Sydney.
 756. How are your oysters disposed of in Sydney? We send them to Mr. Cootes, in Sydney, and he retails them and sends us the return.
 757. Does he charge you a commission for selling, or a fixed price? He pays a fixed price.
 758. What is the average price he pays you for them? 15s. per bag.
 759. Has any disease shown itself in your beds? Yes; disease in all the oyster-beds in the Crookhaven River.
 760. What is the cause of the disease in the oysters? Nothing but the fresh water. The oysters were a good deal better before the fresh came. When the fresh came it left the slime on the shell, and when the oysters drink the slime goes in and kills them.
 761. Have you heard of any other enemy to the oyster? The worm. The time that Baxter laid his down was the only time I noticed the worm in the oyster.
 762. Have you made any experiments in order to try to cope with the disease? The only experiment we tried was putting them up on the foreshore, so that every tide would leave them, and keep them clean.
 763. In doing that, and exposing them to the atmosphere, do you notice that the cold weather or frost interfere with them? They do not grow.
 764. Has that treatment proved successful in ridding the oysters of the disease? Yes.
 765. Are you troubled much with any other enemies—I mean stingrays, and so on? No; they cannot get at them where we put them.
 766. Where do you obtain your spat from? Jervis Bay.
 767. Have you a special lease set aside for the production of spat? We have two leases set aside in Jervis Bay.
 768. How long does it take for an oyster to become fit for market after placing it down? The oysters at Jervis Bay take about four years to become marketable. They are on the rock.
 769. What number of bags of oysters have you sent on an average during the last three years to Sydney? I cannot say—sixty bags this season.
 770. Have you had any visits from officers of the Fisheries Department? Mr. Benson visited us last year.
 771. Did he come down for the purpose of making an inspection of the beds? He had a look at them.
 772. How long did he remain in and around the oyster fisheries? Two or three days.
 773. Do you know whether he made any reports as to the condition of the oyster fisheries? I cannot say; he had only a short stay.
 774. Have any of the Commissioners of Fisheries been down to your place? No.
 775. You would have heard of their visit had they been there? Yes.
 776. You and your father have taken up areas in different localities;—do you approve of that system, or favour a system under which you would be able to rent or lease an arm of a river, or the main river itself, for the artificial propagation of oysters? I think it would not pay under present conditions.
 777. But if a provision were incorporated in the Act, whereby payment by results would be brought into force, I mean under which you would pay on every bag of oysters produced so much to the Government, instead of paying as you have to now so much per 100 yards, would you approve of that? That would be much better. I would support that.
 778. Have you ever received any literature from the Fisheries Department, giving you information as to oyster fisheries in other parts of the world, and what they have done to cope with diseases in other places? No; I have not.
 779. Do you think it would be advisable to have that information circulated amongst oyster fishermen? I think it would be a very good thing.
 780. Have you been engaged in net and line fishing? Yes; net fishing more particularly.
 781. Where have you fished? In the Crookhaven River, Lake Wolumla, and Jervis Bay.
 782. How many in your family hold licenses to fish? Three brothers.
 783. Have you done any outside fishing? No.
 784. Have you any idea as to whether there are oyster deposits outside? There is the mud oyster outside, that is the only oyster I know of; Jervis Bay is full of them.
 785. How do you dispose of your catches? Send them to Sydney by steamer. We have only sent thirteen baskets by rail since the railway has been opened; the railway is not accessible enough.
 786. Have you ever tried the system of well-boat fishing? No; I have not. 787.

787. By what boats do you send your fish to market? By the "Illawarra" from Greenwell Point.
788. Do your fish arrive in Sydney in good condition as a rule? I have only had one lot condemned during the last twelve months.
789. How is your fish disposed of in Sydney? They are sent to the market. An agent there looks after our interests.
790. Does he charge you a commission? Yes.
791. Are the prices realised satisfactory to you? No.
792. Do you think there is a fair return to the fishermen for their labour, when you compare the prices given to the fishermen, and the prices the public have to pay? No; I do not.
793. I suppose if you could realise for your fish what the consumer pays for them, it would give you a handsome return? Oh, yes; it would.
794. Would the system of allowing the fishermen to sell direct to the public, without the interposition of the middleman, be a good thing? Yes; but how can we get it?
795. If it can be shown to be feasible, would you support it? Yes; certainly.
796. What nets do you use? Garfish nets.
797. What fish do you catch with that net? All sorts.
798. You fish for garfish, and catch other varieties? Yes.
799. Is the length of net sufficient for you? Not the way the garfish are now.
800. Is the mesh small enough? Small enough for anything.
801. Do you use a sunken net? No.
802. You use the ordinary hauling-net? Yes.
803. I suppose you respect the law concerning the mesh of that net? As near as possible.
804. Is that mesh long enough for a hauling-net—150 fathoms? It will do me, but others want 300.
805. What descriptions of fish do you catch here? Mostly mullet and blackfish.
806. What varieties do you send to market? Mullet, blackfish, and a few other varieties.
807. Used there to be plenty of the other varieties? No; never in the Crookhaven River.
808. Have you ever been prosecuted for an infringement of the Act? No.
809. To what market do you send your fish in Sydney? Redfern—McFadyen's.
810. Did you send to the Woolloomooloo market? I used to send fish there.
811. Were all your transactions in connection with the Woolloomooloo market satisfactory? No, we had cause to complain; we never got satisfactory returns.
812. And you think, even now, they are not as satisfactory as they might be if you were brought into more direct contact with the consumer? No.
813. Have you ever done any deep-sea fishing? No.
814. *Mr. White.*] You have 1,000 yards—700 yards here and 300 yards at Jervis Bay,—and you get your spat off the Jervis Bay bed to supply the 700 yards in this river? We lay our spat on 500 yards in the river.
815. On an average how many baskets of oysters do you ship away? We have sent sixty baskets this year.
816. Your leases are not close together? No.
817. How many people go in for the cultivation of oysters here? Only ourselves and Mr. Haiser in the Crookhaven River.
818. Do you get any of your oysters stolen? Not from our beds.
819. About what time of the year do oysters spawn generally? Sometimes in the springtime; you will notice a heavy spawn about in September, and then in the autumn about March you will see more spawn. I have noticed them spawning nearly all the year round.
820. In reference to net-fishing, do you pull the net on to the beach? No; we generally land the fish a little in the water.
821. Do you destroy many small fish? Very few.
822. Are the fish as plentiful here as usual? They seem to be as plentiful this summer as any other summer, especially so far as mullet are concerned.
823. What months do you fish with the garfish net? We use the garfish net and expect to get garfish pretty well all through the year.
824. *Mr. Thompson.*] About these nets;—are not fishermen bothered by the various meshes and lengths prescribed for the different nets and parts of nets. For instance, there are different lengths and meshes for the bunt and wings of a hauling net, and other meshes and lengths for the garfish and the meshing nets; are not the fishermen themselves sometimes inconvenienced by these differences? Yes; they are greatly inconvenienced.
825. If we could devise a plan for giving the fishermen the option of using what nets they like in certain waters, subject to a maximum length and minimum mesh, and thus do away with all these differences and so forth in such a way that the public estate would not be damaged, it would be a great convenience to the fishermen? I think it would. I heard Mr. Woolley, a Melbourne fisherman, say that they are allowed to work what nets they like over there, and the system works well. If they send a small fish to market they are fined for it.
826. Do you think the Melbourne system would work well in New South Wales? I think if it works well there it would work well here. It is for the interest of the fishermen themselves to save the spawn.
827. Would you favour a stringent provision in the Act for compelling the fishermen to empty their nets in deep water, say 2 feet of water at least? Yes, I would.
828. If such a concession as that I have sketched were recommended, would you favour the absolute closure of certain portions of waters, in order to conserve the supply of fish? I think waters should be closed, and especially those waters in which the fish spawn, only allowing set nets to be used therein.
829. *President.*] Have you any closed waters here? No.
830. Have any waters been closed since you have been fishing here? No.
831. Do you think any waters here require a rest? I think portions of these waters require to be closed.
832. How many fishermen are there besides yourself in the Shoalhaven district? About thirty or forty men.
833. Can you state the number of baskets of fish sent from here weekly? We have averaged about twenty baskets.
834. And would all other fishing boats average the same? Not always.
835. Do you think 100 baskets a week are sent from here? Yes; about 100 baskets a week.

Mr. R.
Lonesborough
8 Mar., 1895.

SATURDAY, 9 MARCH, 1895.

[The Commission met at Greenwell Point, Crookhaven River, at 2:30 p.m.]

Present:—

FRANK FARNELL, ESQ., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C. | L. G. THOMPSON, Esq., J.P.

Mr. Richard Baxter, fisherman, Greenwell Point, Crookhaven River, sworn and examined:—

- Mr. R. Baxter.
9 Mar., 1895.
836. *President.*] Your name is Richard Baxter and you reside at Greenwell Point? Yes.
837. How long have you been a resident here? About twenty-eight years.
838. Do you go in for oyster fishing or net fishing? Oyster fishing and net fishing.
839. Where have you carried on your operations? In the Crookhaven River and at Jervis Bay.
840. Have you done any net fishing in Jervis Bay? Yes.
841. What was the state of the fisheries here twenty years ago? In quality?
842. In every way;—were the fisheries more prolific than now? Oh, yes.
843. Then there has been a depletion, a decrease since then? Yes; a small falling off, not a great deal.
844. What varieties of fish did you catch twenty years ago? Well, nearly all mullet and blackfish.
845. Have you caught bream and whiting in quantity? As high as 20 bushels.
846. Do you frequently catch hauls of that quantity? Yes.
847. So that you do not rely alone upon blackfish and mullet, you obtain good hauls of other varieties? Yes.
848. What is your nearest point to send to market from here? I send by steamer from Greenwell Point, and sometimes by rail.
849. What length of a hauling net do you use? 150 fathoms.
850. Are you satisfied with that length or not? No; it is too short.
851. Would you ask that the provisions of the amending Act, extending the length to 300 fathoms, be applied to this part of the Colony? Yes.
852. Do you think that the constant hauling could be avoided by the use of a longer net? Yes; I do.
853. Have you any objection to the present mesh? The size is right enough.
854. Do you use the garfish net here? Yes.
855. Are there many garfish here in the season? They have gone off these last two or three years.
856. Can you account for that in any way? No.
857. Do you use any set nets or meshing nets? No.
858. You get a sufficient quantity of fish with the other nets? Yes.
859. How do you send your fish to market? In baskets in the cold weather; ice-chests in the summer.
860. To whom do you consign? Hudson, M'Fadyen, and Symmons.
861. Are they all located at the one market? No; they were, but M'Fadyen is in Woolloomooloo now, I believe.
862. You send fish to Woolloomooloo and Redfern? Yes.
863. Are you satisfied with the results of your transactions with those agents? No.
864. Do you think a better means should be adopted whereby the fishermen could get a better profit than at present? Yes; something ought to be done.
865. If you were brought into closer communication with the consumer, do you think you would obtain better prices? Yes; I believe we should.
866. Do you think that if you could sell your fish direct to the consumer that would be better for you? I firmly believe it would.
867. Have the returns forwarded you by the agents always been of a satisfactory nature? No.
868. Have the charges been too stiff? No; the charges are right enough.
869. Do you think they take sufficient interest in your behalf? I do not know; we are down here and they are in Sydney.
870. They could form themselves into a ring if they chose and send returns which you could not check? Oh, yes.
871. Have you had fish stolen in transit? Some of the baskets have been very slack, but I cannot say whether they were stolen.
872. Have you visited the Woolloomooloo market? Yes.
873. Comparing the system of exhibiting the fish on the floor, and showing fish on raised tables, which, in your opinion, is the best? I believe in the use of raised tables.
874. Do you think the use of raised tables would tend to remove the prejudice the public have against the system of showing fish on the ground? Yes, it would.
875. Do you think if you were able to send your fish alive to the market you would get a better price? Yes.
876. Have you tried the well-boat system? No; I have had no experience of it.
877. If that system could be instituted here, would the fishermen approve of it? Oh, yes; that would be right enough.
878. Have you been visited by an inspector from the Fisheries Commissioners? Yes, often.
879. What do you call often? Sometimes twice in three weeks.
880. Is there an inspector permanently stationed here? No.
881. Can you suggest any improvement in the provisions of the present Fisheries Act in regard to net fishing? I have not given it much attention.
882. Are there any provisions in the Act which you consider operate harshly? I think the inspector overruns us; we do not get a fair chance with the mesh.
883. Have you any closed waters here? No.
884. Do you think there is any necessity for closing the waters in order to give the fish a chance to breed? No; because there is not much chance of catching fish after they once get above the bridge over the Shoalhaven River.
885. Do you send fish of proper size to market? Yes.
886. Do you haul your net right on to the beach? No, not at all times.
887. In what depth of water? If we have a good clear beach and the tide is flowing fast we land there, otherwise we land the fish against a back net.
- 888.

888. When purchasing a net, what size do you buy in the first instance? To stand $2\frac{1}{4}$ inches we have to get $2\frac{3}{4}$ inches; that is the biggest size we can get.
889. Is that to meet the shrinkage from tanning? Yes.
890. Have you ever been prosecuted for having a net of illegal mesh in your possession? Once; we were pulled up last winter for it.
891. Who do you mean by "we"? Me, and my son, and nephew.
892. Had that net originally been passed as a legal net? Yes, it had.
893. How long had you been using it when you were summoned? About eighteen months.
894. How long does a net generally last you? Some nets last four years, but they keep shrinking all the time.
895. Do you think a provision to punish fishermen, if found catching undersized fish, would be better than paying so much attention to the mesh? Yes.
896. How many are engaged in fishing with you? Myself and four sons.
897. On an average what does your catch total in a week? About 20 bushels.
898. In regard to the visits of the inspectors, you informed the Commission that they came on an average twice in three weeks? Yes; they came twice in three weeks, but on one occasion only.
899. Did they visit you often before that or since? No.
900. For what purpose did they come twice in the three weeks? I could form no idea unless it was to look over our nets again.
901. Was that the time they instituted proceedings against you? Yes.
902. Independently of that trip, have you ever seen an inspector supervising the fisheries here? No.
903. Have any of the Fisheries Commissioners been down here to see you? No, they have not.
904. I suppose you would have heard of it if they had visited the river? Yes.
905. As a practical fisherman you have, I suppose, taken into consideration the administration of the Act. It is administered by a Board of five Commissioners—an unpaid body;—do you think it would be well to continue that system, or would it be better to appoint one man to look after and control the fisheries of the Colony? It might; I believe it would.
906. You think it would be better to have one practical man at the head of affairs who would be able to attend to the wants of the fishermen? Yes.
907. Would you favour the appointment of one man who would always be attending to the development of the fisheries of the Colony? Yes, I would.
908. A man who would be thoroughly in touch with the operations of the fishermen? Yes.
909. Do you believe when a prosecution takes place that a man's nets or tools of trade should be taken from him on his first conviction? No, I do not.
910. Would it be a wise provision to make the Act operative in this respect if a man broke the law a second time? No; I am not in favor of taking away his nets.
911. You think, then, it would be a reasonable thing to give a man a second chance? Yes.
912. Do you engage in the curing of fish at all? No; there is no sale.
913. Have you tried it? Yes, mullet, salted and smoked.
914. To what market did you send the fish? Sydney.
915. Did you not get a paying price for it? Not of late years.
916. Have you done any deep-sea fishing? Only a little schnappering about the Crookhaven River.
917. None at Jervis Bay? No.
918. You, of course, would have a pretty good idea of the fish in the sea adjacent to these rivers;—is there plenty of fish life here? Well, not very plentiful.
919. Do you hold a lease for oyster fishing? No.
920. Have you ever held leases? Yes.
921. What area did you hold? It was up at Rocky Point, Curley Bay. I had 1,000 yards.
922. Did you work that area profitably? No.
923. How many years did you hold it? Two or three years.
924. Did you get any return? No; the disease came in when they were all laid down and killed them.
925. You laid the oysters down—you made the bed? Yes.
926. Did you pay rent to the Department? Yes.
927. Did you apply for the cancellation of the lease? No.
928. Was it cancelled? It was.
929. At whose instance? The Government.
930. You paid rent for two or three years, but got no return? No.
931. Do you think a system by which a man would pay so much in the shape of a royalty on every bag raised would work better than the present system of compelling a man to pay so much for 100 yards, whether he gets any return or not from the lease? Yes, I believe it would.
932. What is the condition of the oyster fisheries round about here now—are they improving? They are improving.
933. Are oysters more numerous now than formerly? Yes; the spawn is beginning to come back again.
934. Can you account for the disease in the oysters? No; the floods bring down muddy water, and the settlings get among the oysters.
935. *Mr. White.*] You go to Jervis Bay;—how do you get there? We go round from these waters to Abraham's Bosom, and take the boat across the beach. It is about 200 yards over the sand to the bay.
936. Have you tried schnappering about Jervis Bay? Inside schnappering, in the bay.
937. Have you tried rock schnapper fishing? No.
938. Has it paid you to bring fish from Jervis Bay to market? Oh, yes; we carried the fish about 14 miles to this river.
939. What quantity did you send? Thirty or thirty-two hampers of whiting, bream, tarwhine, trevally, blackfish, tailer and black bream.
940. Did you get them to market in satisfactory condition and obtain a fair price for them? Yes; we got as high as 27s. per hamper.
941. How long ago was that? About three years ago.
942. Latterly, have you been able to get any quantity to send to market? No; they are not very plentiful these last two winters.

Mr.
R. Baxter.
9 Mar., 1895.

Mr.
R. Baxter.
9 Mar., 1895.

943. Did you have any facilities for getting your fish to market in the summer—did the Government let you have any ice? No; we had to buy the ice at 3s. per cwt.
944. If cool cars were put on the train in the summer time would that be better for you to send your fish to Sydney? If we had cool cars a great many more fish could be sent.* They go bad on the railway now, that is why we do not catch them.
945. What fish do you catch at George's Basin? Bream, whiting, blackfish, mullet, trevally and others.
946. Have any of the fishermen tried well-boats at all? Yes; well-boats from Sydney have been down here.
947. Did they take fish alive to Sydney? Yes, I believe so.
948. During the time you had oyster-beds did you have to watch them yourselves, did you ever catch anybody stealing your oysters? I cannot say that I did.
949. *Mr. Thompson.*] Who were the inspectors who came here on the occasion you referred to? Mr. Gordon and Mr. Smithers. They came together on both occasions.
950. About these nets; would it be an advantage to get rid of these divisions of bunts and wings and varied meshes, and substitute one sort of net of a certain maximum of length and minimum of mesh which the fishermen could use in open waters in such proportions and sizes as they pleased? Yes, it would be an advantage.
951. And instead of the present system, to have the destruction of small fish prevented by making it illegal to catch undersized fish? Yes, it would be a good thing.
952. You would not think it a hardship to be compelled to empty your net, in, say, a foot of water, so as to allow the young fish to escape? No; I would not think it a hardship, and I always have taken my fish out of the net in the water, so as not to destroy the young fish.
953. If such a provision were made would you object to the closing of a portion of the waters in this river, say, above the Shoalhaven Bridge? No; I would not object to that.
954. Do you require any greater extent of water than that in which you now fish? No; we are quite satisfied to have from the bridge down.
955. *President.*] About how many fishermen are there in these waters? About twenty.
956. Is the evidence you have given us similar to that which would be given by the other fishermen on the river? Yes, it is.
957. Do you belong to any fishermen's association? No; we cannot form one, although we have tried.

Mr. Thomas Wilson, fisherman, Greenwell Point, Crookhaven River, sworn and examined:—

Mr.
T. Wilson.
9 Mar., 1895.

958. *President.*] You are a fisherman and reside at Greenwell Point;—how long have you lived here? Twenty years.
959. Have you been fishing all that time? No; only about twelve or thirteen years.
960. Have you anything to do with the oyster fisheries? I was seven years on this river, in Mr. Woodward's employ, when leases were first issued on the river.
961. Have you noticed during the last few years any decrease in the number of fish in the river? Yes, I have; these last two years more especially.
962. What sort of fish do you catch? The general run is flathead and blackfish, but the way I am now in fishing I am baulked by the provisions as to the mesh.
963. During your twelve or thirteen years' experience of net-fishing have you found it profitable? Not these last two or three years, it has been hard to live.
964. Is that because you cannot get to the market, or because you do not catch enough fish? I caught some prime fish last winter, but not in sufficient quantity to pay me.
965. Have you done any mullet fishing? I have not done much; the fish are not here.
966. How do you send fish to market? By the steamers; I send them in good order; if they are slack of sale the agent puts them in the ice house.
967. Do you use ice here? No; I got ice this morning to make a trial.
968. To whom do you consign your fish? Mr. Symmons, at the Woolloomooloo market.
969. Are you satisfied with the returns you get for your fish? No, I am not satisfied.
970. You think higher prices should be realised? Yes, I do.
971. Are you of opinion that a little more interest might be taken by the agents in the sale of fish for the benefit of the fishermen? Yes.
972. Do you think it would be a good thing if the fishermen were brought into closer contact with the public? Yes, I think they ought to be; it would be a very good thing.
973. Is there anything that would prevent the agents combining and regulating the prices to be paid to the fishermen, and then selling the fish at their own price to the general public? Well, I have often thought something like that might be done, but it is hard for me to say. I am 71 miles from the market and of course I do not know what goes on there.
974. Have you ever lost any fish—have your fish been stolen in transit? Oh! yes; last winter I sent two baskets of splendid flathead to market. My returns came home as two half baskets, and that happened two or three times during last winter.
975. Have you any means of tracing where the fish were stolen, whether on the steamer or in transit from the wharf to the market? No I have not, but I hardly think it was on the steamer. They go between the wharf and the market in Sydney.
976. How do you send your fish,—in baskets? In baskets generally; I am sending now in boxes.
977. Have you locks and keys to your boxes? No; they are just tied down with string.
978. Have you seen the market at Woolloomooloo? No.
979. Do you know how fish is sold there? I have heard fish is laid down on the floor in heaps.
980. Do you think it would be better to have the fish placed on raised tables, instead of laying them on the floor for sale? I think it would be better and cleaner for the fish. When they are chucked out on the flags it goes hard with the fish; the less knocking about fish get the better they keep. Last winter twelve months I sent a quantity of fish to two agents in Sydney, two baskets of bream, and a box of blackfish to each man. That was the result of a week's work, and for that I got from one agent a Post Office order for 3s. 6d., and from the other the sum of 10s., making 13s. 6d., for the week's work.
981. I suppose you think that fish should have realised a higher figure? Oh! yes; they were grand prime fish.

982. Do you think that if the agents had shown sufficient interest in the consignment, they might have got better prices? Yes, I do.
983. Would you think the fish being sold to the public would bring better prices? Oh! yes; I made 13s. 6d. out of one basket even in this district.
984. I suppose you expected to receive from the six baskets you sent to the agents something like £3? Yes, I did.
985. Do you look in the papers to see the ruling prices of fish? Yes, I do; I never get the prices I see quoted in the papers.
986. Are you satisfied with the provisions of the Fisheries Act as regards the nets? Well, hardly in some respects, and especially in regard to the meshes of the several nets. The 4-inch is too large; I could do better if the mesh was allowed to be from 3 to 3½ inches.
987. That applies to the meshing net? Yes.
988. Do you use the hauling net? No.
989. Have you ever been prosecuted for using an illegal mesh? No.
990. Have you seen any inspectors down here? Yes; Mr. Smithers and Mr. Gordon—three or four times within the last twelve months.
991. Did you see them often before that? No.
992. Have you ever seen any of the Fisheries Commissioners down here? No; Mr. Thompson and yourselves are the only gentlemen I have ever seen here.
993. Would you have known of their being here if they had visited the place? Certainly, I must have known of it.
994. You say you were engaged by Mr. Woodward to look after his oyster fisheries;—what area did he take up—1,000 yards, 2,000 yards, or 3,000 yards? He had more than that.
995. Half a mile or a mile? He had oyster leases embracing several thousands of yards in extent.
996. Did he obtain a return from those oyster-beds in the way of mature oysters? Yes; I used to send six, seven, and even as high as nine bags a week.
997. How long did that continue? When the oysters came to maturity I sent them pretty regularly.
998. Did you make layings yourself for Mr. Woodward? Yes; I laid a lot at Broughton Creek, in deep water.
999. Did they do well? Yes, they did very well; but they did not do so well as the original oyster.
1000. Where did you get the spat from? From the foreshores of his leases.
1001. That would be where the oysters would be subjected at a certain period of the day to the influence of the sun? Yes, that is so.
1002. How did you come to abandon the looking after those leases? Mr. Haiser bought Mr. Woodward out.
1003. Did you see any disease in the oysters when you were looking after the leases? Yes; once in this river, and two or three times in Berry's Creek.
1004. What was the nature of the disease,—the worm? I think I have noticed the worm in some of them.
1005. Have you ever thought out the question as to what authority should be established to administer the Fisheries Act? I think it would be better to have one Commissioner, one man interested in the fisheries to act as Commissioner, and to be always available to administer the Act properly and to give information to us. Let him visit the fisheries frequently.
1006. In regard to the sale of fish in the markets, do you seek for any other concession than being allowed to sell the fish only at one sale? I think fish ought to be sold at any time in the day, and the middleman ought to be done away with altogether.
1007. Do you know anything about the system of well-boat fishing? No.
1008. If it could be proved to work successfully, and if it could be shown that fish could be taken from distant fishing grounds alive to the Sydney market, do you think that would benefit the fishermen? I think so, it would be all to their benefit.
1009. Do you think the prices realised for fish would be better if the fishermen could sell their own fish to the consumer? I do.
1010. Have you done any deep-sea fishing? No; I should like to say something about the prices I have got for fish. About four years ago I and another sent 24 baskets of fish, mullet, to the market. We only got something like 1s. 9d. for the lot. I sent a stiff letter to the agents, saying I would have to change if my fish was not sold to better advantage. After that I sent another 19 baskets of the same class of fish, mullet and blackfish; for that lot I received something a little short of £5, whereas I had only received 1s. 9d. for the 24 baskets I had sent forward a trip or so previously. There is something wrong somewhere.

LAKE ILLAWARRA FISHERIES.

MONDAY, 11 MARCH, 1895.

[The Commission met at the "Illawarra Lake Hotel," Dapto, at 10 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

L. G. THOMPSON, Esq., J.P.

Mr. Edwin Barber, fisherman, Lake Illawarra, sworn and examined:—

1011. *President.*] You are a fisherman residing at Lake Illawarra? Yes.
1012. Have you lived there long? Yes; I have been fishing for thirty-four years.
1013. Have you any men in your employ? Yes; three besides myself.
1014. What market do you send your fish to? Redfern and Woolloomooloo.
1015. How do you send it? In cases, by rail.
1016. About what is the average catch per week that you send to market? Somewhere between thirty and forty baskets of fish.

Mr.
T. Wilson.
9 Mar., 1895.

Mr. E. Barber.
11 Mar., 1895.

- Mr. E. Barber. 1017. What classes of fish do you send? I am catching mullet principally, but I have two boats working; the other boat gets the mixed class of fish—blackfish, garfish, bream, whiting, flathead, and sometimes jewfish.
- 11 Mar., 1895. 1018. Have you ever had any complaint about your fish arriving at the market in an unsound condition? Very seldom.
1019. If you have been fishing for these last thirty-four years you must have had extensive transactions with the market authorities? I have.
1020. How do you arrange for the sale of your fish? They are sent to the agent, and distributed on the floor in lots and sold by auction.
1021. You mentioned the agent;—would that be the person appointed by yourself? Yes.
1022. He would be a man who would sell for other people as well as for yourself? Oh, yes.
1023. Who has acted as your agent for the last two or three years? Mr. M'Fadyen and Mr. Hudson.
1024. Before the establishment of the Redfern markets, you used to do your business with the Woolloomooloo fish market? Yes.
1025. Have you compared the prices realised in the Woolloomooloo market with those obtained at the Redfern market, so as to ascertain the best market for the sale of your fish? Well; sometimes you get better prices at Woolloomooloo than at Redfern, other times it is the opposite, just according to whatever fish is in the markets. Taking it on an average there is very little difference.
1026. Which market is the more suitable for you so far as the handling of fish is concerned? Redfern.
1027. By using the Redfern market you incur less handling? Less handling.
1028. Have you ever had reason to complain of your fish having been stolen in transit? Yes.
1029. Did you ever trace the offenders and bring them to justice? We never could do that.
1030. You send your fish in cases to market;—that is a recent experiment, is it not? I first started it about three years ago. I think I was the first to start cases.
1031. Has the experiment of sending them in cases protected you from theft more than by sending in baskets? I do not think there is much difference; the fish go in better condition to the market in boxes than in the baskets; the boxes are not nailed down.
1032. Are the boxes returned to you? Yes.
1033. Have you any complaint to make as to the loss of returned empties? No.
1034. Have you been satisfied with the prices realised by the sale of your fish in the markets? No, I have not.
1035. Do you think if the fishermen were brought into more direct contact with the consumer better prices would be realised? Yes, I do.
1036. At the present time are you dependent upon the agent as to the returns you receive for your catches? Oh, yes; we have no one else to look to.
1037. Would it be possible for the agents to enter into a conspiracy, and work the consignments of fish into their own hands to suit themselves? Yes; I have known this to be done. I have known fish to be sold there privately. When they have gone to Kelly, the clerk of the Woolloomooloo Market, to overhaul the books, they would have no record of the fish sent.
1038. At the present time does the time fixed for selling fish suit the fishermen of Lake Illawarra, or would it be better to have a regulation providing for the sale of fish at any period after their arrival in the market? I think that if they were sold at any period after their arrival it would be far better. Fish should be sold on arrival, and the public would then get fresh fish.
1039. You know the Woolloomooloo market? I have known it since it was first opened.
1040. Are you acquainted with the mode of sale and distribution of fish at that market? Yes.
1041. Do you think that the mode of display is open to any objection? Yes; there are great objections to it.
1042. Will you tell the Commission your views on the subject? In the first place they are chucked down on the floors in heaps and are liable to be trodden on and spat upon, and one thing and another, and there is no control over the fish to keep the public from trampling on them.
1043. Do you think the system under which fish is displayed is one likely to create a prejudice in the minds of the people against the use of fish as an article of food? Yes.
1044. Have you ever had occasion to have any of your consignments stored in the refrigerating chambers? Yes; I send fish up every morning by the 9 o'clock train for that purpose at the present time.
1045. Do you pay for the use of the refrigerating chamber? Yes; 9d. per case.
1046. Per day? No; for the time they are in the chamber—two or three days or a week.
1047. You can go to the limit of a week and only pay the 9d.? Yes.
1048. You have tried sending fish packed in ice from Lake Illawarra;—was it a success? The fish used to go in perfect condition, but the ice was too dear. We used to pay 1½d. per pound at that time and it used to cost £10 or £11 per week for icing.
1049. Would that be before the railway connection was established? Yes.
1050. If there were some improvement in the system of display and sale, and a reform in the distribution of the fish, do you think you could supply Sydney and its suburbs with fresh fish every morning? Yes; we could send a portion of the supply from this lake.
1051. You stated a little while ago that the Redfern market was the best one for you;—do you think it would be a good thing for the Government to establish a central fish market at the railway station or near it? I think it would; it would be a great deal better than the present Woolloomooloo market.
1052. Do you know anything of the quantities of fish sent by rail and steamer to Sydney? No; not exactly.
1053. Are you of opinion that the Redfern railway station or thereabouts would be a suitable place for everyone, at which to erect a central and convenient fish market? Yes.
1054. Taking into consideration the prices realised by your agent for the fish in the market, and the prices paid by the consumer, do you think you receive a fair return for your labour? No, sir; we do not receive one-third of the value we ought to get.
1055. Do you think it would prove beneficial to the fishermen if they were brought into more direct contact with the public;—would you favour a system such as they have in Hobart, by which the fishermen themselves sell their catches in the open market? Yes; I would favour such a system.
1056. Supposing the Railway Commissioners agreed to provide a refrigerating car for the purpose of taking fish to market, would you be disposed, and would the other fishermen at Lake Illawarra be disposed, to patronise that means of transit? Yes; providing the charges were not too high. 1057.

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1057. And if the charges were not too high it would prove a convenience to you? Yes.
1058. What nets do you use? At the present time we are using 600 yards of a hauling net.
1059. Have the provisions of the amended Act been extended to Lake Illawarra? Yes, for three years.
1060. Does the provision contained in that Act do away with a serious complaint you had in the past? Yes; to a certain extent it does.
1061. Do you use any other kind of net? We have garfish nets and what they call meshing nets; the latter are in reality drift nets.
1062. With which net do you get the best catches? In the drift nets.
1063. Speaking on behalf of the fishermen of Lake Illawarra, can you say if you have sufficient waters in which to carry on your operations? Well, we have at the present, but a portion of the lake has been closed during the last two years. That period has expired and that part of the lake is now opened.
1064. What is the condition of that portion that was closed? It is overgrown with weeds. If it had been used the weeds would have been kept down. As it was not worked, it has taken away the food from the fish, as well as taking the fish from us.
1065. Are there any other closures in the lake? Yes; the entrance is closed and Mullet Creek is closed for half-a-mile on each side at the entrance.
1066. How do you know it is closed for half-a-mile on each side? It is staked out.
1067. Are notice boards put up? Notices are out, but Mr. Benson, our inspector, has not received them yet.
1068. In the usual course of events notice boards will be posted up? Yes.
1069. Then you have no objection to the area of water you are allowed to fish in? We have no objection to Mullet Creek and the entrance to the lake being closed, but we would like the foreshores of the lake opened.
1070. Is there a good extent of the waters of Lake Illawarra naturally protected from fishing nets? Yes, more than two-thirds of it.
1071. Is that owing to the growth of weeds and the presence of rocks in the lake? Yes, weeds and rocks abound. Some of the grounds extend for a mile into the lake—weedy flats. We have a stretch of 6 or 7 miles in length where we cannot haul at all. It is nothing but weeds.
1072. Are you troubled with blubber? Yes; it is very bad indeed.
1073. Are there any means by which you could be assisted in your operations to get rid of the blubber? No, I do not think so.
1074. Not by the use of the sunken net? Yes, we have done that several times; we have taken the corks off and let the net go down.
1075. Do you know if any sunken nets having a purse in them have been used? Not in this lake.
1076. Do you mind telling the Commission what you think of the regulations at present in force;—with regard to the mesh of nets generally, can there be any improvement made by way of assisting the fishermen, and whilst doing that protecting the fish and the interests of the public? Yes; in the first instance we would like to have a drift net of not less than 600 yards, not less than 3 inches in the mesh. That would leave it from 3 inches upwards; that would be used then in the centre, not hauled ashore at all; just shot round in a circle and then hauled into the boats again, the same as they use the drift nets in the old country. As to the hauling net, that is quite sufficient at present.
1077. Are you satisfied with the mesh of the hauling net as prescribed by the present Act? The 2½-inch bunt—the fishermen should be allowed to use that until it is worn out.
1078. Do you think it would be advisable to have the mesh throughout the hauling net 2½ inches without any bunt? No, I do not consider that is required. It would be too heavy. The 100-fathoms net is sufficient with two-and-a-half.
1079. What do you mean by two-and-a-half—2½ inches when you purchase it? Yes.
1080. Why do you purchase a 2½-inch mesh? Because it shrinks down in the tanning and you have to tan it every fortnight or three weeks to preserve it, otherwise it would be rotten in less than three months.
1081. Do you think that when a net is once pronounced legal it should continue to be regarded as legal until it is worn out? Yes.
1082. Have you known of many prosecutions taking place among the fishermen for using nets of an illegal mesh? Yes.
1083. Were there any cases of hardship in those prosecutions? Yes; I have known some cases in which a man's net was confiscated, and he had not a penny with which to buy another.
1084. Do you think that the action of the fishermen in hauling with these nets was not intended to be an infringement of the law? They did not mean to break the law: they were only earning a living; they could not possibly get a living with the limited length.
1085. Have you known of men being prosecuted for using nets of an illegal length? Yes.
1086. And do you think it was owing to the fact that it was very hard indeed to get a decent haul that they were induced to use a longer net? They could not get a living unless they did so.
1087. Do you know of any cases where the nets or tools of trade of fishermen have been confiscated? Yes.
1088. What do you think of the provision which provides for fishermen's nets being confiscated for the first offence? I think there should be no confiscation whatever. Let the party pay a fine and give him his tools to work with in order to help him to pay the fine. The confiscation only takes the bread from the man's wife and family. I would not confiscate his net. If he breaks the law next day fine him again.
1089. Do you think a provision in a Bill to make these tools of trade liable to be confiscated for a second offence would be more reasonable than the present state of things? Yes, I do.
1090. Do you think a fine would meet the case? It would meet the case better in every way. It is a very hard thing to take away a man's tools of trade, because it deprives him of a chance of getting a living.
1091. As to the license fees, are you satisfied with the fees you have to pay? Perfectly satisfied.
1092. Is Lake Illawarra pretty well supervised by the inspector? Yes.
1093. Are there many breaches of the law here? Very few. The inspector is down every day—day and night at times.
1094. Have you ever had any visits from any of the Commissioners—have any members of the Fisheries Commission in Sydney visited Lake Illawarra? I never saw any of them.
1095. Would you have seen or heard of them had they visited the lake? Oh, yes, I should.
1096. Have you taken sufficient interest in the Fisheries Act to make yourself acquainted with the several provisions, and how they operate? I have gone through the Act.

- Mr. E. Barber. 1097. Do you know whether the institution called the Fisheries Commission gives satisfaction to the fishermen or not? I do not think it has given satisfaction to the fishermen.
- 11 Mar., 1895. 1098. Do you think that is owing to the lack of interest they have shown in the fisheries of Lake Illawarra or not? I think they should have come down here and overhauled the place, and inquired into the grievances of the fishermen, but that they have not done.
1099. Are you of opinion that they would have been in a better position to deal with the matters arising on Lake Illawarra, with regard to the fisheries, if they had paid personal visits to the lake? Yes; it would have been better for the public at large, as well as for the fishermen.
1100. Do you know whether the inspectors have made any recommendations to the Fisheries Commission, and that those recommendations have not been carried out by the Commission? Yes; there have been complaints made that the recommendations were not carried out.
1101. Do you think that in connection with the administration of the affairs of an institution connected with an industry of such importance, it would be advisable to have a newly constituted establishment for the purpose of administering the Act? Yes, I certainly do.
1102. Would you favour the appointment of a Commission of (say) three or five, the fishermen being represented on that Commission, or would you favour the appointment of a gentleman, having a practical acquaintance with the fisheries of the Colony, who would at all times be ready to attend to his duties and place himself at the service of those requiring his assistance;—would you be in favour of the appointment of one man as Commissioner of Fisheries with the extra advantage of having a local board, on which would be representatives of the fishermen, to advise him concerning the grievances connected with their particular locality? I think it would be far better to have one man as Commissioner of Fisheries, and to have local boards to advise, so that the grievances of the fishermen generally might receive proper attention at the hands of those who would have a local knowledge.
1103. Have you ever had any correspondence with the Fisheries Commission? No; I had a complaint at one time before the Commissioners, when they closed Lake Illawarra. They closed it altogether for twelve months.
1104. When was that? I cannot say exactly. About ten years ago we all left here and went to Tuggerah Lakes. We met Mr. Seymour in Sydney, and he asked us the reason we were locked out from Wollongong. I said, "I do not know;" he replied, "If they had come to me I could have told them there was no occasion to shut the lake up on account of the large fish that were going from the lake to Sydney."
1105. Have you ever done any fish-curing or smoking? I have done smoking.
1106. Did it prove profitable? Yes; it paid very well at that time.
1107. Had you any difficulty in procuring the proper kind of wood for smoking purposes? No; I got the green oak and the green gum.
1108. Did you find that by using those woods the flavour of the fish was not destroyed? Yes.
1109. What varieties of fish do you smoke? Mostly mullet.
1110. Have you had any experience in deep-sea fishing? No.
1111. Have you ever seen the system of well-boat fishing? I saw a little of it at Ulladulla.
1112. Did the system answer there? No.
1113. Why? Well, the only thing we could see was that the fish were caught 3 or 4 miles out, and when brought into water of a different temperature they would turn up.
1114. Would that be so much due to the temperature of the water as to the extra buoyancy of the water in the well? This craft was 46 feet long, and 10 feet beam; she had a space of 16 feet for a well, and the full width. They had plenty of room. We thought it was the temperature of the water.
1115. What depth of water were the fish brought into? About 20 feet.
1116. What fish were they—schnapper? Mostly schnapper and nannegai.
1117. What fish mostly turned up? The schnapper.
1118. Do you know whether they adopted any process for the purpose of combating the buoyancy of the water in the well? They pricked some of them.
1119. Did those that were pricked die? No, they did not.
1120. Do you think, then, if the process of pricking the schnapper were adopted, there would be a possibility of well-boat fishing proving a success? Yes, I do.
1121. Do you think it possible that trawling could be carried out successfully on this coast? I do not think so between here and Ulladulla.
1122. Do you know of the existence of any banks? Yes; the Sir John Young Banks, off Jervis Bay.
1123. Have you ever noticed any evidences of deep-sea oyster deposits? No.
1124. Have you ever noticed, at certain times of the year, shoals of fish making their way from the south to the north? I have.
1125. How far off the coast? Sometimes from a mile and a half to 3 miles out.
1126. What did you take them to be? Chiefly mullet. I never caught any of them.
1127. That might have been the herring, so far as you know? Yes; that is true.
1128. Have you ever heard that there are shoals of what they call the maray making their way northward from the south? Yes, I have.
1129. Have you any oyster fisheries in Lake Illawarra? A few oysters at the entrance, that is all. Nobody cultivates them.
1130. How many fishermen are on Lake Illawarra at the present time? There are seventeen boats working, each boat has two men.
1131. About thirty-five or thirty-six men? Yes.
1132. Do you think that number of men is sufficient for Lake Illawarra, in order to allow of their making a living? Yes.
1133. Would you be inclined to favour a provision in a Bill which would prevent the overcrowding of fishing-grounds, so as to allow the fishermen to obtain a decent livelihood? Yes; I should think the fishermen themselves would see the necessity for keeping away.
1134. Mr. White.] You have had thirty-four years experience in the fishing industry;—have you during that time studied the question of the distribution of fish to the metropolitan suburbs? Yes; the suburban districts of Sydney have never been properly supplied.
1135. If there was a better system for supplying the suburbs would you get much better prices for your fish? Yes; we should. At the present time the poorer classes of the people are not able to buy fish from the dealers.

1136. There are times in the year when the fishermen get absolutely nothing for their catches? Yes; *Mr. E. Barber.* sometimes good mullet are sold at less than 3d. a dozen; but the public reap no advantage from that.
1137. Then you are of opinion that if a better system was in vogue for the distribution of fish it would be beneficial to the fishermen? Undoubtedly so. *11 Mar., 1895.*
1138. Do you think it would be better to gut the fish you send to market? Yes; it would be better, it would be beneficial to the fish, especially in summer time; but if that were done, fish would require to be sold by weight. I am in favour of the gutting of fish.
1139. The lake was closed for a year—what condition was the lake in at the end of that time? The Commissioners had closed it for a year; but it was opened at the end of three months.
1140. Was there any benefit to the lake during the time it was closed? No; there is a large entrance, and the fish could go in and out as they thought fit.
1141. When the seine is drawn here, do they haul the net ashore? It is never landed ashore.
1142. Do you think the fishermen generally would approve of proper punishment being dealt out for stealing and breaking the law, especially in regard to oyster-stealing? Yes.
1143. And that the Act should contain penalties for stealing? Yes; it would give satisfaction to honest fishermen.
1144. The smoking you engaged in;—what process did you adopt, did you split and salt the fish? Yes; I dried them in the sun for a day, and then put them in the smoke.
1145. What did you get for smoked fish? I got from 3s. 6d. to 5s. per dozen.
1146. If smoked fish were properly distributed in the suburbs could you get rid of a good quantity? Yes; a great quantity.
1147. Is there much fish wasted in the sea that could be canned and tinned and made use of? Yes; especially in the mullet season. There are hundreds and thousands of tons of fish let go that could be made good use of.
1148. All through the want of a properly equipped establishment for tinning fish in the Colony? Yes; there could be a large amount of money made out of tinned fish in this Colony. No attempt, so far as I know, has been made to capture those large shoals of fish that go up and down the coast. We could tin our mullet and export it to other countries.
1149. There are some oysters in the lake? Just a few; the blacks look upon them as their property.
1150. *Mr. Thompson.*] Would it not still further add to the present demand for fish if it could be regularly sent not only to the suburbs but to the various country towns? Yes; most decidedly it would.
1151. Would there be any difficulty in sending fish—I am referring to cleaned fish—caught here, say, this afternoon, to Sydney, and forwarding it from thence to the country? I send fish to Katoomba, Harden, Junee, and Yass.
1152. But that is not generally done, is it? No; it is not.
1153. Are you of opinion that it would be an advantage to adopt some system whereby fish could be distributed in the interior? Yes; in the winter months. I do not think it would answer so well in the summer.
1154. But if it became an established system to have the fish cleaned and a proper cool car provided for their transit by rail, fish could be sent at all times? Yes; there is no reason why fish should not be distributed to the inland centres if proper facilities were afforded.
1155. Referring to nets, would it not be possible to allow the use of a net of a certain maximum length and a certain minimum mesh in waters open to net fishing;—would not that be an advantage? It would be a distinct advantage.
1156. Supposing such a concession were made, would you see any objection to the continuity of the fish supply being provided for by closed waters where necessary? I see no objection to that.
1157. You referred to fish boxes;—do you consider them superior to baskets? Yes.
1158. You said that they were liable to pilfering as well as baskets, but not in so great a degree? Yes.
1159. Could you not lock the boxes? Yes, they could be locked.
1160. Would that prevent pilfering? It would.
1161. How do you hang your nets? Generally on a third.
1162. Do you think that with a view to assist the escape of small fish that should be insisted on with all nets? Yes.
1163. Would you favour the establishment of auxiliary markets in the Sydney suburbs? Yes, I would.
1164. Do you think it would be a benefit to the fishermen and the public generally to have such markets? Yes; it would be a benefit, provided they were kept open all day long.

Mr. George Daniel Hockey, fisherman, Shellharbour, sworn and examined:—

1165. *President.*] Are you engaged in fishing on Lake Illawarra? Yes.
1166. Where do you reside? At Shellharbour.
1167. How long have you been engaged in fishing? I have been fishing off and on for the last nineteen years.
- 1167½. Have you a good knowledge of the fisheries of Lake Illawarra? I have.
1168. Are you the proprietor of a boat or boats? Of a boat and nets.
1169. Are there any others engaged in fishing with you? Only my two sons.
1170. What kinds of fish do you catch? Bream, mullet, whiting, blackfish, garfish, tailers, and jewfish.
1171. How do you dispose of your catches? We pack the fish in boxes or baskets, and send them to Sydney; they are disposed of at the Woolloomooloo market or Redfern. I am sending to Redfern now, but have sent to Woolloomooloo.
1172. You say you send in baskets and boxes;—which method has proved the most successful? Baskets, there is more ventilation.
1173. Do you consign to anyone in Sydney? Yes, to an agent.
1174. Do you get your returns promptly? We are supposed to get them weekly; but it is generally eight days before we get them.
1175. Have you sent many fish to market? A fair quantity.
1176. What is your average per week? About ten baskets.

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1177. Are you satisfied with the prices realised for the fish? No, I am not, by a long way. I consider I do not get one-third of what my fish is worth. The prices are something ridiculous.
1178. Have you to pay the agent's commission and charges? I have to pay 1s. in the £ to the agent, and the charges for carting my fish, 6d. per basket, from the boat or railway to market.
1179. Are you charged market dues and freight? Yes, 5 per cent. market dues.
1180. Have you ever had to complain of your fish having been stolen? My word I have—according to the price my fish realised when they went to market. The weight was $\frac{3}{4}$ cwt., weighed at the station here; when they were weighed in Sydney they were only $\frac{1}{4}$ cwt.
1181. That was the return given you by the agent? Yes; the fish went somewhere.
1182. Would it be possible for the fish to be stolen between the train and the market? Yes; but my fish were stolen in transit from Shellharbour station to the railway in Sydney. On another occasion I put three baskets of fish into the train at Albion Park station. The baskets were tied down, and I rode in the train to Dapto. I got out on the platform and I saw a man, a fireman or a driver in connection with the railways, at the fish. Would you believe it, more than one-third of each basket was taken. That was only just from Albion Park station to Dapto.
1183. Are you satisfied with the freight charged for carrying fish to market? Yes, I am—there has been a reduction.
1184. Do your fish, as a rule, arrive in good condition at the market? Yes.
1185. Your consignments depend pretty well upon catching the morning sale? Yes; fish that we catch this afternoon would be sold to-morrow morning. Fish caught this morning would have to remain in the ice-house until to-morrow morning.
1186. Would it be to your advantage to be able to send your fish at any time to the market for sale? Yes.
1187. Supposing the Railway Commissioners were disposed to place a refrigerating car on this line for the convenience of the fishermen, would you be disposed to patronise that car? Yes; I only wish it had been done long ago, and so does every other fisherman. It ought to be done; it is the very thing that would prevent cartloads and cartloads of our fish being condemned in Sydney as unfit for human food.
1188. You say it would be a great convenience to you if you could dispose of your catch right away, and have it delivered in Sydney by the agency of a refrigerating car? It would be a great benefit.
1189. Do you think it would be an advantage to do away with the agent who sells your fish? I cannot see what benefit the agents are; I cannot see why we have to pay those agents. The Woolloomooloo Fish Market is the property of the City Corporation, and as far as I understand—I am not positive—but I believe the agent has to take his account of the delivery of fish from the clerk at the market. The municipal people have to know what each man's fish brings in order to get the market dues; why could not they give us our returns direct from the market without the agent at all?
1190. Do you think it would be possible for the agents to form a ring for the purpose of disposing of the fish themselves at their own prices, and making fictitious returns for the fishermen? That is what I consider has been going on for many a long year. I know for a positive fact. I went from here on one occasion about some fish of mine I sent up, and I know for a fact that those fish never saw the market, and the agent just gave me whatever he thought proper. At that time fish were very dear, and the agent gave me 12s. a basket and sent the fish right up country. The agent told me so afterwards.
1191. Did the agent tell you what he got for the fish? He said, "I gave you 12s. a basket, and for the basket I sent away I got 30s."
1192. Do you think it would be a good idea to bring the fishermen into more direct contact with the consumer? Yes, it would be a great benefit; because under present conditions we get a long way the worst end of the stick. The consumer gains nothing by our getting a low price; it is between the agent and the dealers that the money goes now.
1193. You say you have dealings with the Redfern Market? Yes.
1194. Compared with the Woolloomooloo Market, is it better arranged, and are matters more satisfactorily conducted there than at Woolloomooloo? I think so.
1195. Have you seen the way fish are displayed in the Woolloomooloo Market? Yes, I have. I think it is a very dirty and disgraceful thing.
1196. Could that system be improved upon? I think so; it ought to be.
1197. Do you think the manner in which fish is displayed in the Woolloomooloo Market prejudices the public against the use of it as an article of food? It ought to. I feel quite confident I could not eat fish taken off that floor in that market. There are all kinds of people smoking and spitting and trampling on the fish. It is horrible.
1198. Would you approve of the system of displaying fish on raised tables in the market? Yes; there should be raised tables, so that the people could see what they are buying.
1199. From your knowledge of the Woolloomooloo and Redfern Fish Markets, which do you consider most central and most convenient for the trade—for the fishermen and for the general public? Redfern, by all means. It is far better for the purposes of distribution.
1200. The advantage, then, to be gained from having a central market would be that it would mean less handling of the fish? Yes; less handling and less carting through the streets. If fish go into the interior now they have to be carted from the railway to the market, where they are thrown on to the floor and handled and mauled about, and then put back again into the baskets and carted to the railway station. All this unnecessary handling could be saved by having a central market connected with the railway system of the Colony.
1201. In regard to the waters at present opened for net fishing in Lake Illawarra, are you satisfied with the area available for you to fish in, or do you require a further extent of water to be opened? Well, as to the closed waters in the lake, I have always been under the impression that the proper places have never been closed. I consider it is the creeks and all those places that should be closed against nets or lines or anything else. The entrance to Lake Illawarra is closed against net fishing at the present time, and, would you believe it, there is not a Sunday or scarcely a day in the week, but you will see boats at that place, and a whole crowd on the banks line fishing everywhere. The principal part of the fish taken by hooks cannot be captured by nets for the reason that the ground is not suitable. The fish are dragged out of the water and one-half of them is not used. They are left on the banks to waste and rot, and the greater number of these fish are travelling for the purpose of spawning, full-roed fish—it is a regular destruction

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destruction of the fish. It is right enough to have the lake closed; but if it is to be closed for breeding purposes it should be closed against everything, line fishing and everything else.

1202. Do you complain of the waters being too limited at the present time? No.

1203. Did the closures ever act detrimentally to your interests? They did.

1204. Who recommended those closures in the past? I cannot tell you.

1205. Have any members of the Fisheries Commission ever been down here? No; I have never seen any of them here.

1206. If they had been here would you have known of their visit? Certainly; none of the fishermen have known of their being here.

1207. Do you think the Commission take that interest in the industry that they might? My candid opinion is that they never bother their heads about it; they never take any interest in the fishing industry. It is like a boy having a new toy—it is all right while it is new, but he soon gets tired of it, and does not care about it any longer.

1208. Do you think it would be better, in view of the circumstances you have just related, to have the control of the fisheries placed in the hands of one man as Commissioner of Fisheries, a gentleman who would have to confine his attention solely to the development of the fishing industry, and take an interest in everything connected therewith? Yes; I thoroughly believe in that.

1209. And, as a further protection to the fishing industry, are you of opinion that it would be a good thing to appoint local boards of advice, representative fishermen, to be upon such boards? Yes, that is the proper thing to do, I have not the slightest doubt about it, for the simple reason that what suits Lake Macquarie will not suit Lake Illawarra, and what suits Lake Illawarra does not suit the Shoalhaven River.

1210. Is there a diversity of circumstances connected with all the different fishing grounds? Yes, and that is the reason why the fishermen are so much divided at the present time; every man is fighting for himself. Local boards would be a great advantage, for the simple reason that the men on them would be able to advise as to what should be done to meet local requirements.

1211. Apparently you are not in favour of the continuance of a Fisheries Commission such as we have at present, which only meets once a week in an office in Sydney? No; it is no good at all. It might just as well be wiped out of existence; it is no good; it should never have been brought into existence.

1212. Do you think the fishing industry has been fostered or promoted since the appointment of the Fisheries Commission? No; it has been kept down; its progress has been retarded. I worked at fishing before the Fisheries Commission was in existence at all, and we then realised a far better price for our fish than we have since.

1213. Are you conversant with the provisions of the Fisheries Act? Yes.

1214. Are you cognisant of any defects in that Act? We are restricted to a certain sized mesh, and then we are restricted to a certain weight of fish, which I consider is an injustice. If I work a legal mesh and a legal net now, and catch any fish—if the thing was properly managed, and the fish not absurdly small—I should be allowed to dispose of them; at the present time we are not. If we send them to Sydney we are prosecuted for doing so as they would be under weight. The limit of the length of our meshing net is 120 yards, it should be 600 yards. This net has to have a mesh not less than 4 inches, and still, under the Act, we are allowed to catch a fish of 8 oz. I can very nearly put two such fish together and poke them through a 2-inch mesh. How is a fisherman to catch those big shoals of hardgut mullet, when travelling, with a 4-inch mesh? Why, you would not get one out of every thousand, and they are travelling now, immense shoals of them. The proper nets to use to catch those fish are 3 inches, 3½ inches, and 3¾ inches.

1215. What nets do you use on the lake? The nets we use now are hauling nets; we were allowed to use nets with 100 yards of bunt 2½ inches, and the wings up to 3 inches.

1216. The provisions of the amending Act have been extended to Lake Illawarra, extending the length to 600 yards? I understand about the length, but not about the mesh.

1217. Any other nets? Garfish nets. There should be an alteration there, we are only allowed 30 fathoms of garfish bunt; it should be 1 inch in mesh; it is 1½ inches now. The greater portion of the sea garfish slip the present mesh.

1218. Do you complain of the provision for the weight of fish in regard to garfish? No, I have no reason to complain, the weight of the fish should be sufficient;—a fisherman should be allowed to use what net he likes.

1219. Do you think there would not be a possibility of the destruction of under-sized fish if that were permitted? Then let the fishermen be prosecuted for it.

1220. I suppose a provision making it compulsory on the part of the fishermen to empty their nets in a certain depth of water instead of hauling them on shore would be sufficient protection against the destruction of small fry? Yes; I think there should be a restriction compelling fishermen to land their nets in every place in 2 feet of water.

1221. In regard to the provision punishing for using illegal nets, do you think that when a net is once pronounced to be legal and has been used as a legal net it should always be considered legal, and used until worn out? It should be so.

1222. In purchasing a net do you allow in the first instance for shrinkage? Yes; a quarter of an inch. If I want a 4-inch net to make 4 inches on my boat when tanned, I have to buy it 4¼ inches. Some nets shrink more than others.

1223. Then you do not believe in the confiscation or seizure of nets, or tools of trade, for any breach of that provision? No; it should not be done; it leaves many a man destitute and starving. He should be punished by a fine.

1224. And the net handed back and made legal? Yes.

1225. You think it would be sufficient to punish the man, increasing the fine or term of imprisonment for each offence, instead of taking away his tools of trade? That is the proper way to deal with the matter.

1226. Are there any other provisions of the Fisheries Act which you consider operate harshly against the fishermen? It is the mesh which causes pretty nearly all the trouble—this certain limit of mesh.

1227. Do you use the drift net? Yes.

1228. What is the mesh of that? The drift net is supposed to be 4 inches.

1229. Do you think the drift net should be reduced from 4 inches to 3 inches? The best way would be to allow the fishermen to use 600 yards, let it be meshing or hauling, which he thinks proper; that would save all difficulty; I would not allow any man to use a mesh of less than 3 inches for meshing. 123

- Mr. G. D. Hockey. 1230. Do you know anything about the system of well-boat fishing? I have seen a good many of them start with wells in their boats, but they failed.
- 11 Mar., 1895. 1231. Where did you see them? There is one now in Shellharbour; it belongs to Captain Wilson. There are two or three in Ulladulla.
1232. What size is it? The one in Shellharbour is only a small boat, 22 feet, with a small well.
1233. The Ulladulla ones? About 22-footers.
1234. Have you seen them in actual work? Yes; I do not know how fish would do in big boats, but they do not do well in the small boats.
1235. Are you sure those well-boats are constructed on the proper principle? I cannot say; I have never seen other well-boats.
1236. As a practical fisherman do you think if the well-boat system has worked successfully elsewhere—and it has been found that fish can be kept alive in the wells in Tasmanian waters for a couple of months—it would be quite possible to do it here? They ought to be able to do it here; it should be possible. If it has proved successful in other countries it might be adopted here.
1237. Fresh fish would sell better than dead fish? Oh, yes.
1238. Have you ever had any experience in trawling? No; I have not, but trawling might be a success.
1239. In regard to the oyster fisheries, have you ever seen any evidence of deep-sea deposits of oysters? I have not worked among oysters.
1240. *Mr. White.*] In sending your fish to market, do you think a skeleton box, with wire round it, would keep the fish better? Oh, yes; there would be more ventilation; that would be better for the fish.
1241. What average prices do you get for your fish? I have been sending choice fish to market. I do not think the average price for garfish, bream, and whiting, has been more than 3s. per basket to me, net.
1242. Have you had any fish condemned? No.
1243. Have you heard of the agents sending fish straight away to the country without putting it into the market for sale? I know of one case in which they did it. The agent sent my fish to the country, and gave me the average price the same class of fish fetched in the market.
1244. Is the fish supply in the lake diminishing? No; it is on the increase.
1245. Do you haul your nets ashore? The fishermen here do not haul nets ashore.
1246. Are you in favour of imprisonment instead of inflicting a fine for stealing oysters and pilfering fish;—would that put a stop to that sort of thing? I would punish them for stealing fish and oysters.
1247. Were the fish you saw in the well-boats pricked? Yes.
1248. Did they live? I have never seen fish live any longer than a week.
1249. *Mr. Thompson.*] Do you think the system of weighing fish prior to consignment and on arriving at the railway station would serve to find out where this pilfering takes place? I think that would be an excellent plan to adopt, providing the city corporation officials also weighed the fish on arrival at the market.
1250. Would it be desirable to dispense with the different nets now in use, and allow the fishermen to use in open waters a net for all purposes of a certain maximum length (say) 600 yards, and a certain minimum mesh? I consider that would be a very good thing.
1251. Do you think it would be a desirable thing to establish auxiliary markets for the sale of fish, markets to which you could send your fish at any time, and have them despatched from thence to the country towns? Anything like that would be a distinct benefit to the fishermen. It would give us an enlarged market for the sale of the fish we capture.
1252. *President.*] Have you ever noticed shoals of fish off the coast, making their way northward from the south? Yes; they appear every year.
1253. *Mr. Thompson.*] In what month? Well, February and March hard-gut mullet are travelling, blackfish and bream in January and February. This month and April are the months for the big sea mullet.
1254. The hard-gut mullet travelling out to sea? Yes.
1255. *President.*] Have you ever seen any shoals of herrings on the coast? I could not say they were herrings, but to the best of my belief they were herrings. I have seen them on a calm evening as far as the eye can reach. The biggest school I ever saw was about a mile off the Five Islands, about 2 or 3 miles off the mainland. I have never seen those fish inside the current. I have seen shoals of fish; I do not know what they were; I was looking at them last Saturday; fish about 6 or 8 inches long.

Mr. James William Smith, fisherman, Lake Illawarra, sworn and examined:—

- Mr. J. W. Smith. 1256. *President.*] Where do you reside? Lake Illawarra.
- 11 Mar., 1895. 1257. Are you engaged in fishing? Yes.
1258. Have you had any experience in net fishing? Line fishing and trawling; not net fishing.
1259. Where did you gain your experience? In the North Sea, the German Ocean—off the English coast.
1260. How many years have you been engaged in fishing? About forty-two years in all.
1261. Are you a practical trawler? I have followed it for years—sometimes trawling and sometimes ship-building. I have built fishing-boats, smacks, well-boats, and so on. I built a boat not long ago.
1262. Have you had any experience in drift net fishing in the North Sea? Yes; herring nets and salmon nets.
1263. Can you remember what the mesh of the drift net was? For the herring?
1264. Yes? It was about 1½ inch; if there were any below that they were confiscated and burned.
1265. How long have you been in this Colony? About seven years.
1266. You have had experience of our fisheries? I have been schnapper fishing—long-line fishing; the line I used was 4 miles long, the hooks 12 feet apart.
1267. How long were the snoods? They generally ran about 2½ feet to 3 feet long.
1268. Where did you practice this kind of fishing? I first tried Jervis Bay.
1269. Did you have any success? Plenty of fish but nothing but heads; the sharks took the schnapper from the lines, leaving nothing but heads. From that place I went to Wollongong, and shot lines in different parts, but I came to grief; there are plenty of fish to be caught, providing the sharks and leather-jackets were out of the road.

1270. Of course there is a great difference between the single hand line and the set line; I mean in this respect: You would have a better chance of saving your fish with the hand line than with the line you used? Decidedly; I tried those lines at Broken Bay; it was the same thing—destruction both for the lines and the fish on them.

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1271. Take one of your fishing trips. Supposing you had got a fish for every schnapper head that you hauled up, or for every hook you lost, would you have done very well? I should think I would have caught a ton; there is plenty of fish.

1272. Would you take a ton of schnapper to be a handsome return for a week's work with that line? It would be a good return for a month's work.

1273. Do you think it would pay if you could catch 1 cwt. per day with the hand line? I followed it for some time, but could not make a living. From Broken Bay I went on to Lake Macquarie. There I made a respectable living with the long line; but you do not catch many schnapper there. I caught bream, flathead, tailer, and jewfish. I used to get from three to four baskets of fish a day. I was four or five months there, and did very well.

1274. Did you use the net at all? No.

1275. How did you get your bait? From the other fishermen—salmon and so forth—that they did not want.

1276. Did you try that line in Lake Illawarra? Never; I lost my 4-mile line; the sharks cut it to pieces.

1277. Where did you lose it? Due east from Coalcliff.

1278. Where is the boat you built? At Broken Bay; a party bought her; she is a clinker built coble.

1279. What did she cost you? £75, with all equipment.

1280. Had she a well? No.

1281. Have you ever tried well-boat fishing? Yes; I have built them, too.

1282. Do you think that system would do well here? It would to a certain extent. As soon as you begin to see fish look unhealthy you want an ice-room to put them in.

1283. To work the well-boat system successfully you require to have cold storage in conjunction with the well? Yes.

1284. Do you think, under those circumstances, the system of well-boat fishing would be successful here? There is no thinking about it, sir; it is absolutely so. When your fish begin to go off, put them into the freezing apparatus, and you are sure of having them fresh.

1285. You have had experience at trawling? Yes.

1286. How much of our coast do you know? From Jervis Bay to Newcastle. In some places I could get no soundings at 25 miles off, although I tried with a line 100 fathoms long.

1287. Did you try to get soundings between the coast and that limit of 25 miles off? Yes; I got bottom at 15 miles off at 45 fathoms.

1288. How long were you fishing outside? Three years.

1289. Had you anyone else with you? My son.

1290. Did you prove the existence of any banks? No; there were a good many rocks.

1291. Have you fished off Port Hacking Heads? Yes; there is a patch of sand there.

1292. You have not been further north than Newcastle? No; I have not.

1293. So that you cannot say anything about the existence of banks to the north of Newcastle? No; I do not think you could trawl where I have been.

1294. What are your reasons for concluding that trawling operations could not be successfully carried on? On account of the bottom.

1295. Supposing a trawl survey was made, and the existence of suitable grounds on which to trawl was proved, do you think that, with a little enterprise, the trawling industry could be carried on? I think it could be carried on, and you would make a good thing out of it if you could fall in with the grounds.

1296. Would you have any objection to an experiment being made by the Government for the purpose of testing the suitability of our fishing grounds for trawling purposes; do you think it would be a good thing for the Government to test the question first? The Government ought to do it. The British, the Dutch, Norwegian, and other Governments tried the grounds first, and then companies went in for trawling and made a great success of it.

1297. During the many occasions you have been outside have you ever noticed shoals of fish making from the south to the north? Yes; I have seen them; but having no nets I could not catch them. I have seen very heavy schools of mullet.

1298. At what time of the year; can you remember? About June. I have eaten the herring. It was caught here in Mullet Creek. I examined some herrings shown me by the fishermen there. The fish had a herring head, the scales, the tail, and the fins, but it was short in the body.

1299. What flavour had the fish? Not quite the flavour of the English or the Scotch herring, but still it was the herring species.

1300. Was that like the herring you caught [showing the witness the engraving of the Southern Herring, "*Clupea sudiaca*," in the "*History of the Fisheries of New South Wales*," by Mr. Lindsay G. Thompson]? That is as near the herring as can be; yes, that is the fish.

1301. Do you think that herring could be used, and made an article of commercial value by preserving it? It could be preserved in oil in tins. It would be beautiful tinned. I really think that fish would sell very well.

1302. Do you think any use could be made of the sea mullet that come to these shores in such enormous schools? Yes; all the mullet species should be cured, tinned, and smoked; they would be of great value. They could be sent to other parts of the globe.

1303. Have you ever done any fish-smoking here? Not in this Colony. In the old country.

1304. What wood did you use? Oak. Do not have too much smoke; have a small blue flame. Keep the fish separate from one another.

1305. How long did it take to smoke the fish? If you hang 6,000 or 7,000 fish up like to-night, with a slow fire, so much that you can scarcely see them, the next morning they would be all right.

1306. Knowing how to smoke fish properly is an art? It is a business, a great business. I will tell you about curing the fish with salt. When the fish are cleaned place them in a pot of brine. If you wait for ten or fifteen minutes you will see the eye of the fish turn white. You then take it out and hang it up. If you leave them longer they get too salty.

1307.

- Mr. J. W. Smith. 1307. On the whole then, from your observations abroad and in this Colony, you think there is plenty of room for the development of the fishing industry in the way of establishing canneries and places for smoking fish? Yes, I do.
- 11 Mar., 1895. 1308. Do you intend to follow up the advice you have tendered to the Commission? Well, I am going fishing, and shall continue to smoke them; but it costs money, too much for a private man, or I would like to try tinning the fish.
1309. Have you ever come across the herring since you saw the specimens in Mullet Creek? Never; but I have not the least doubt that heavy shoals of herrings pass this coast.
1310. Have you heard the fishermen speaking of them? Oh, yes, frequently.
1311. The best way to take them would be in the drift net? All those fish that pass in the ocean must be taken by a fair drift net. It wants a lot of practice.
1312. Did you gain your experience of trawling on a steam-trawler? Sail and steam.
1313. What would be the size of a steam-trawler? Not less than 100 to 120 feet long, 20 feet beam, by 8 feet deep in the waist.
1314. And her draught? That is according to the build of the vessel, some are flatter than others.
1315. Does the steam-trawler do the better work? Decidedly; if the wind falls slack the sailer cannot get along, and you might upset the trawl.
1316. How does the current set off our coast? To the best of my knowledge to the south-east.
1317. The current setting to the south-east;—how would you trawl, with the current or against it, or could you trawl across it? In a steam-trawler I would run across the current. I would go anywhere I liked. You could trawl anywhere you liked if you had steam-power.
1318. What do you think of the varieties of fish in the New South Wales waters? Upon the whole they are of very good quality. Their flavour is good. Take the fish in New South Wales waters; as a whole they have a better flavour than the English fish, but they do not grow so large.
1319. *Mr. Thompson.*] Do you think it would be a proper thing for the Government to make experiments in trawling on the coast? I consider it is their duty to do so, and if those experiments prove a success there will be a great industry in this country. It is too much to expect private persons to go into trawling as a mere speculation.
1320. What port did you sail from in England? The Tyne. I have worked in the Hull and Grimsby fisheries.
1321. What would be the cost of an imported steam-trawler suitable for working? Of wood it would cost from £1,400 to £1,800.
1322. Do you think a trawler fit for our purposes could be purchased in England now for £2,000? You would get a beautiful wooden trawler ready for use for that. The hawser and the trawling-gear would cost about £150.
1323. Those shoals of fish that you believe to be a sort of mullet;—what month in the year have you seen them? In June.
1324. *Mr. White.*] What length was the boat that cost you £75 to build? Forty-five feet long.
1325. You built her yourself; I suppose you mean the £75 was the cost of the material? Yes; I will build you a similar one for about the same money, so much a foot.
1326. Roughly, about how many hooks would you put on that line of yours? For every mile I would put on 1,100 hooks, according to the class of fish. If they were big fish you would want bigger snoods.
1327. What do you generally bait your lines with? I generally get salmon. I used that in Lake Macquarie.
1328. Have they any justification for calling the species you have just named the salmon? They are the same shape and the same colour as the British salmon, but they have not the taste. The Australian fish do not go to the weight of the British, and they have not the taste of the English salmon.
1329. In your line fishing from Jervis Bay to Newcastle, how far off the coast did you catch fish? As far as 15 miles. It was with the hand-line.
1330. What bottom had you there? It was a shingle bottom.
1331. You do not know of any line of reef? As a rule schnapper follow the reef, and close under the reef. I find, if you get on the weather side—just the dangerous side—there is better fishing.
1332. When fishing off the coast in the old country, where did you fish from? From Yarmouth right away to the Scottish coast.
1333. What depth of water did you generally fish in? On the Dogger Bank you will fish from 10 to 30 up to 60 fathoms at the deep end of the bank.
1334. What would be the average you used to trawl in? As you leave the bank it runs from 40 to 50 fathoms.
1335. And the beam trawl works well there? Decidedly.
1336. What is the best depth to trawl in? Well, the fish shift about a great deal.
1337. *President.*] Have you a knowledge of the salmon fisheries? Yes, I have.
1338. Do you think it would be possible to acclimatise the salmon in New South Wales? I do not think so. They will not thrive in this country. It is a tropical climate. The salmon we get in England is really an Arctic fish.
1339. Consequently they are used to a temperature which we have not got here? We have not got the temperature.
1340. Is it a fact that salmon, although they breed in the upper reaches of a river, seek the lower or salt-water portion later on at different stages of their growth? When those fish have been from four to six months in the salt water they seek fresh water. The reason is because they become lousy in the salt water; they take up the lakes, remain there some time, leave their spawn behind them in the reaches, and then come down again into the sea.
1341. Then they have a double object—first to get rid of lice, and secondly to find a place in which to spawn? Yes; that is so.
1342. In regard to the salmon or sea trout and the brown trout, would it be possible to acclimatise those fish in this country? They are a cold-water fish.
1343. Has it come under your observation that trout will thrive where salmon will not? I cannot say.

Mr. David Walker Benson, Assistant Inspector of Fisheries, Lake Illawarra, sworn and examined:—

1344. *President.*] Your name is David Walker Benson, and you are an assistant inspector of fisheries;—how long have you occupied that position? About ten years.

1345. Have you been located anywhere else, engaged in the supervision of the fisheries? I held an appointment as assistant inspector on the Clarence River for about six months.

1346. How far does your jurisdiction extend? At the present time only over Lake Illawarra, Fairy Meadow Creek, and the Tom Thumb Lagoon.

1347. Have you ever been commissioned to go further south and make reports on the Shoalhaven or the Crookhaven fisheries? Yes, at times.

1348. What is the extent of Lake Illawarra? A little over 40,000 acres.

1349. Of course you live on the spot so that you may have proper control over the fisheries? No, I do not; I cannot get a residence near the waters to supervise the fisheries thoroughly. I live 7 miles away from my work, at Wollongong.

1350. Would it be an advantage to you if you lived right in the centre of your work? Oh, yes, undoubtedly so.

1351. Do you know whether any move has been made by the Fisheries Commission to locate you nearer to your work? Not personally; not from the Commissioners direct. I know Mr. Thompson, as chief inspector, has done his utmost to get me a residence near these fisheries.

1352. Where would that be? Kanahooka Point.

1353. Was land available there for a building to be erected? No; we anticipate it will be up for sale in a short time.

1354. At the point where you suggest the erection of a residence, would you have a good view of the lake? Yes; I could see all over the lake; the lake would be right under my eyes.

1355. You admit that you are at a disadvantage in living 7 miles from the scene of your duties? A very great disadvantage. In the winter months my work is all night work, and I find it very inconvenient. I have no sleep except Friday and Saturday nights; I am out all through the other nights during the winter months. I have to go home to Wollongong to see if there are any letters or correspondence from the office, and then I just get my dinner and go back to work again.

1356. Do you think it is quite sufficient for one man's duty to watch the fisheries of Lake Illawarra? Under different conditions to those at present pertaining one man could look over a larger area than he can now, for the simple reason that the fishermen would not want to break the law. The conditions are so harsh upon them under the present Act.

1357. You say you exercise control over the Tom Thumb Lagoon;—does that contain any fish? The fish work in there—in and out with the tide. At times large quantities of fish are there.

1358. Is that lagoon closed against net fishing? Yes.

1359. You do not think it would be possible under present conditions for you to exercise proper control over the Illawarra fisheries and attend to the other fisheries to the south? No.

1360. How many licensed fishermen are there on Lake Illawarra? Thirty-one at present, and eighteen boats.

1361. What is the aggregate catch for a given period? It varies very much. I can give you from 1883 to 1893—ten years. In those ten years the total was 63,862 baskets. The catch in 1895 was a little over 7,000 baskets. So far as this year has gone, 1,500 baskets have been taken out of this lake.

1362. Does the total you have given for the ten years include the fish used for local consumption? No.

1363. What would be the average number of baskets used locally per year? One thousand five hundred would be near the number used locally.

1364. Can you give the Commission any idea of the value of the catch in the year? For the last ten years it would be about £3,000 per annum.

1365. You mentioned just now something about present conditions being altogether against your being able to visit the more remote fisheries and exercise control over them;—what do you mean by "present conditions"? I was referring to the provisions of the Act.

1366. Do you believe the Act requires amending? I do.

1367. Would you mind telling the Commission what you think should be done in regard to the question of nets? The present hauling net the fishermen have under the Amending Act is sufficient; that is 600 yards; the 300-yards net was not sufficient for the men to get a living with in these waters. The conditions of the lake do not admit of their getting round the fish with a 300-yards net. The water is so shallow that to get at the fish the men would actually have to go up to their necks in water. They want a greater length of net, in order to get into deep water to take the fish.

1368. That evidence applies to hauling nets;—now with regard to the size of the mesh? The present hauling net is 2½ inches in the bunt and 3 inches in the wings. In speaking of the size of fish that would be caught or killed, I have often thought it would be better to reduce the size of the mesh if we could get the fishermen to turn the young fish out, instead of working them about amongst the blubber when in the bunt. Of course, if we cannot get the fishermen to do this, make the mesh larger for the bunt; make it 3 inches; reduce the length of the bunt; the other parts of the net to be of 3-inch mesh.

1369. Do you think, then, that the present mesh of the bunt tends to the destruction of small fish by allowing them to become meshed? Undoubtedly so. My experience has been that in the 2½-inch bunt there has been more fish killed than in the 1-inch bunt. That will save the destruction of young fish. The fishermen, as a rule, will not take the trouble to look after the young fish, especially where they haul ashore.

1370. Are there grounds in Lake Illawarra for the fishermen to haul their nets ashore? No; no place for them to haul ashore in Lake Illawarra. They have to work on what we call back nets.

1371. Are there any very small fish in Lake Illawarra? Great numbers, from (say) 1½ inch up to 3 inches—millions of them.

1372. The presence of those fish must be an evidence of fish breeding in the lake? Undoubtedly so.

1373. How much of the lake is closed against net fishing now? There are two areas—the Mullet Creek closure and the lake entrance.

1374. Do you consider it essential that those places should be temporarily or permanently closed? Well, the creek, under the present condition of hauling nets, I should make a permanent closure. If we could do

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- do away with hauling nets in the lake, and compel the fishermen to use meshing nets, closed grounds would not be required, for the reason that the fish would not be interfered with.
1375. Do you mean by the meshing net the drift net? Yes; it is essentially a drift net.
1376. Passed from the boat and hauled into the boat? Yes.
1377. What mesh would you recommend for that net? Three inches or $3\frac{1}{2}$ inches. The legal weight of fish this net is used for is 8 oz. It is actually a mullet net. The present net, which is 4 inches in mesh, would allow a 2-lb., even a 3-lb., fish to go through it.
1378. So that there is an anomaly? The net is actually no use to the men.
1379. That is, there is loss of fish of legal weight that could be made use of; they pass through the mesh at present and escape? Yes.
1380. In regard to closures—are there any portions of Lake Illawarra that come within the category of naturally closed waters? What we call the reserve—to the north and south of the entrance, inside the lake—is undoubtedly closed naturally.
1381. What features present themselves there? Weedy flats—splendid shelter for young fish—with sandy beaches here and there for breeding purposes. At the southern end of the lake there are rocks where the fishermen cannot haul; that is, in some places.
1382. In respect to the closures made during your term here—have you recommended any portions of the lake to be closed against net fishing? Yes; I have recommended, generally, the whole of the closures.
1383. Have you recommended any cancellation of the closures? No.
1384. Have the Commissioners always acted on your recommendations as to closures? They modified my recommendation on the last occasion.
1385. Are there any other instances in which you have made recommendations to the Fisheries Commission, and they have not been carried out? In reference to closures—none.
1386. How does Lake Illawarra come to be so prolific in fish life? Owing to a great extent, in my opinion, to the extensive use of the meshing nets, coupled with the closures in certain places, and especially the closing of the entrance to the lake, which allows of the free ingress and egress of school fish.
1387. What varieties of fish are caught in Lake Illawarra? Mullet principally, bream, garfish, flathead, whiting, tarwhine, and jewfish.
1388. Since you have been in charge of these fisheries have you noticed any depletion in the supply in Lake Illawarra? In the summer months undoubtedly so; then hauling is carried on to a great extent.
1389. When there are signs or a diminution in the supply would you recommend a temporary closure? No; I would recommend that hauling be stopped, and meshing be allowed. It would be hard on the fishermen to make a temporary closure, because they may not have the means of going away elsewhere. The use of the meshing net would stop the depletion at once, because it would not work on the bottoms, and disturb the fish or their food.
1390. In catching the different varieties of fish I suppose the fishermen use the nets allowed under the Act? Yes; the fishermen use every kind of net allowed by the Act.
1391. What would you say in regard to the length and mesh of the garfish net; is it sufficient at the present time? The present length, 180 yards, is not sufficient for this lake; it is used here in a way that the fishermen call bull ringing; almost the same as the meshing net is used.
1392. Most of the garfish are meshed? They are all meshed.
1393. There is nothing in the Act to prevent the garfish net being hauled to the land? There is a regulation which prevents a bunt of less than $1\frac{1}{4}$ inch being hauled ashore.
1394. What would you recommend as a fair length for a garfish net in Lake Illawarra? I would recommend the old length of the hauling net—150 fathoms.
1395. So that it could seldom happen that fish other than garfish could be taken in the garfish net? They cannot take them; the mesh is too small.
1396. Are prawn nets used in Lake Illawarra? Yes.
1397. Since when have prawns been found in Lake Illawarra? Since October, 1894, they have been sent to Sydney.
1398. Had they been sent prior to that? No, not in quantities; they were never made a marketable commodity.
1399. Have many prawns been sent to market since the date you mentioned? Yes; 232 boxes.
1400. What is the average weight of each box? About 60 lb.
1401. Are they in the lake in appreciable quantity at the present time? Yes; they are.
1402. So that, practically, a new industry has sprung up—the capture of prawns in Lake Illawarra? Yes.
1403. As the prawn net is now being used in Lake Illawarra, what size would you recommend that to be? At the present time 30 yards is not sufficient; I would increase the length. The prawns are caught in very shallow water, and with 30 yards you cannot get around the water to catch them, especially if the net is hung on the third, as it should be.
1404. Will you explain what you mean by hanging on the third? I mean by hanging on the third, that 18 inches of net should be distributed on a foot of line.
1405. Have you had occasion to seize many nets under the provisions of the present Act? Yes; at different times.
1406. For breaches of what clause of the Act? Illegal nets, and fishing in closed waters.
1407. Have you always succeeded in getting convictions? In all cases.
1408. What was done with the nets? For fishing in closed waters the nets were confiscated; in some cases in which the nets were illegal they were returned and others confiscated.
1409. Have parties been deprived of their tools of trade by having their nets confiscated? Undoubtedly so.
1410. Do you think that is a case of great hardship? I do.
1411. What provision would you make to deal with such cases more satisfactorily, so that the men might be punished, but not have their tools of trade taken away from them? By fine or imprisonment; it would be far better to put a man in prison for a week or a month than deprive him of his means of getting a livelihood.

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1412. Have you known of cases where nets have been legal and have been used for a considerable time, and afterwards condemned as being illegal nets? Yes, I have; all nets that the fishermen have used have been legal at one time, and owing to tanning, to preserve their nets, they have come within the penalty of the law, because the nets have shrunk through tanning.

1413. And although this was known to you, you could do nothing but carry out the provisions of the Act? That is correct.

1414. Do you maintain that a fine or imprisonment would be —? Far more equitable than the confiscation of their nets.

1415. Then again, as to forfeited nets, what time would you allow for dealing with the question of forfeiture of a net? Seven days would be ample time; within that time the matter might be dealt with, but if the fisherman is kept waiting a fortnight or a month for the decision, the net being wet and not properly cared for becomes no good to him—it gets rotten.

1416. So that expedition should be used in dealing with all such cases, and more particularly if a fisherman is guiltless? Yes.

1417. And what would you suggest in regard to the method of procedure? As far as the Lake Illawarra fisheries are concerned, I consider that after the nets are seized, and the department notified, the men should be notified by the inspector as to the date on which the inquiry is to be held, so that they could attend. It is unnatural to confiscate these nets when they are not present; it is an injustice.

1418. Do the fishermen of Lake Illawarra seem inclined to work harmoniously with you? So far as I know they do, but under present conditions the men are not able to work harmoniously with me—they are always at war with me; that is owing to the defective Act. I have never made it a practice to seize nets for the sake of seizing them. I have always endeavoured to prevent the men breaking the law by suppressing the use of illegal nets.

1419. Has your conduct ever been brought under review by the Fisheries Commission? In 1892 I was reported by Inspector Smithers to the department.

1420. What for? Neglect of duty, and discourtesy to him.

1421. Would you mind telling the Commission the nature of the charge, and whether there was any truth in it—what constituted the neglect of duty, according to Inspector Smithers? The first report was to the effect that I was discourteous to him in the Police Court at Wollongong.

1422. Were you discourteous to him? No, sir, undoubtedly not. The C.P.S. could bear out what I say.

1423. Well, as to the neglect of duty, did he base his charge against you on the ground of your not having visited these fisheries often enough? One charge was that I stated in my diary I was on duty, and his report was that I was not on duty, but I was on duty that night; he was on the lake at the same time, but he did not see me, nor did I see him.

1424. However, you cleared yourself to the satisfaction of the Commission? Yes; the next charge was that I had inspected illegal nets and had taken no action.

1425. Was there any ground for that suspicion? No; I may say Mr. Smithers had seized an illegal garfish net from fishermen named George Dennis and James Duncan; this net when I inspected it was netting. It was not a net at all—it was undoubtedly illegal if it had been a net. This netting the men took out and used whilst I had my boat ashore painting and repairing her. I was unable to get on the lake at the time the seizure was made by Mr. Smithers off the mouth of the lake. The men were not fishing when he seized the net.

1426. Have the Commissioners ever expressed dissatisfaction with you in the performance of your duty? Not that I can remember.

1427. They investigated these charges, and the result was that none of them were sustained? I was not called before the Commissioners; I had to report in answer to Mr. Smithers' charges.

1428. Have you had experience with regard to deep-sea fishing? I never had an opportunity since I have been under the Fisheries Commission; my time has been taken up with inside work.

1429. Do you think, from information received from the fishermen and others, it is possible that our deep-sea fisheries can be developed? Undoubtedly so; I have often received information from the fishermen of large schools of fish passing along this coast, but I had no means whatever of finding out what species they were.

1430. Have you heard the fishermen say that the herring or pilchard pass along this coast in great numbers? Yes; I have repeatedly heard them say so. Within the last fortnight schools of pilchards, or the maray, have been outside the entrance to the lake. I have had several of these fish given to me by the men who have picked them up; they were actually coming into the lake. If the department could have given me a proper boat well equipped, undoubtedly we should have found out long ago whether these fish exist in the numbers that the fishermen allege they do, by running outside and testing the matter for ourselves when we heard that schools of fish were passing along the coast. I should not have wanted a crew; I could have taken one or two fishermen with me to work the boat, allowing for their actual expenses, so that the initial cost would have been the only cost.

1431. Have you ever seen or heard of large shoals of mullet passing along the coast in a northerly direction? Yes; at certain times of the year, generally in March and April; at the present time they are passing in immense schools. March and April are the months; they are generally full-roed about the end of April.

1432. Do any of these fish enter the lake? Yes; there are large schools.

1433. Are they captured in large quantities? At times by the use of meshing nets.

1434. Have you ever studied the question of well-boat fishing? Not seriously; my work has never brought me into contact with that class of fishing.

1435. From all you have heard, do you think it could be successfully carried out? I think so, but the facilities for getting fish away at the present time are so bad that I doubt whether it would pay. If we had better facilities our fish could be taken inland.

1436. Do you know of any case where well-boat fishing has been tried and proved successful on this coast? At the present time one of Dent's boats at Jervis Bay is engaged in well-boat fishing, and they are making it pay; she ran into Kiama the other day and quantities of fish were sold; what was not sold there was sent to Sydney by train; it was all fine fresh marketable fish.

1437. What class of fish? Schnapper.

1438. So that from all you have heard the experiment has proved successful? Quite successful.

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1439. Do you know anything of our fishing-grounds off the coast;—are they suitable for trawling operations or not? So far as I know, from my own observations, and from what the fishermen tell me, there is a splendid ground off this coast, from the Five Islands to Beecroft Head; a splendid flat bottom for miles; whether the depth would be too great for trawling I cannot say; some places it would be over 40 or 50 fathoms deep. The bank runs from about a mile and a half out, and is 9 or 10 miles broad.
1440. And about how long? Thirty miles.
1441. Do you think it would be worth the while of the Government to make an experiment in order to ascertain whether trawling would prove a success? I think it would pay the Government, for this reason: If it is found that the bottom is suitable for trawling, people would soon find capital to go in for it, and develop the deep-sea fisheries.
1442. Have you in use in Lake Illawarra what is known as the bultow or set line? No. I have a fisherman named Smith who intends using the bultow in a short time. He used it with success at Lake Macquarie.
1443. If the bultow were used, would it interfere with the net fishermen? No. The line would be used in the deepest water in the lake, and the hauling nets are used only within a certain radius of the shore. The meshing nets would not be affected, because they do not touch the bottom.
1444. Have you any knowledge of the market accommodation afforded to the fishermen in Sydney? The fishermen often complain to me of the inadequacy of the accommodation at the Woolloomooloo Market.
1445. Have they ever complained of the unsatisfactory returns they receive from their agents in Sydney? Very, very often.
1446. Do you think a better system could be devised whereby the fishermen could obtain fairer returns for their fish? Undoubtedly so. At the present time the fishermen are only working for the agents.
1447. You think, then, the agents obtain the greater proportion of the results of the labours of the fishermen? The agents and the middlemen.
1448. Would it be possible to bring the fishermen into closer communication with the general public? I think so. It would benefit the public and benefit the fishermen.
1449. Do you approve of the system adopted in the Woolloomooloo Market of displaying the fish on the floors? No; I consider it a filthy way.
1450. What would you recommend? I would recommend raised tables, so that no one could spit upon the fish, or tread upon them, and from which, when sold, they could be readily swept into baskets by the purchasers, thus avoiding unnecessary handling.
1451. Would you approve of the idea of representative fishermen being allowed to sell their fish or the catches of those engaged on the same fishing-grounds? Yes, I would approve of that; but in that case the fishermen would require more accommodation.
1452. Do you think the market at Woolloomooloo is in the most convenient and suitable position? No; the most inconvenient position for the general public to buy fish. The greater number of the residents of Sydney have no chance of going there, and buying their own fish, as was intended in the first instance.
1453. Do you think a more centrally situated market would be availed of to a greater extent by the public? Yes; one or two markets.
1454. Would you favour the establishment of auxiliary markets in the suburbs? Yes. It would mean that the general public would be able to get more fish, the system of distribution would be better—better for the public, and better for the fishermen. It would, of course, also mean an increased revenue to whatever department these markets were under.
1455. In regard to the question of transit, are the fishermen satisfied with the freights? Yes; undoubtedly so.
1456. I understand a reduction has been made lately? Yes; lately.
1457. There are no refrigerating cars on this line? No, not on this line; a great number of fish is sent by rail to Sydney. It is a source of considerable revenue to the Railway Department.
1458. Do you think if the Railway Commissioners were disposed to place a refrigerating car on this line for conveying fish to market it would be availed of, providing the charges were not too high? To Sydney?
1459. Yes; would it pay the fishermen to do that? If the department would supply those cars to send their fish inland, it would pay the fishermen. It would pay the men in the summer time, because their fish very often go bad in transit or after arrival.
1460. Supposing, in addition to the Railway Commissioners providing this car, auction sales were to take place at any time during the day at the central and auxiliary markets, would that suit the fishermen? Yes; they could catch their fish at any time if it could be placed in refrigerating cars; it could be sent by any train.
1461. It could be sold on the arrival of the 9 o'clock train, and be despatched to the country by the next train? Yes; and be fresh for breakfast in the distant inland towns.
1462. Have you heard of pilfering taking place during the transit of the fish to Sydney? Yes; very often.
1463. Where does it take place? A great number of cases which have come under my notice have been on the railway line, and during the transit of the fish from the railway to the market.
1464. Can you suggest a means by which this pilfering could be prevented? Lock the fishermen's boxes and have duplicate keys.
1465. Do you think a system of weighing at the station from whence the fish is sent, and weighing it again at the station to which it is consigned, would act as a check? I have known of a case here where a man has had his fish weighed and weighed again on arrival at the other end, and the officer at the latter place has said that the original weight was wrong. One-third of the fish was taken out of the boxes in transit.
1466. In that case did not the fishermen receive a consignment note, stating the weight, from the station whence he despatched the fish? I think he did. He made a complaint about it, but received no satisfaction.
1467. You mentioned that fish is sent to Sydney in boxes and baskets;—which do you prefer as a means of sending the fish to market? I prefer the boxes, made a little more open than at present, because the baskets are heaped one upon another, and the bottom tiers are not sufficiently rigid to withstand the pressure, and so the fish in the lower baskets get crushed, and uninviting for the market.
1468. You have control over the Tom Thumb Lagoon? Yes.
1469. Have you anything to protect there besides the ordinary fisheries? Oyster fisheries in the Thumb.
1470. Are they prolific? Very prolific in the Thumb.

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1471. Has any step been taken to prevent their being carried away for public use? Yes; the Department closed it for three years; that was on the 30th of April, 1892.
1472. Have any oyster leases been granted? None.
1473. Are the oysters taken by pleasure seekers? People go there and take a few oysters and eat them.
1474. Have you had occasion to prosecute anyone for violation of the Oyster Fisheries Act? Yes; several in reference to this water for taking oysters for the purpose of sale during the closure.
1475. What would you eventually recommend in regard to the Tom Thumb Lagoon and its oyster fisheries? I would recommend that the department lease it as a whole, or make it an oyster reserve for the benefit of the people at Wollongong; there is a large recreation ground adjoining it.
1476. Is there any line fishing in that lagoon? Yes; very fair fishing.
1477. So that pleasure seekers could avail themselves of the line fishing as well as the oyster fisheries? Yes.
1478. Have those oysters been in a healthy condition or not? Always healthy. I have never noticed any disease.
1479. Has any attempt at artificial propagation been made in the lagoon? No.
1480. Is it a fairly good ground for oyster culture? Very good.
1481. How long do you consider the spat would take to develop into a marketable oyster on that ground? There is always a good tide there. We find the oyster grows much quicker where there is a good flow of water. Within twelve months an oyster would be marketable.
1482. What kind of oysters are there? Drift, mud, and whelk oysters.
1483. Are there any rock oysters? No; in Allen's Creek there is an old bed, but very few oysters.
1484. Have you anything to do with the Minnamurra River? It is under my supervision.
1485. Are there any oyster beds or deposits there? Yes.
1486. Are there any leases? Two leases.
1487. Of what extent? 400 and 200 yards—P. T. Johnson's leases. On the bed adjoining his house there are mangrove and rock oysters. The bed down the river is all mangrove oysters.
1488. Are they of fair value as a marketable oyster? As a marketable oyster they are.
1489. Are they used locally? For local consumption.
1490. Is there any net fishing in that river? To a small extent.
1491. And what becomes of the fish caught there? It is sold locally. I may state it is some time since I visited that river, the department having instructed me not to go there unless specially directed.
1492. Have you been requested to report on any other oyster fisheries in the south? In 1892 I reported on the whole of the oyster fisheries in the Shoalhaven and the Crookhaven districts and the Jervis Bay oyster fisheries. During that visit I found the greater number of the beds in a most deplorable condition.
1493. From what cause? Owing to the mud and the worm disease, and also to overstripping. The overstripping would account for more depletion in a great number of the leases than the worm or mud.
1494. Do you think that if there had been local supervision on the part of the department that overstripping would have been prevented? Undoubtedly so; or if I had been instructed by the department to visit the place once a month. It could have been stopped by reporting to the department that such was taking place—that certain lessees were overstripping.
1495. Do you consider that the Shoalhaven and the Crookhaven grounds are good for breeding purposes? Undoubtedly so. They are first-class oyster grounds.
1496. Do you believe in the system at present in vogue, and allowed by the Act, of leaving it to the option of the lessee to take up such a low extent of oyster ground as 100 yards? No, I do not.
1497. What has been the result of the system of allowing men to peacock, as it were, 100 yards here and there? It has two very bad points in it. First as to the taking up of 100 yards with very few oysters on it. Owing to having this 100 yards the lessee could simply work the shores all round him, and there was no evidence to show where he obtained his oysters from, and for lack of supervision he has been enabled to do as he liked. The other point is this: You allow a man 100 yards, and he will simply strip the foreshores of his lease and the Government or Crown lands adjoining. After that is done he wishes to have his lease cancelled because the land is not fit for oyster culture.
1498. What would you recommend in substitution for the present system? I would recommend the leasing of the rivers as a whole, or in parts, for a number of years, with stringent conditions as to the culture of the oyster, compelling the lessee to work on his area and conduct his operations systematically and in a scientific manner. It would mean a source of great wealth to the country if this were done. Under present conditions we find our foreshores stripped. With a lease for a number of years of a river, or portion of a river, a man would spend a large amount of money in putting up cairns or fascines for spat culture, and he would not strip his area as is done now.
1499. Do you favour the continuance of the system under which oyster leases are taken up at the present time, or would you favour the system of payment by results? I would compel a man to pay a lump sum, and have the oyster-bearing waters put up to auction and leased, the same to be the rent per year.
1500. You would make the arrangement as to rent simply a matter subject to public competition? Yes; then you would find, I think, that the lessees would for their own benefit go in for oyster culture in a systematic manner.
1501. Have you known cases where oyster beds have been rendered useless or unproductive for a time, owing to floods? Yes; on the Shoalhaven and Crookhaven Rivers some were totally destroyed.
1502. Deeming that to come within the category of an act of the Almighty, would you not consider it a hardship to compel lessees to pay rent for areas which have been destroyed, the responsibility of which destruction has not rested upon them? Yes, it would be almost unjust; but that is the fault of leasing small areas in these rivers. If the rivers were leased as a whole the lessee would not be so much affected, because the whole of his beds would not be affected.
1503. Would you not take it to be a greater act of justice to ask a lessee to pay on every bag of oysters raised from his lease than to make him pay rent for beds rendered unproductive by the act of the Almighty? Yes, it might be; but I would have certain provisions compelling a lessee to systematically conduct the business of oyster culture.
1504. Would you, in the framing of an Act, be inclined to support a provision which would allow the authorities to make a concession to lessees whose beds may be destroyed in the manner I have indicated in my preceding question? Yes, I would.
1505. That is, of course, under the condition you have mentioned, of putting the leases up to public auction? Just so.

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1506. Have you seen any evidence of the existence of deposits of oysters in the deep sea? Undoubtedly, off Lake Illawarra.
1507. Do you think that by trawling we may be able to discover some oyster-beds in the deep sea? I think so. I have often picked up the shells of oysters on the beaches after a heavy sea.
1508. Have you given any attention to the crayfish fisheries? Yes; year after year.
1509. Do crayfish frequent this coast? Oh yes, in great numbers.
1510. Do you think crayfish capture is an industry which could be profitably carried on? Undoubtedly so, in a systematic manner. We can catch them at any time in Wollongong harbour, the coast is so adapted for this fish. Off the Five Islands there are numerous reefs and enormous quantities of crayfish.
1511. Can you tell us whether the Commissioners, or any of them, have visited the fisheries of Lake Illawarra? Dr. Cox was here once only. He drove to the mouth of the lake with Sir William Macleay.
1512. How long ago would that be? About six years ago.
1513. Do you know of any other visits paid by a member of the Fisheries Commission or the Commissioners? No.
1514. Do you know whether they have paid visits to any of the fisheries in the south? I cannot say; not to my knowledge.
1515. Have you ever heard the fishermen say they were not satisfied with the constitution of the present Fisheries Commission? I have heard the fishermen grumble and complain about the way they have been treated by the Commissioners.
1516. Have you heard that they have suggested they would like representation on that Board? Some time ago the fishermen said they would like to have one of their number on that Board to look after their interests.
1517. *Mr. Thompson.*] Do you think if some concession were made to the fishermen in connection with the transit of fish, they would be induced to gut and clean their fish? I think so. It would enhance the value of their consignments, and it would also extend their market.
1518. You think the fish could be sent away to all parts of the country? Yes.
1519. There would be no difficulty in fish caught this afternoon, and treated in that way, being on the breakfast table, say 200 or 300 miles in the interior next morning? There is nothing to stop it. A number of our fishermen have families, and their services could be profitably employed in gutting and cleaning the fish.
1520. Would it be advisable to discard all the nets at present in use, and to allow the fishermen to use in open waters what nets they please, within a certain maximum length and a minimum mesh, and thus do away with all these difficulties to fishermen, arising from varied meshes, lengths, and kinds, at the same time having the most stringent provision as to catching or exhibiting any undersized fish? Yes; it would stop a lot of the complaints. It would stop them altogether. The facilities for supervision would be so much greater. We would not have so many nets. Each fisherman would use whatever net was most suitable to the waters he was working in.
1521. Would this be any damage to the public estate? None whatever.
1522. *President.*] Have you ever noticed the presence of whales off the coast? Oh, yes; often off this coast. I saw a fight, which I was told lasted three days, between a thresher and a sword-fish.
1523. Do you think the whaling industry is capable of being revived? Yes; the right whales frequent this coast in large numbers. I have seen as many as thirty or forty of them within half a mile of the shore.
1524. And you think if they could be captured it would be a profitable enterprise? Yes.
1525. In regard to the question of fish canning, curing, and smoking, is that carried on to any extent in the southern fisheries? It is not carried on at all.
1526. Could it be carried on? Yes; by the development of our deep-sea fisheries.
1527. Do you think the mullet could be made an article of commercial value? Yes; and far superior to the American salmon. I have tasted them tinned by some men who used to be on the Shoalhaven River. The fish was more juicy than the imported American salmon, and it had a better flavour. We have these fish here in such enormous numbers that it would prove a profitable industry.
1528. So that the fish being available in such large quantities during certain periods of the year you think such an industry could be carried on successfully? Yes; right throughout the year; the fish are travelling at all times on this coast, but more especially during March and April, for the mullet.
1529. In regard to the fishing craft, are they of the most modern style? They are not for deep-sea fishing, only suitable for inland waters—for net fishing.
1530. Are sunken nets used in Lake Illawarra? No; the water being too shallow.
1531. You have said the blubber is a great trouble and a nuisance to the fishermen? Yes; and a great destroyer of fish.
1532. In places where the blubber is thick, would it not facilitate the operations of the fishermen to allow them to use a sunken net? They would get the blubber all the same in Lake Illawarra, the water not being sufficiently deep.
1533. Have you given any attention to the question of the development of our inland fisheries? I have never had an opportunity of doing that; my work has always been on the coast.
1534. Do you think it would be possible to stock many of our streams? I do not think the trout would do in the warm parts; but in the colder regions the trout would do very well.
1535. Do you think it would be a step in the right direction to establish fish acclimatisation ponds and hatcheries? Yes; for the stocking of the colder waters of the Colony.
1536. And do you think that by a system of rod licenses it could be made supporting, within a reasonable time? Yes; I do.
1537. *Mr. Thompson.*] Do you think it would be a hardship; if when fish become scarce in any water, instead of closing that water the use of the hauling net should be entirely prohibited? I think it would be to the benefit of the fishermen. It would not be a hardship; they could get a living with the meshing net, and all the while the fish would be replenishing.
1538. *President.*] What salary do you receive from the Fisheries Department? £140 per annum.
1539. Is that exclusive of house-rent? No; I have to pay my house-rent out of my salary.
1540. What do you pay for house-rent? 14s. 6d. per week.
1541. Are you allowed any expenses? 10s. per week for horse feed. That is to travel to and fro to the lake. I have to keep two horses for the work, and they are my own property. 1542.

1542. The £140 a year;—is that the salary at which you were appointed? No; I was appointed at £150 yearly.

1543. Then, how comes it, after ten years' service you are only receiving £140 per annum? I was reduced by the Department on the plea of retrenchment.

1544. Are you not aware that Parliament directed there should be no reduction in salaries under £200 a year? I was not aware of that.

1545. If that is so, the direction of Parliament has not been adhered to, and you have been reduced in the face of that direction? I have been reduced.

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THE NORTHERN HOME FISHERIES: HUNTER RIVER FISHERIES.

FRIDAY, 15 MARCH, 1895.

[The Commission met at the Court-house, Newcastle, at 10 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

L. G. THOMPSON, Esq., J.P.

Mr. Joel Tresidder, fisherman and fish-dealer, Carrington, sworn and examined:—

1546. *President.*] Your name is Joel Tresidder, and you live at Carrington? Yes.

1547. What are you by occupation? A fish-dealer; I may state that my sons are the fishermen, and I dispose of the fish, so that I am directly interested in the industry.

1548. How long have you been engaged in the industry? Well, as a fisherman and salesman, I have been at it between twenty-five and thirty years. During the past seventeen years I have been almost exclusively fishing and selling.

1549. You have combined the two branches during the last seventeen years; how long previous to that were you engaged in fishing solely? I was only fishing some two years without going in for selling. I found it was a losing game to catch fish and depend upon the agent. I found I was the best agent.

1550. What waters have you fished in? The whole of the waters in the Hunter River, the Williams, and the Patterson, as well as in Lake Macquarie.

1551. So that your knowledge of the fisheries in the Hunter district would be of practical value? Yes.

1552. You stated, just now, you and your sons were engaged in fishing—how many sons? Four are devoted to fishing, as a rule; one of my sons is paying particular attention to the bait and boats, and the other is assisting in the selling; the other two are wholly engaged in catching fish and prawns.

1553. What varieties do they catch? Our principal fish is mullet and jewfish; bream, whiting, flathead, trevally, and garfish are all limited in number.

1554. What market do you send fish to? I take the fish round myself and sell it to the people in the mining townships.

1555. You send no consignments to Sydney? No, I have not done so for years.

1556. Have the municipal authorities of Newcastle assisted you in any way by providing market accommodation? There is very little accommodation in Newcastle; it is very primitive.

1557. Is your fish inspected before you sell it? Only by the inspectors of fisheries; they come round occasionally.

1558. What I want to elicit is, whether there is any inspection of the fish before it is sold to the consumer? None; practically none.

1559. Do you, as soon as you land the catch, dispose of it to the consumer? Yes, direct.

1560. Can you tell me how many fishermen there are in Newcastle; that is, leaving out Lake Macquarie? I cannot; I do not know how many are licensed.

1561. What would be about the value of your catch during the year; what would be the average catch per week, and its value? The annual value of our fish would be about £300; that is what goes from my hands.

1562. Do you find any difficulty in disposing of the fish? No.

1563. Will you explain what apparatus is used by your sons in catching fish? The ordinary seine of 200 yards; that is the outside limit we use.

1564. Are you satisfied with the mesh and dimensions of the hauling net? Yes; quite satisfied with the seine, providing when we purchase a net of a certain size above the legal mesh we should be allowed to use that so long as the net is fit to use.

1565. In other words, you mean that when once a net is pronounced to be legal and has been used as a legal net, it should not be taken from you for any breach of the law? Just so.

1566. Have you ever had any of your nets seized? Yes; one taken by Mr. Gordon.

1567. What class of net was it? The bunt, when purchased, was $2\frac{1}{4}$ inches, the wings $3\frac{1}{2}$ inches.

1568. For what offence was it seized? Mr. Gordon claimed it as an illegal net through its being $2\frac{1}{8}$ inches.

1569. What do you think was the cause of the shrinkage? On this particular occasion it had been very wet weather. We had been working the net on the Thursday night and the Friday morning; the net had been thoroughly saturated for four or five days.

1570. Had it been dry would it have been its legal size? If you measured the net now dry, it would be over the size.

1571. Were you ever prosecuted for using an illegal net? No, unfortunately I was not; I was fully prepared to have gone into the matter had they prosecuted me.

1572. Have you made any application for the return of the net? I do not know whether Mr. Thompson, solicitor, of Maitland, applied for it.

1573. How long ago is that? The 17th of August last.

1574. What was the value of that net? About £10.

1575. Do you know whether any other seizures have taken place on the river? Yes.

1576. Have nets been confiscated for similar offences? Some have and some were returned.

1577. Have you any idea of the reason why you were not prosecuted? No.

1578.

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1578. Do you use any other net besides the hauling net? The prawn net.
1579. Are you satisfied with the length and mesh of that net? Yes; I can speak for the fishermen on the river, and say that they are satisfied with the length of the net with this proviso, that when a net is purchased for the different sizes they may be allowed to use it until it is worn out.
1580. Do you get large catches of prawns? We always keep the supply below the demand. We could occasionally catch more than we require, but we do not do that either with our fish or prawns.
1581. Do you regulate the supply for the local market? Yes.
1582. Do you send prawns to Sydney? No.
1583. Do you think there is room for further expansion by sending prawns to Sydney? I think the market there is pretty well supplied.
1584. Have you any other complaints to make in regard to the provisions of the Fisheries Act? Several.
1585. Would you mind stating to the Commission what suggestions you can offer by way of improvement? In the first place, I wish to speak about the license. When we take out a license our boat is licensed and named in accordance with the Act. That being so, it should be all-sufficient; but such is not the case. We have been prosecuted for not having a name on the boat; but at that time the name had been on the boat. Again, we have been prosecuted for not having the license in the boat, and the inspector has called my boys by name, knowing they were licensed fishermen, and asked them if they had the license in the boat. I think that is an injustice.
1586. They deemed the name on the boat not perfectly legible, or were prosecutions taken out against the fishermen for alleged offences? A number were.
1587. Were the prosecutions sustained in the Court? I think, without any exception, all were sustained.
1588. Is it not specified in the Act that the name shall be painted on a certain place in the boat? Yes.
1589. Can you tell us whether the inspector who demanded the production of the license was a man new to the work or an old inspector? It was F. W. Smithers, an old inspector. I am not certain whether Gordon was with him.
1590. Were the prosecutions sustained on the evidence of the inspectors? On their evidence solely.
1591. Was anyone sent by the Department of Justice to inquire as to the truth of their statements? No; my boat was on the bank when the policeman came with the summons. I pointed out my boat with the name on it to him, and the policeman replied, "It is a damned shame"! It was an injustice.
1592. Are there any other provisions in the Act which you think require amending? Yes; the Act should be amended to allow the fishermen to use any and what nets they please. What I mean is, that the Act should be repealed altogether. I hold it ought to be repealed; it is no good. We want a new Fisheries Act; the present Fisheries Act is no good at all.
1593. Do you think that a stringent provision dealing with the sale and capture of young fish would be sufficient to protect the open fisheries, rather than to enforce the provision as to length of net and mesh? I can show you where I think a provision could be made that would be really a safeguard to all. Our net we procure in Sydney. It is a machine-made net. Let this net when imported be above a certain size for the seine. This would deal equitably with the whole matter.
1594. Do you use the drift net at all? Very rarely; I consider that one of the most useful nets here. As a matter of fact, it simply catches fish ready to be caught.
1595. In regard to the general administration and control of the fisheries, are you satisfied with the present institution under the Fisheries Act? I am not.
1596. Have you ever had a visit paid you by anyone of the Fisheries Commissioners? No, not by the Commissioners. None of the Commissioners have visited us that I am aware of.
1597. Would you have heard of their visit had they been here? Yes, certainly.
1598. Have you formed any idea as to what should be the administrative and controlling power for the fisheries? We have a very efficient police in this district, and the police should be empowered to supervise the landing of our fish.
1599. Do you favour the appointment of inspectors to supervise the fisheries? Not unless they are practical men.
1600. Have you an inspector stationed in this district? No; we had Mr. Henry Curan.
1601. But, with reference to the institution to govern the fisheries—in other words, to administer the Act—do you think any improvement could be made in the present system? Yes; a very considerable improvement.
1602. Can you suggest what should be done to bring about a better state of things? I think the fishermen should have a representative on a Board, if a Board is established to control the fisheries.
1603. Would you mind expressing an opinion with regard to the proposal to appoint a Commissioner of Fisheries, he to have the assistance of what might be called boards of advice, representative fishermen occupying seats on such boards;—do you think such a system would work well? Yes; I think such a system would work very well.
1604. Do you think it absolutely essential that fishermen should have representation on these local boards, because of the diversity of the circumstances connected with the several fishing grounds? Yes; I think it would be a good thing.
1605. Have you had any closures made which have operated harshly on you as fishermen? We have had closures here which have been very harsh; for instance, the lower part of the river is closed now. The river occasionally is swept as clean as if you had swept it with a besom. I have seen fish working in with the flood; they work up for half a mile, a mile, or two miles, but we dared not touch them because the mouth was closed.
1606. Do you know who made the recommendation as to the closure? I do not know.
1607. Have you, at the present time, sufficient water available for carrying on operations? Yes; ordinarily we have plenty of fishing grounds.
1608. You said you use a net only 200 yards long;—why is that? Owing to the tidal waters being so strong you cannot use a long net.
1609. You have said you are dependent pretty well upon the supply of mullet for your livelihood;—are they the sea mullet? The mud mullet, the sea mullet, and another mullet miscalled the flat-tail mullet. The flat-tail mullet is a herring pure and simple. There is another small mullet called the sand mullet.
1610. Are you ever visited by shoals of fish, such as sea mullet or garfish? Occasionally. Sea mullet very rarely come here in what we call a good shoal. They come to the mouth of the harbour; I have seen

seen them there for miles along the coast. When they come to Nobby's or the northern breakwater they split, and only a small portion come into the harbour. Formerly they came in in millions. I have seen them come in here; they have been that thick and powerful that they carried the bunt of the net away; but that has not occurred for five years.

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1611. What prevents them from coming in now? The northern breakwater and the southern breakwater, it splits them up. I have been out on the breakwater, and seen them coming along in droves, and the sharks and porpoises after them; when they got to the breakwater they split, and the big fish went for them.

1612. Have you ever seen any shoals of fish outside that might come under the category of the herring tribe? I have heard of them; they never came under my observation.

1613. Have you done any deep-sea fishing? Only with the line, and the hoop-net for crayfish. I had experience of deep-sea fishing in the old country.

1614. Have you had any experience of trawling? Yes, around the coast of England.

1615. Have you a pretty good knowledge of the bottoms along our coast? Only from dropping the lines and the kellick. We found the bottom pretty even and regular about half a mile from the shore. The bottom is better the further you go out.

1616. Is there any extent of that sort of bottom? As far as we have sounded—we have been out some two miles—the bottom is very uniform.

1617. Do you think it would be possible for trawling experiments to be carried out on the grounds off our coast which are free from reefs? The system could be carried out, but it might not be successful.

1618. Why? Our fish are different to the old country fish—they are shy.

1619. Supposing there were people inclined to enter into the enterprise, would you be willing to allow them to come here and engage in trawling operations, without having a knowledge as to whether trawling would be successful or not; or would you rather see an experiment tried by the Government, so that no mistake could be made? I would rather see an experiment made by the Government. If trawling could be made a success, there are places I could show you between here and Port Stephens. There is what might be called a gully between the beach and the outside bar; inside of that bar, particularly down within 8 or 10 miles from Port Stephens, fish is to be found in abundance. The fish are there in millions; they are in great abundance; there is an inexhaustible supply there.

1620. In what depth of water would that be? From 15 to 30 fathoms. When we were sailing along there we could see the fish tumbling about in the water.

1621. Have you ever tried well-boat fishing? No; but it is being successfully carried out at the present time.

1622. In Newcastle? Yes, in Newcastle.

1623. Who are engaged in well-boat fishing here? They have only just started; the first freight came in this week. They came in with over 200 schnapper; it is the largest well-boat built in Newcastle.

1624. How long were those people away on their fishing cruise? Not many days.

1625. Did the fish arrive in good order? In splendid condition.

1626. Where were they disposed of? In Newcastle.

1627. So that there is no question about the success of the system? No, provided the weather is favourable.

1628. Do you send any fish by rail? Very rarely; sometimes a few special orders to the north.

1629. Have you done any fish canning, curing, or smoking? Smoking.

1630. Has that proved a success? Yes.

1631. What fish did you smoke? Mullet and jewfish; there is a ready market for all other choice varieties.

1632. Have you had any experience in oyster culture? I have cultivated oysters in a small way; there is no oyster cultivation in this river; I have tried the experiment and found it successful.

1633. You have tried oyster culture yourself, and it has proved successful? Under limited conditions as to area.

1634. During the time you have been carrying on that experiment have you had any disease? No, I could eradicate the disease by the adoption of a certain system.

1635. Would you mind giving the Commission the benefit of your knowledge in that direction? It is too valuable to give away.

1636. You are of opinion that the disease which affects the oyster can be successfully coped with? Certainly.

1637. Are there many natural beds in the Hunter? The river for miles is literally the home of the oyster.

1638. Are there many lessees? According to that report in Parliament the other day there is only one lessee in the Hunter.

1639. Who is that? Mr. Gibbins.

1640. Are there any areas available for leases? For cultivation or foreshores?

1641. Both? I know one place which is second to none in the country for cultivation.

1642. Is not that taken up? No.

1643. Why do you arrive at the conclusion that it is second to none in the country for cultivation? From the natural conditions of the grounds; I have watched the grounds for a number of years. I have seen the same class of ground cultivated in the old country, in the Severn, and there it is a success.

1644. What do you consider makes the best ground for the cultivation of the oyster? The ground that is daily covered by water, occasionally dry; sandy and muddy ground, a mingling of sand and mud.

1645. The foundation must not be too soft? That is so.

1646. Have you ever applied for areas in the Hunter? No; there is one matter relating to our oyster beds and foreshores. Under the present Fisheries Commission a system has been carried out that is, I may say, one cause of the great scarcity of oysters. I refer to the denuding of our mangrove oysters; this is the one great feature that has been wrong in the past; our natural supply of spat comes from the mangroves.

1647. Do you think the Crown lands are availed of to any extent by lessees in procuring oysters for market? Yes.

1648. The lessees obtain supplies from Crown lands and pay nothing for them? Pay nothing for them.

1649.

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1649. Can you make any suggestion to the Commission in regard to the question of letting or leasing the foreshores or portions of a river;—is the present system a satisfactory one? No; it is a wrong one.
1650. Would it be a good thing to lease an arm, or a river, or a portion of a river, for oyster culture, rather than allow the present system to continue in vogue? I would lease no part of a river, neither foreshore nor channel, for oyster gathering. If any of the grounds are leased it should be places where no oysters are for cultivation. Our natural beds should be worked by license only.
1651. Do you believe in the system of paying so much per hundred yards per year, or would you support a proposal to pay by results? Pay a license and by results. I have consulted the men on the river who have been practical oystermen for years. They are willing to pay a license of £5 per annum, and a royalty of 1s. per bag.
1652. Those to be the annual charges in connection with the oyster-beds? Yes; at the same time I would restrict the gathering of oysters from the foreshores, instead of allowing what I might term the parents of our oyster-beds to remain. By taking those oysters away the source of supply is cut off.
1653. You believe the natural oyster fisheries and foreshores should be preserved? Yes, and the river oyster-beds worked; in this way there would be lucrative employment under judicious management for fifty men and boats. That would give you £250 per annum irrespective of the royalty.
1654. You think, then, the oyster fisheries in the Hunter have not had the supervision or the attention they deserved? No.
1655. Do you think they are capable of greater development under proper care? Yes.
1656. Have the Fisheries Commissioners ever visited the oyster-beds here? I have never known of them coming here.
1657. Do you know whether there are any deep-sea oyster-beds? I know of one deep-sea deposit of oysters.
1658. Is it of large extent? It is being cultivated at the present time.
1659. Is it far from here? No.
1660. Is it being worked at all? No.
1661. Being naturally developed? Yes, naturally developed.
1662. About what distance is that from the coast? Within one mile of the coast.
1663. *Mr. White.*] How did you put the oysters down on the bed on which you tried the experiment? When we brought the oysters in in the net I took out a few. I invariably placed them with their mouths up; I did not lay them down on the flat. I have placed oysters down that were no bigger than my thumb-nail; I have watched those small ones and seen them grow and develop until they became a nice table-oyster.
1664. In what time and depth of water? Nine months; the water varied from 2 to 4 feet. I believe they develop better in deeper water.
1665. Have you ever tried any means of collecting spat? No; I have seen spat.
1666. What months have you noticed the spat? You will see spat go off often in the winter-time; but chiefly in the spring and autumn.
1667. You were speaking of disease;—when does the disease generally show itself—after the floods or when? After the floods as a rule.
1668. Are you of opinion the disease comes down with the floods? It may.
1669. How would you let your ground out; for instance, if a man has 500 yards in one place, and 500 yards in another, would you let another man go in between those leases? Yes.
1670. And steal all his oysters? No.
1671. Are you aware that is done? No, I am not; I would not lease the foreshores.
1672. You have never worked oyster-beds yourself? No, and I know nothing about how the beds are robbed.
1673. What months do the prawns spawn? The prawns are very peculiar; they spawn all the year round, except two months in the dead of winter. What they do then it is impossible to say; they are buried. There should be no close months for prawning.
1674. For what reason? Because the prawns virtually close themselves by floods, cold weather, and changes.
1675. Do you think prawns should have a rest for breeding? They rest and breed of their own accord; we cannot benefit them in any way by stopping the catch.
1676. What prices do you get for your fish;—do you sell to the poorer people? I have endeavoured to make fish an article of daily consumption, and in doing so I fix the price so that it is within the reach of all persons. I give a man having a large family more fish for 6d. than I do one with a small family; each gets what he wants for the same price. The people know me, and I deal fairly with them.
1677. You are your own agent;—do the fishermen get proper treatment from the agents as a rule? No, they do not.
1678. Do the agents work for their own benefit instead of the benefit of the fishermen? I maintain they work exclusively for their own benefit. I will tell you why; the last twelve baskets I consigned to Sydney I received nothing for, and for a part of the same catch of fish, I took over the tail of the cart on the same day in the Newcastle district no less than £7.
1679. You stated the fish were shy, what is the cause of that? The water is clearer and warmer than in the old country.
1680. Have you caught crayfish? Yes.
1681. Is it right to catch crayfish with the ova under their tail? Yes; I think so.
1682. Why? The natural supply is always superabundant in everything in nature; the supply is abundant.
1683. Do you know they have stopped them from taking crayfish with the ova on them elsewhere? No; I am not aware that they are prohibited from catching them in spawn elsewhere.
1684. With the quantities of fish you have seen on the coast are you of opinion that tons of fish might be cured and distributed about the Colony as good food for the people? Yes; no doubt about that.
1685. And that fish canning and curing should be undertaken? Undoubtedly. The cormorants and sharks are very destructive to fish life.
1686. *Mr. Thompson.*] Do you think that could be in a measure remedied by offering a reward for the capture and destruction of cormorants and sharks? Yes.

1687. Would you suggest closed areas for crayfish—that is to say, that every year there should be certain areas in which crayfish should not be caught? I cannot possibly give a definite answer to that; I am not acquainted with the supply and demand.

1688. Are you aware that under the old licensing system all the oyster-beds in the Colony were completely stripped, and that the present Oyster Fisheries Act was the outcome of that devastation? Yes.

1689. With that experience before you, why do you suggest a return to the licensing system? I have two reasons; they are that dredging will assist in cultivating the oyster, and by reserving the foreshores you have always a source of supply. The mistake has been in stripping the foreshores and allowing the natural beds to lie idle.

1690. You think, then, the foreshore oysters supply the deep beds with spat? Yes.

1691. Does this spat, when it is shed, cover the whole of the adjacent waters? It covers a limited area, according to circumstances.

1692. Have you in calm weather noticed any considerable portion of the adjacent area covered with spat? Yes, when there has been no adverse influences to disturb it.

1693. As a consequence, when the spat falls, the whole of the water that is covered will become an oyster-bed? An oyster-bed eventually.

1694. Then how is it that the Hunter River and the areas adjacent to the oyster-bearing foreshores are not one big oyster-bed? Owing to the circumstances controlling them—the rush of water, the moving sands, and so forth. Our oyster-dredge is bad, it makes the grounds too even; a proper oyster-dredge would make the ground uneven. The oyster-dredge should have a fork at the bottom; the ground should be kept rough.

1695. Do you think any spat comes in from the sea? Undoubtedly.

1696. Would it avoid subsequent shrinkage of nets if the twine were tanned before being made up? To a very great extent it would.

1697. Do you think it would be an improvement if the several prescribed kinds of nets, with their variety of lengths, sizes, meshes, and different parts, could be abolished, and one net of a maximum length and a minimum mesh substituted for general use in open waters? It would answer well here.

1698. If such an arrangement were enacted, would you object to certain suitable waters being permanently closed against all nets except set nets, in order to insure a permanency of the fish supply? I am thoroughly convinced that that would be the right thing to do, as regards closed waters. Throsby Creek and its tributaries should be continuously closed. I have seen thousands upon thousands of fish outside there.

1699. When using nets in these waters, do the fishermen haul them ashore? Not to the dry ground; we always keep the net in the water.

1700. *President.*] You are secretary to the Fishermen's Association? Yes; it numbers about fifty members.

1701. Are the opinions you have expressed in accordance with those of the persons you represent? Yes.

Mr. Edward Edmund Bull, fisherman, Waratah, sworn and examined:—

1702. *President.*] You are a licensed fisherman, working in the Hunter River District;—where do you reside? Waratah.

1703. How long have you been engaged in fishing operations? About thirty-two years.

1704. What time have you spent in connection with the Hunter River fisheries? About twenty-six years.

1705. Have you a pretty extensive knowledge of those fisheries? Yes.

1706. Have you a fisherman's union? We have an association, but not a union. They met a little while ago for the purpose of sending representatives to attend the conference held in Sydney.

1707. Were you sent as a representative? Yes.

1708. What has been the outcome of that conference;—has any good resulted? No direct good has resulted from it as far as I am aware. I am not aware of any seizure of nets having taken place since the holding of the conference.

1709. How many fishermen are engaged with you in the fishing industry? Three, besides myself.

1710. What does your catch average in a week? About sixteen baskets.

1711. What class of fish? Principally coarse fish—mullet and jewfish—although I would average about two baskets of bream, whiting, flathead, and garfish.

1712. How do you dispose of your fish? I have a local market, and send about four to six baskets per week up country.

1713. Do you realise satisfactory prices in the local market? Oh, dear, no, far from it.

1714. Do you trust to an agent to sell your fish? I sell to a retailer.

1715. Who is really the middleman? Yes; our average price to him is 6s. per basket for good and coarse fish.

1716. Is the market accommodation here satisfactory? Not at all; it is filthy.

1717. Under whose control is it? Under the control of the Corporation.

1718. Have they raised tables to display the fish upon? They have two or three wooden things; they are benches, you cannot call them tables.

1719. Do you send any fish to Sydney? Not at present.

1720. Have you sent any? Very large quantities from Lake Macquarie, Port Stephens, and the Hunter.

1721. Have all your transactions been of a satisfactory character when sending to Sydney? Quite the contrary. I have sent as many as forty baskets per week, and the returns have shown me to be 3s. or 4s. in debt.

1722. Do you think, taking the basis of the prices paid by the consumers, that the fishermen get a fair return for their labour? No; they do not.

1723. Would you favour a system by which the fishermen would be brought into more direct contact with the consumer;—would that be an advantage to them? Decidedly.

1724. Have you ever lost fish in sending to market? I have to complain very bitterly respecting the fish I send up country; there is not a weighbridge at Sandgate; that is the only way we could prevent them being tampered with.

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1725. Do you think if fish were weighed at the station they are consigned from, and then weighed at the other end, that would act as a check, and the railway officials would exercise a closer supervision in order to prevent pilfering? Yes; strictly speaking, the guard has no check on the fish; it is very difficult to get the baskets returned. I lost over thirty baskets last year.

1726. Have you any complaint to make about the charges for the carriage of your fish? They are very high compared with the charges in England and elsewhere.

1727. What nets do you use in the Hunter district? At the present I am using a piece of garfish net in the middle of an ordinary seine. The net, when purchased, was $2\frac{1}{2}$ inches; after being tanned awhile it has gone under the $2\frac{1}{4}$ inches; we cannot afford to get new nets; we have put a piece of garfish net in them, and made a garfish net of the bunt. That is quite a common practice on the Hunter now.

1727 $\frac{1}{2}$. Should the net, when once it has been passed as legal, be considered legal? My idea is, that if I buy a net of $2\frac{1}{2}$ inches I should be allowed to use it. I buy it a quarter of an inch too large when it is first used; before it is worn out it will be a quarter of an inch too small. The only remedy we have is to put a piece of garfish net in to legalise it; it is a great nuisance.

1728. Do you think a fisherman's tools of trade should be taken from him for the first offence? Decidedly not. I would plead very hard with the Royal Commission to try and alter that; and please remember I am not pleading for myself. I have known cases in which families have actually gone hungry owing to fishermen having had their nets seized.

1729. Do you think that punishment by way of imprisonment for a period of, say, not exceeding seven days, or a fine, would be better than taking away the nets? Decidedly; by taking away the nets they frequently lose the trade they have been months in getting. Fine the man certainly; but by no means take his net away; he can make some other use of it.

1730. Do you think a provision making it compulsory for the fishermen to catch and send to market fish of only a certain size would be better than adhering so closely to the different meshes? Yes; very much better. I should say fine men heavily for catching small fish.

1731. Do you think the fishermen would work with a department that did its best to thoroughly develop our fisheries? I do; they would work very much better than at the present time.

1732. You think it is as much to their interest to have the fisheries protected, and to see that they are not depleted, as it is to the interest of the Department of Fisheries? Yes.

1733. Do you know of any unjustifiable closures having been made in the past? I consider that there was no need to close a great many of the waters. In many cases where the waters have been closed fish never attempt to spawn.

1734. Do you know upon whose report these closures took place? I cannot say.

1735. Would it be possible that an inspector would report against a closure, and that the Commission would not act upon that report? I believe that has taken place.

1736. In regard to the administration and control of the fisheries, are you satisfied with the present Board of Commissioners? No, I am not.

1737. Do you think any better means of controlling the fisheries and administering the Act could be instituted? Yes; I feel sure a better plan could be devised.

1738. Have the Commissioners, to your knowledge, paid any visits to these waters? Not to my knowledge.

1739. Would you have heard of their visits if they had come here? I think so.

1740. Do you think the Fisheries Commission, as at present constituted, gives general satisfaction to the fishermen? No; I know it does not.

1741. Would you propose any change? Yes.

1742. In what direction? I should prefer a local board to advise, as every different fishing ground would require special regulations to govern it, each fishing centre to have local government. The fishermen have been ridiculed for not knowing what they wanted; but it is not a difference of opinion—it is a difference of requirements.

1743. Would you have these local boards established to advise the present Commission, or would you prefer to see some change made in the administration of the authority at head-quarters? I should prefer to see a change at head-quarters. We must have one practical man to look after the fisheries of the Colony.

1744. You urge that someone should be appointed who would take a deep interest in the fisheries, and pay periodical visits to the different fishing grounds, so as to become acquainted with local circumstances and requirements, and be advised when and where necessary by local boards of advice? Yes, that would be a good thing for the fisheries. The mode of fishing at different centres varies so much that it requires a man having a practical knowledge of the conditions of the fisheries of the Colony to look after them, and deal with them in a proper manner.

1745. In regard to the Act being administered at the present time, do you take any exception to its provisions besides that making it compulsory on the part of the inspectors to seize your nets? It appears to me a contradiction. I have a garfish net. I am allowed to use $1\frac{1}{2}$ -in. bunt, another man may have a net 2 inches and be fined for it; that appears to me to be an anomaly. Then, in regard to seizing the net, I decidedly object to it.

1746. Have you any objection to one moiety of the fine going to the informer in cases of conviction? Most decidedly I have; I think if a policeman had the same inducement given to him a man dare not go down the street. It means persecution. I have had my net measured five times in two hours for the purpose of provoking me to a breach of the peace. That was done by Assistant-Inspector Curan; I can produce witnesses to prove that.

1747. Do you think the provision operates as an inducement to inspectors and informers to take proceedings against fishermen with a view of getting half the fine? I am quite certain of it. Then again the Act is too stringent; it is both stringent and ambiguous—it is so difficult to understand. I had a net that was just measured; I tanned it; it came on bad weather, and I could not dry it. I did not wish to lose the net. I was going to Port Stephens. I went down there totally ignorant that the tan was still in the net. I set the net one night, and I was fined for it; it was found to be one-sixteenth of an inch under the legal mesh, and my net was seized.

1748. What became of the net? It was returned to me when I was fined.

1749. On whose order was it returned to you? The order of the magistrate. I was kept a month before the case was heard by the magistrate.

1750. Consequently you were deprived of the use of that net? Yes; that is why I give this instance; it shows the injustice of taking the net from me. I had a large custom in the country at that time, and I lost six out of eight of my customers in consequence of not having my net to go fishing.

1751. What nets do you use? The seine. The strong currents in the Hunter prevent us from using more than about 75 fathoms of net. Seeing that we have to use so short a net, I would ask to have the measurements reduced by a $\frac{1}{4}$ of an inch right through; that would do away with almost every garfish net on the river. I would make a suggestion that every garfish net should have a piece of coarser net beneath it; it is incredible the small fish that would go through it, and the catch of garfish would not be interfered with, as they remain on the top of the water.

1752. Do you use a prawn net? Yes.

1753. Is the supply of prawns in the Hunter good? Very good. Were it not for the drying it would be a failure to attempt to get a living; they dry the prawns and get about 5s. per basket for them from the Chinamen.

1754. Supposing it were possible to encourage an export trade in prawns with England, would the fishermen assist and take the matter up in earnest? I think so. Prawns will keep right enough. Properly salted, they will keep six months. A good method is to steam them—that is done in Melbourne—and take the salt out again.

1755. Consignments going from here to Melbourne, well salted, are made almost fresh again by steam? Yes; they sent a man from Melbourne to the Hunter to instruct them in salting.

1756. Have you done any fish-smoking or curing? Yes; largely.

1757. Did it prove payable? Scarcely so. I will tell you the reason, and I would like you to try and remedy it. The present length of the meshing net is totally inadequate for us to make a living; you would require at least 150 fathoms to do anything at all with it.

1758. Do you ask for a reduction in the mesh of the meshing or drift net? I would recommend that there should be no reduction beyond the 3 inches. There are hundreds and thousands of fish killed in a $2\frac{3}{4}$ -in. net; they buy it 3-in., and tan it till it runs under measurement. They have a bad system. They go in the early part of the day and shoot the net; the fish get caught; if it is a hot day, about three out of every six will die. Those fish are taken out at night and thrown away, and the live ones put into the boat. Then, again, that $2\frac{3}{4}$ -in. net destroys a large number of fish that are not marketable—mullet. The 3-in. mesh just catches an 8-oz. mullet.

1759. Have you done any deep-sea fishing? Only with the lines.

1760. Have you a knowledge of the bottoms off the coast? No.

1761. Could you say if it would be advisable to go in for trawling on this coast? My experience shows that unless you had a cove or pocket in the trawl you would not succeed in confining the fish. Fish are very lively in these waters.

1762. Have you ever seen any shoals of fish on our coast? Yes; very large shoals.

1763. What fish were they? A species of herring. I have seen millions of sea garfish and sea mullet. The mullet passed so close to the shore that I saw the miners killing boxes and boxes of them with small dynamite cartridges.

1764. Do you think the herring could be made a marketable product? I am not prepared to say. The herring I have caught lacks the old country flavour. Possibly if the fish were prepared in the same manner as the old country herring, the flavor would be much better. It is a sea herring.

1765. What time of the year have you seen them? The latter end of April, May, and June.

1766. Has well-boat fishing been practised in this district? Yes; a great deal. They pen the fish without food, and they go away to skeletons. It is against their interest to do it.

1767. Sufficient attention is not given to the wants of the fish;—they require feeding to retain their flavour and condition? Yes; schnapper will fatten on boiled potatoes very rapidly.

1768. Do you think the system of well-boat fishing could be brought into use far more extensively? Oh, yes. Their method of capture is very crude. The gear wants more looking after. I think you ought to close waters against line as well as net fishing, especially against the bultow—the long line. I can take you out any day Friday, and show you a hundred of those lines up the river. They cause great destruction, and are a very great nuisance to net fishermen.

1769. Have you engaged in crayfish fishing? Yes.

1770. Are they in great quantities on this coast? Yes. They are adopting the home lobster pot. I think it was the Greeks introduced them. If the pots were larger and more open it would be better.

1771. Do you think it is necessary to have a regulation prohibiting the sending to market during the spawning season of crayfish? Certainly; I am in favour of such a regulation. I would punish anyone sending female crayfish to market while in spawn. I have often wondered why a law could not be passed prohibiting them from taking crayfish heavy with spawn. I am also in favour of judicious closures.

1772. In regard to the oyster industry in the Hunter, have you watched its progress? Yes; very closely.

1773. Do you find the beds prolific? They would be. You should remove all the shells. So long as those shells are allowed to remain on the beds, so long will the worm be there.

1774. It amounts to this then: you would have a regulation prohibiting the deposit of cultch where oyster culture is carried on? Scarcely that. I would compel every lessee—I am not in favour of leasing at all, but in favour of licensing—to denude the bed of shell. Then if you want to get the young oyster to develop quickly, procure some small rubble. The oyster will adhere to glass bottles, old boots, or anything. I am quite sure small rubble stones would answer the purpose well. I would take the whole of the shells away. I could show you beds that have been denuded of oysters for years. The shells are still in the Hunter. If you put good oysters on them the disease will attack the new ones; that stands to reason.

1775. As to the system by which the foreshores are leased, do you agree with the present system, or could you suggest anything that would prove more satisfactory? I would suggest the licensing of the centre of the river, and the leasing of the foreshores. I have never seen oyster culture attempted in this river. According to the American and other systems they cultivate them the same as you would potatoes and cabbages; they cultivate them properly. I have never seen oyster culture here. Another thing in the Act I complain of very much. Certain portions of the ground are reserved for public purposes, where the public can get a few oysters, but they are taken.

1776. By whom? The lessees.

1777. And are those oysters sent to market for sale? I could not say.

1778.

Mr.
E. E. Bull.
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- Mr. E. E. Bull. 1778. Is it likely they are? In all probability they are. I would license the centre of the river, and lease the shores.
- 15 Mar., 1895. 1779. In regard to the system of leasing, would you be inclined to lease the whole of a river, or an arm of the river, or continue the present system? I would not allow any man to take over a certain quantity; it becomes monopoly then, and that the fishermen want to guard against. In the very near future you will find men will lease if possible the whole of the river, and employ foreign labour to work it. I have to complain very seriously of aliens, as I term them. If they wish to become respectable citizens and remain here, let them get naturalised. They come here and indiscriminately destroy everything. They use a legal prawning net of great depth—it is really a sunken net; some of them are 400 meshes deep.
1780. Is it heavily weighted? Not heavily weighted; it is lightly corked.
1781. Would a net like that dragged over feeding-grounds cause great destruction? Yes, but that is not all; they take out the marketable prawns and other small fish; they do not put them back into the water again. They put them into a big cauldron, and stew them for hours. That is their principal food; it forms into a jelly. And then again these men do not settle down and become citizens. They kill hundreds of baskets of small fish. As soon as they get a few pounds, they clear out from the country.
1782. *Mr. Thompson.*] Would you refuse a license to aliens to fish? Let them get naturalised.
1783. Would you advocate the selling of cleaned fish? Most decidedly.
1784. Would it be an improvement if the several kinds of nets prescribed by the Fisheries Act were done away with, and one net of a maximum length, say 300 fathoms, and a minimum mesh, say 1½ inch, were substituted for use as a general net in open waters? It would be, with the exception of the prawn net, which should be lengthened.

Mr. Hans Andersen, Superintendent of Mr. Gibbins' oyster fisheries, Hunter River, sworn and examined:—

- Mr. H. Andersen. 1785. *President.*] You are superintendent of the oyster fisheries in the Hunter belonging to Mr. Gibbins? Yes.
- 15 Mar., 1895. 1786. How long have you held the position of superintendent? Twenty years.
1787. Have you devoted your attention to the oyster fisheries here during the whole of that time? Principally so.
1788. Were you an oyster lessee yourself? Yes.
1789. How long ago? Up to two months ago.
1790. Where are your leases? On the Hunter.
1791. Why did you discontinue your leases? I transferred to Mr. Gibbins.
1792. Did you find it profitable? I did with the first lease; but the last ten years we have been troubled with the worm disease.
1793. Can you account for the appearance of the worm in the oyster? No; they are in the ground; they come at certain times of the year.
1794. What area has Mr. Gibbins—several thousand yards? Yes.
1795. How have you found the condition of the water and the features connected with the Hunter River act with regard to oyster culture;—do the oysters there develop quickly? At times they do. It is a great deal according to the weather and the water. No spawn sets in heavy freshes.
1796. Are all your beds deep-water beds? Most of them; we have foreshores, too.
1797. Mangrove leases? Yes.
1798. How do they do? They have done nothing since 1893; the floods killed them then.
1799. Have you laid any artificial beds? Yes; time after time, but all died.
1800. Where did you get the spat from? Port Stephens, Brisbane, and almost every river on the coast, as well as New Zealand. Port Stephens was the best; they keep the longest.
1801. What was the cause of the beds not doing so well? The worm disease; it comes at a regular time every year.
1802. About what time does it come? The latter end of November and the commencement of December.
1803. Are you taking any oysters off the beds at the present time? Yes.
1804. Are they all good quality? Yes.
1805. What quantity per week? I have two men working; about twenty bags per week in fine weather.
1806. What do they realise per bag in Sydney? I cannot say; I get 15s. per bag selling here.
1807. Are there any other lessees besides Mr. Gibbins in the Hunter? There was one; he has forfeited.
1808. Has Mr. Gibbins had any of his leases cancelled? Three of them; he could not use them. They were not suitable for oyster culture.
1809. Is the worm the only disease that affects the oyster here? That is all.
1810. Did it ever in one year strip the whole of the beds? In one year it stripped the whole lot; you could go all over the beds and not find a live oyster.
1811. Can you form any idea as to the origin of the disease? No, I cannot; it comes at a regular time every year.
1812. Have you ever dredged up the ground on which the oysters are laid to see whether the worm exists there? We dredged up the shells and bad ones. I employed six men at it. Still the disease made its appearance.
1813. Do you believe in the present system of leasing? I do, if properly carried out.
1814. You believe in proper supervision being exercised? Yes; as long as the beds are properly worked they can be brought back into good condition—not like some of the beds which were stripped, and no chance given for preserving the immature oyster spat.
1815. Would you favour the idea of leasing an arm of a river, or the whole river, or a portion of it, instead of the present system of allowing persons to take up 100 yards here and there, the lessee to pay according to results—so much on every bag of oysters? That would be fairer to the lessee.
1816. Would you, in addition to that, impose certain restrictions compelling persons to exercise due care, and take a proper interest in the beds? Yes.
1817. How long does it take an oyster to come to maturity from the time it is laid down? When it is first formed you can only see it with a magnifying-glass. It takes twelve months from the spatting age here. In other rivers and waters it takes longer.
1818. That would be in deep-water layings, where they are fully covered? Yes. 1819.

1819. The foreshore oysters, how long would they take to develop? In some places a long time, in other places they grow quickly.
1820. Have you used any artificial means for catching spat? No.
1821. You have not deposited any culch on your oyster layings for the purpose of catching deposits of spat? No.
1822. Have you ever noticed any indications of deep-sea oyster deposits? No.
1823. I suppose your knowledge of the fisheries other than oyster fisheries is only limited? Yes.
1824. As to the size of oysters, do you think the size prescribed under the Act is large enough for a marketable oyster? Yes, it is. There is a difference in oysters; some of them are very full, although not quite up to size.
1825. So that a marketable oyster could pass through the ring, and in such a case you think a man should not be prosecuted? No.
1826. How would you guard against the sending of oysters of an unmarketable size to market? The men who get the oysters should be punished.
1827. You think that stringent supervision would have the effect of preventing the sending to market of unmarketable oysters? Yes, I do.
1828. Have you, during the time you held leases, and since you have been manager for Mr. Gibbins, ever known of a visit being paid to the district by any one or all of the Fisheries Commissioners in Sydney? No; I have had none of the Commissioners down here.
1829. *Mr. White.*] Do you suffer from oyster stealing at all? Yes; a great deal.
1830. Do the inspectors help you to try and detect the thieves in any way? No, never.
1831. Have you ever noticed whether the bags of oysters brought from Port Stephens by steamer are properly branded? A number of the bags are not branded according to law.
1832. Do the inspectors ever interfere? Not to my knowledge.
1833. Have you any inspector here? Not at present.
1834. *Mr. Thompson.*] Would you advise the return to the old system of licensing? No. That was the greatest mistake ever made in this fishery.
1835. You recollect what the President said to you about the suggested system of charging for oyster-beds by results;—what would be a fair royalty to charge on a bag of oysters? I can hardly answer that question.
1836. Do you think a larger fee should be paid for a deep-bed oyster than for a foreshore oyster? No; I do not.

Mr.
H. Andersen.
15 Mar., 1895.

Mr. Hartley Spur, fishmonger, Newcastle, sworn and examined:—

1837. *President.*] You are a resident of Newcastle, carrying on business as a fishmonger here;—how long have you been engaged in that business? About twelve years.
1838. Is your business an extensive one? Not at present; it has been.
1839. How do you account for the falling-off? When I started here, nearly twelve years ago, there was only one alien in the place—a Greek or an Italian, I forget which. At the present time, I believe I am the only white man getting a living at the business in Newcastle.
1840. In other words, these aliens are engaging in the same line of business as you did twelve years ago? Yes.
1841. How do you obtain your fish and oyster supplies? From the Hunter River, Lake Macquarie, and Port Stephens. I purchase directly from the fishermen themselves.
1842. Do you make an arrangement for the year or according to the quality of the fish? With regard to prawns, I engage to take my supply from a certain party from October to the last day of May—our prawning season. With regard to fish, I make an arrangement to take my supplies from certain boats; if they cannot supply me I have to go elsewhere.
1843. I understand there are no properly conducted market sales in Newcastle? No; I have been a tenant on the market wharf, Newcastle, for eleven years. I have had one stand continuously, sometimes three. I have a wife and family to support, and have to live decently; the aliens—you can see it on the market wharf yourselves—have a little room about 11 ft. x 10 ft. This is occupied by three Greeks. These men, of course, should be earning men's wages. I have to compete against them, and it is a natural thing, from their mode of living, that they can undersell me, because the wages of the three combined should be three times more, and their expenses are not one-third of mine.
1844. When using the word alien, do you refer to persons who have not been naturalised? Yes; I am informed that they are not naturalised. I was so informed by the police.
1845. And your contention is, I suppose, that these people, before they are allowed to engage in the business in competition with our own people, should be naturalised? Yes. What I would say is that our fishmongering business should be licensed the same as the fishermen. Then I think we would have a more respectable class of men engaged in fishmongering than at present. I am a good salesman and a good curer. That is how I have been able to compete against these men, for the fish these men would have had to throw away I have cured and turned into a marketable commodity.
1846. You think that if a proper licensing system were instituted, and better control established, it would be better for the industry? I am sure of it.
1847. Have you done any fish-curing? I have sent fish I have cured from here to San Francisco, and it has come back again in good condition. I have orders for as many as I can supply.
1848. What fish do you cure? The sea mullet—any mullet—bream, schnapper, whiting, flathead. I can cure any fish.
1849. Do you smoke them? Yes; or salt and dry. We have a great industry coming on at the present time in the river here. I refer to the drying of prawns.
1850. Do you think further developments might take place, and that the industry might be carried on successfully if the smoking, curing, and canning of fish were practised? I do.
1851. You have had experience in sending fish from here to San Francisco? Yes.
1852. Do you think a similar experiment could be made with prawns? Of course. I have sent prawns from here to China. I am sending them now in a dried state.
1853. Do the prices you realise pay you for your trouble? Not now. Times are bad with the Chinamen as well as ourselves.

Mr. H. Spur.
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- Mr. H. Spur. 1854. Do you put the prawns to any advantage locally in the way of curing them? Only a few Chinamen around here use them. I do a good bit of trade with them for their countrymen in the interior.
- 15 Mar., 1895. 1855. Do you consign any prawns to Sydney? I send a few in a fresh state. I used to send a great quantity. Since these Greeks have come here one of them will buy here for his countrymen in Sydney, Melbourne, and Adelaide. There is one thing I should like to mention to the Commission; it is with regard to crayfish. I once bought 47½ dozen of crayfish. Out of that quantity I believe there were 44 dozen she fish; out of that 44 dozen I believe 40 dozen of them were in spawn. Now, according to my reading of Professor Huxley, these fish contain an enormous quantity of ova. Our fishermen are destroying them. The consequence is, next season the fish are scarce and dear, and I cannot go into the market and sell them to the miners at the price. The miners are the principal buyers in this district.
1856. Would you be in favour of a provision in an Act prohibiting the taking of female crayfish with the ova attached? Yes; I would have a close season for them; I would not allow them to be touched.
1857. How are the oysters in the Hunter? Growing very fast at the present time.
1858. Are they of good flavour? The best flavoured I have bought in the country.
1859. Have you noticed any indications of disease in the oyster? Some of the old oystermen say there is a disease, but I have not seen it. I bought a bag of oysters a fortnight ago, and out of that bag I could not get a bucketful fit for the plate.
1860. Were they undersized? They were undersized.
1861. Your statement warrants the assumption that some supervision is necessary to see that oysters of a marketable size are sent to market? Yes, certainly.
1862. Mr. White.] Do you purchase oysters from the Port Stephens steamer? Yes.
1863. Are the bags properly branded according to law? I suppose they are. I am not supposed to take notice of those matters. I am not an inspector.
1864. But you are supposed to see they are branded. Do you buy oysters privately from anybody at the steamers? Yes; through the owner of the steamer, or through the agent on the steamer.
1865. Who do you buy from? Clayton and Kennedy, of Port Stephens.
1866. About what price do you pay on an average? All prices. I paid 15s. per bag for the last I bought. I have paid as high as £2 2s. per bag.
1867. What price do you get for your prawns in China? At the present time about 4½d. per pound dried; that would be about 4s. per basket.
1868. What wood do you use in smoking fish. If I can get the oak I use that. I use sawdust mostly. I believe the oak gives the best flavour, and the ordinary cedar sawdust.
1869. Mr. Thompson.] About the crayfish: Are you of opinion that the female should not be sold when in spawn? Yes.
1870. Do you think that instead of preventing the females from being sold it would be desirable to close certain places where the fish congregate? I would leave them open, but I would make the fishermen put the female crayfish back again.
1871. Would you recommend that aliens should not be licensed to fish unless they become naturalised? I would. I have no objection to them as men, but let them comply with the same conditions as we have to comply with; let the municipal authorities deal with them as we are dealt with.

Mr. Henry Limeburner, fisherman, Newcastle, sworn and examined:—

- Mr. H. Limeburner. 1872. President.] Your name is Henry Limeburner, and you reside in Newcastle;—how long have you lived here? About fifty years; I was born here.
- 15 Mar., 1895. 1873. Have you a good knowledge of the fisheries in the Newcastle district? I have done no net fishing, but have done a good deal of schnapper fishing outside.
1874. Have you given particular attention to the outside fisheries? I have fished outside for a living.
1875. How long have you actually been engaged in line fishing? It is thirty years since I first started fishing outside.
1876. Comparing the state of the fisheries thirty years ago with the present time what would you say of our fisheries at present? Well, you could go outside then and get plenty of fish; but all the old fishing grounds seem to be deserted now.
1877. What is the cause of that? Some say the silt here; but I cannot say. There is plenty of fish to the northward, especially about the Solitary Islands.
1878. Then you do not find the fish in such numbers now on the old grounds as you did in the early days? No.
1879. Does the Harbours and Rivers Department empty punts of silt near the fishing grounds? Yes.
1880. Do you think that by emptying the silt on those grounds it would be likely to cover the food on the grounds? Yes, I do. The rocks to the northward were very rugged at one time; now they are much smoother than they were. That, I think, is owing to the silt lying on them.
1881. Is the current very strong? About a couple of miles an hour. It runs southerly, and sometimes I have noticed it running northward.
1882. How far off the coast would that be? About 3 miles.
1883. Have you ever fished at any greater distance from the coast? I have fished off Catherine Hill Bay, about 4 or 5 miles out at sea, and got fish.
1884. Did you get schnapper there? Yes.
1885. Did you get schnapper in payable quantities? Oh, yes; we got a good many at the time at that distance. I had a little steamer about twelve months ago; I sounded outside where we were getting our fish; I sounded for 8 miles out from the coast, north and south, and found a smooth bottom—all sand.
1886. For what distance did you make those soundings? About 10 miles.
1887. Do you think that bottom you discovered would be suitable for trawling? Oh, yes, I am certain of it; there are no rocks there? There was an old fisherman at Lake Macquarie who used to go out 8 miles due east from the lake entrance, and he got good schnapper, good fish, any amount of them. This was some years ago; I fancy there are rocks where schnapper congregate at that distance out.
1888. Have you ever tried the well-boat system of fishing? No; I had a little steamer, but she had no well. We had a big tank on deck, but it did not answer very well—we could not get the proper temperature of water.

Mr. H.
Limeburner.
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1889. Do you know of any other person who has tried the well-boat system, and, if so, can you say whether it proved a success? Yes; three boats went out to-day. There are three well-boats running here regularly.
1890. What market do they supply? Newcastle.
1891. And do the fish live in the wells? The new boat that has just started running came in the other day with at least 400 schnapper in the well.
1892. How long had she been out? Inside of a week; it was her first trip. They caught the fish off the Manning River.
1893. When you were fishing outside, did you simply use the one hook and line? Sometimes we used three or four hooks on one line. I have caught as many as three or four schnapper on one line off Broughton Islands, about 8 miles to the north of Port Stephens.
1894. Was that lately? About twelve months ago.
1895. Are you in favour of the adoption of the well-boat system? Oh, yes; the fish keep well enough outside, but when they come into the harbour they seem to die.
1896. Of course you have noticed the difference between the water in the harbour and in the open sea; is it not possible to account for the fish dying from the fact of the water being polluted? Something of that sort; yes, it must be so.
1897. Have you caught other varieties of fish besides schnapper? All sorts.
1898. So that anyone entering upon the industry would not be dependent solely upon schnapper? No; there are all sorts of fish. Sometimes, at the Broughton Islands, I have seen the sea alive with mackerel.
1899. Do you think those mackerel could be turned into a marketable commodity? Yes; if they were cured straight away.
1900. You have had a good deal of knocking about on the coast? Yes; ever since I was a boy.
1901. Have you ever seen any shoals of fish on the coast? Yes.
1902. What were they? Tailer; I have seen schools of sea mullet; but I have not seen any sea mullet yet this year.
1903. Did you ever come across any species of herring? Yes; I have seen them in this harbour, and I have seen them outside. The fishermen caught what they said was the true English herring in the river; it was displayed in the market; they said they caught it right at the top of the Williams River.
1904. It has been asserted that shoals of herring pass our coast from south to north; is it not possible the shoals of fish you have seen might have been a species of the herring? It is quite possible.
1905. Had the water any peculiar oily appearance while those shoals of fish were travelling? Oh, yes; the sea looked quite smooth along the wake of the fish as if you had thrown oil on the water.
1906. Would you consider the tailer an oily fish? No.
1907. Have you ever used the long lines—bultows? Not outside; we were going to use them. I was persuaded not to do so; it is a terrible place for sharks.
1908. Have you ever engaged in fish-curing or smoking? Never; I remember on one occasion I got a calm near Lake Macquarie, and I caught eight or ten dozen schnapper off Bird Island.
1909. Have you ever seen whales on the coast? Oh, yes.
1910. Do you think, if the whaling industry were followed up it could be turned to profitable account? I think so; I have seen dozens of whales on the coast. I have seen no sperm whales.
1911. Could you distinguish between them? Yes; there is a difference in the spouting. Black whales are very numerous at times; there are any amount of sharks here also at times.
1912. Have you ever seen any evidence of oyster deposits outside? No.
1913. When you brought your catch into Newcastle, was it subjected to any inspection to see it was fresh? No; we had our customers, and we sold to them.
1914. Have they good market accommodation for the sale of fish in Newcastle? They have a sort of market here; there ought to be something better than we have at present. They have a few old stalls; I do not think they get scrubbed from one end of the year to the other.
1915. Do the fishermen themselves sell to the public? They sell to the hawkers who retail to the public.
1916. What bait did you use for the schnapper? Starfish used to be a great bait of ours, and mullet and tailer fish.
1917. Did you ever try the red rock-cod;—is that good? Yes; I do not care much for it.
1918. Have you ever done any crayfishing? You will find plenty of crayfish outside the heads here.
1919. Do you think there should be a restriction prohibiting the supply of crayfish when the females are heavily charged with spawn? They ought not to be allowed to take them when they are in that condition.
1920. Are the catches the well-boat people bring into Newcastle readily disposed of? Yes; they get away with them pretty quickly; three days ago they had about 600 schnapper; they sold readily at very fair prices.
1921. *Mr. White.*] You think there should be protection afforded to the female crayfish when in spawn? Yes.
1922. Do you think it a desirable thing to prevent aliens from fishing unless they become naturalised? Yes; it would be the best thing that ever happened; no one gets a chance with those fellows now.
1923. *Mr. Thompson.*] What length of time is a crayfish in spawn, that is, from the appearance of the coral to the falling off of the egg or berry attached to the tail? I cannot tell you.
1924. Are not the fish when in the coral stage considered rather a delicacy? I have heard them say so; I would rather have them the other way.
1925. Supposing it to be a delicacy, it might be thought rather hard to deprive the public of it;—would it not suit all purposes if certain portions of the coast were closed against taking the crayfish for a certain season leaving other portions open; do you not think something should be done in that way to preserve the continuity of the supply? Yes; it would be a good thing.

LAKE MACQUARIE FISHERIES.

SATURDAY, 16 MARCH, 1895.

[The Commission met at the "Toronto Hotel," Lake Macquarie, at 10.15 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. George Parker, fisherman, Lake Macquarie, sworn and examined:—

Mr.
G. Parker.
16 Mar., 1895.

1926. *President.*] You reside at Toronto, on Lake Macquarie;—what are you by occupation? A fisherman; I have been fishing for twenty-five years.

1927. Have you been fishing in Lake Macquarie all that time? Not all the time on the lake—about seventeen years.

1928. Have you anyone else associated with you? Only my son.

1929. You will, of course, have a good knowledge of the state of the fisheries in the lake seventeen years ago, and their condition at the present time? Yes.

1930. Can you tell the Commission whether there has been any depletion in the fish supply in the lake, comparing it with what it was seventeen years ago? There is not so much fish in the lake now as there was.

1931. What is the cause of the depletion? More boats and more fishermen; seventeen years ago we could only count five boats, and only three out of that lot were practical fishermen. I suppose there are about fifty or sixty boats on the lake now; the place gets hauled over and over again.

1932. What varieties of fish do you catch here? Garfish, bream, mullet, and blackfish; we catch blackfish mostly. Seventeen years ago there was plenty of bream and whiting.

1933. Was the lake greater in extent years ago than now? No, it was not wider; it was a bar-harbour; at low-water it used to run very shallow; it has been dredged since.

1934. An entrance has been made for purposes of navigation? Yes, for navigation; and it has given more water for the fish to go in and out.

1935. How did you send your fish to market seventeen years ago? By steamer to Sydney, and we used to send from Belmont to Newcastle; they used to get knocked about a good deal.

1936. What is the average catch of you and your son per week? From nine to ten baskets.

1937. And what is the average price you get as a return per basket? Not more than 3s. or 4s. lately.

1938. How do you send your fish to market now? The train takes them from Toronto to Fassifern; from thence they are taken to Sydney by rail.

1939. Do you consign to an agent in Sydney? Yes.

1940. Does he send you your returns at the end of the week? We get our returns every Tuesday,

1941. Are those returns of a satisfactory nature? As far as we know, we have our doubts; it is very easy for our fish to fetch £10 in the market, and for the bill to be made out for £5 for the fishermen.

1942. You think you do not get fair value for your fish compared with what the consumer has to pay for them? Yes, that is so.

1943. If you got even one-half of what the consumer pays, would you be satisfied? Yes, we would.

1944. Would about 1d. per pound all round pay you very well? Yes, very well. The only way we have of making a few shillings is to sell our fish at the wharf, and it is then sent up country. They give us 10s. and 12s. for bream and garfish, and 8s. for blackfish and mullet.

1945. Who are the people who send fish up country? Mr. Sheddon. Last winter he took about fifty baskets per week from the men on the lake; there is a bigger demand for fish in the cold weather.

1946. You say there is a bigger demand for fish during cold weather, is that because of the absence of any means of sending fish away to the country during the hot weather? Yes.

1947. If the Railway Commissioners were to provide a refrigerating car would it be availed of to any considerable extent by the fishermen, or men like Mr. Sheddon to send fish throughout the country? Yes, it would.

1948. Where does Mr. Sheddon send the fish to? Armidale, Glen Innes, Tamworth, and Maitland.

1949. How do you send your fish to market? In baskets.

1950. Have you tried packing in cases? Yes, fish keep better in baskets in the summer, they get more air in the baskets.

1951. During your experience have you had any occasion to complain of your fish being pilfered? Yes, when we sent by steamer our baskets were opened, and we got returns for half baskets instead of the full baskets which we had sent; it was stolen on board the steamer or between the steamer's wharf and the market.

1952. Have you had reason to complain since you have sent fish by rail to market? No; the only thing we can complain of is the way they knock the fish about. Those guards throw the fish about as if they were throwing stones about—eight or nine baskets in a heap.

1953. You think sufficient care is not taken by the officials to protect the fish from injury during transit? They do not take sufficient care. I have seen the guards throw baskets about in any way at Dora Creek.

1954. Are you satisfied with the freight charges made by the Railway Commissioners? Yes; they made a reduction some time ago.*

1955. Are your baskets returned free? Yes; the only thing we complain of in that way is that the baskets are put out at the wrong stations by the guards.

1956. Have you lost any baskets? Numbers of them.

1957. What do they cost you? We used to pay 7s. 6d. each a few years ago; we get them now for 6s. 6d. and down to as low as 3s. 6d. My brother sent over twenty baskets, for which he paid 6s. 6d. each, and in a fortnight he had them all stolen with the exception of seven.

1958. Do you think that could be avoided if proper attention were given by the railway officials? Yes.

1959. Do you think they might be lost in transit between the railway station and the market? Yes; they are carted from the market to the train.

1960.

* NOTE (on revision):—"Toronto, Macquarie Lake, March 28, 1895. The President, Royal Commission on Fisheries. Sir,—When you were here lately inquiring into the fishing industry we were given to understand that the railway freights for fish were lowered; but instead of 10d. per basket (the old charge), I find since you were here it has been increased to 1s. 1d. Considering the state of things, and the price we get for our fish, after deducting railway freights, cartage, market dues, commission, &c., the fisherman has very little to support his home with.—GEORGE PARKER."

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1960. Is a consignment note made out for the returned empties? When we send fish away we get a consignment note; but I do not know whether the agent gets one when sending our empties back.
1961. Have you a knowledge of the fish market at Woolloomooloo? Yes.
1962. Is that market all that could be desired? No; I do not think so.
1963. Could any improvements be effected in it? Yes.
1964. In what way? I do not agree with putting the fish in heaps on the floor, where they are trodden upon and people spit upon them, and otherwise damage them. I believe in the system of displaying them on raised tables. That would show the fish off to better advantage, and be better all round.
1965. Do you think the market central enough? No; it would be better to have a main central market in the town, near the railway station. It would be more convenient, and it would be a saving to the fishermen; they would save a lot of expense in carting. At present we pay 5s. per morning for carrying our fish from the station to the market. That is the charge for one basket or twenty baskets.
1966. You think if you had a central market that handling could be avoided? Yes; the fish would go straight from the train to the market.
1967. Supposing a system was adopted by which the fishermen could be brought into closer communication with the consumer, would that be better than the present system of relying solely upon an agent? Yes, it would; we would save on our commission. We pay market dues and commission, amounting to 2s. in the £, and we should know what we were getting for the sale of our fish.
1968. Have you ever used the cold-storage chamber? No.
1969. Do you believe in having only one sale per day at the market? I believe there ought to be sales during the day; have the market open all day, then the fishermen could send their fish to market by any train.
1970. Are there any provisions of the Fisheries Act that operate harshly in Lake Macquarie; I mean in respect to the meshes and nets? Oh, yes; that is the greatest thing against us—not allowing us for the shrinkage of our net.
1971. In that answer do you refer to the question of prosecution for fishing with nets of illegal meshes? Yes.
1972. Do you believe that when a net is passed by the inspector as being legal, and it has been used by the fishermen, it should be recognised as legal until it is worn out? Certainly I do; until it is worn out.
1973. Have you taken the precaution in purchasing your net to obtain it with a larger mesh than is legal? Yes.
1974. What have you allowed for shrinkage in the case of the hauling net? Well, we have got the net here $3\frac{1}{2}$ inches; it has shrunk $\frac{1}{2}$ inch after two or three tannings.
1975. Then you do not believe in having your nets confiscated after they have shrunk through the process of tanning, and have become to a certain extent illegal? No, it is wrong.
1976. Supposing those nets were handed back to you, although they were illegal, could you make them into a legal net? No.
1977. Could they be made into a legal net in other places? They could in other places; they could make the net into a prawn net or garfish net in other places. We do not use those nets here.
1978. You used to fish with, and were only allowed to use, 150 fathoms of hauling net? Yes.
1979. Did you suffer any hardship in being limited to that size? Yes; we only just make a living with the 300 fathoms.
1980. Still you hail with a degree of satisfaction the action of Parliament in passing an Amending Bill giving you an extra 150 fathoms? Yes; it was an act of justice to the fishermen.
1981. Do you believe using the extra length of net prevents the constant hauling of the ground to a certain extent? Yes; the longer the net the less hauling, and the less fish destroyed.
1982. Are you satisfied with the length of the hauling net, or do you ask for any alteration? We are satisfied with the mesh; but we feel an allowance should be made for shrinkage.
1983. Do you think that cases arising out of seizures of nets should be dealt with immediately, so that the fishermen might not be kept waiting a month or so to know the result? Yes, certainly.
1984. Would you favour a provision in an Act giving power to fine a man, or make him go to gaol for a term, say, seven days—would that be better than taking away his tools of trade? Yes, it would be better.
1985. Do you use a drift net here—a meshing net? Yes.
1986. What other kinds of nets are used here? A garfish net, a mullet net, and the set net; then we have a net called the diver, we use it for bream. It will catch any fish where it will float, but in a certain depth of water it will not float. It is what they call a sunken net.
1987. Have they a purse in that net? No.
1988. Do you think a stringent provision in regard to the catching and sending to market of undersized fish would be better than bothering so much about the meshes of nets? Yes, I think that would be better than anything. Every one of the fishermen on the lake wants something like that carried into law.
1989. Do you haul nets on to the beach? In some places, not all. In some places we land in 2 feet of water, against a back net.
1990. Do you take every precaution to prevent the destruction of young fish? Yes; it is to our own benefit to save all the small fish we can.
1991. Are you troubled with the blubber? Yes; in the summer-time more than in the winter.
1992. In regard to the bunt of the hauling net, do you think it is the size of the mesh which protects the young fish? There is a $2\frac{1}{2}$ -inch mesh used in the bunt. There are small schnapper, bream, and tarwhine which will just get caught by the gills. As soon as they are caught like that they are strangled. A smaller mesh would be far better; there would be much less destruction of fish. We could always shake those small fish up into the bunt, pick the big fish out, and throw the little ones back into the water.
1993. Do you think a provision making it compulsory on the part of the fishermen to empty their nets in, at any rate, not less than 6 inches of water, would be a hardship? No; it would not. They could always manage that.
1994. I suppose where the flue of the net is, there would be a foot or more of water? Oh, yes; there would.
1995. Do you believe in that provision in the Act which provides for one moiety of the fine being paid to the inspector when he succeeds in obtaining a conviction against a fisherman? No; I do not see why it should

- Mr. G. Parker. should be given to the inspector. That is what makes them so anxious to seize our nets—their getting half the fine. They ought to be doing other work than seizing fishermen's nets.
- 16 Mar., 1895. 1996. You say you have been here about seventeen years? Yes.
1997. Who is the inspector here at the present time? Mr. Aldrich.
1998. How long has he been here? About two years or a little over.
1999. Who was here before Mr. Aldrich? Mr. Boyd, who is a resident on Lake Macquarie.
2000. How long had he been charged with the control of the fisheries here? Ever since the passing of the Act. I know he cost me about £50 the first time he came here.
2001. Did you consider him a good active assistant inspector? Yes.
2002. Have you ever seen any of the Fisheries Commissioners down here at Lake Macquarie? No; I have not.
2003. Have you ever heard of any one of them, or all of them, visiting this place? I think Dr. Cox has been here.
2004. Do you remember the date of his visit? Sometime after last Christmas.
2005. Where did he go to? To Swansea. I believe he had a steamer hired; he was supposed to use a trawl on the lake, but I only heard this.
2006. What is your experience of the working of the Fisheries Act;—has it been satisfactory to you? No; it has not been satisfactory to us.
2007. Would it be better to make a change in the administrative authority in Sydney; I mean in the way of altering the constitution of the present Commission? Yes; I think so.
2008. Can you suggest anything in that way that would be likely to suit the requirements of the fishermen generally? Yes; I would suggest the appointment of a qualified and practical man who should have control of the fisheries of the Colony a man who would give full attention to our requirements and see into what we want. This would be beneficial to the fishing industry. I am speaking now on behalf of the other men on the lake. I have often heard them say that is what they want.
2009. Would you object to the appointment of local boards to advise, such boards to be constituted partly of representative fishermen, their object being to advise the head authority as to local matters? I think that would be a very good thing indeed.
2010. Why do you desire that sort of thing? On account of the different circumstances and conditions attaching to the different fishing-grounds. For instance, the fisheries of Lake Macquarie are totally different to those of the Hawkesbury, Port Stephens, or the Hunter.
2011. Did the fishermen of Lake Macquarie send any representatives to the conference which took place in Sydney a little while ago? Yes; Mr. Hannell and my brother went.
2012. Have you received any benefit as a result of that conference? We have relied on the interest you, Mr. Farnell, have taken in connection with the development of the fisheries to give us some remedial legislation. All we require to put things on a proper footing is a just law and proper facilities for getting our fish to market, and a better distribution of our fish. I may tell the Commission that we want some change. I have sent sixty baskets of good fish to Sydney, and all I got as a return was 1s. 6d.
2013. Have you had any experience in connection with well-boat fishing? No; I have seen them used outside for schnapper fishing.
2014. Have you had any experience of deep-sea fishing? No; I never did any.
2015. Have you done any crayfish fishing? No; most of that is done at Port Stephens.
2016. Have you done any fish curing or smoking? Yes; I have a man next door to me who does curing. He sent fifteen dozen of smoked fish up a week ago.
2017. What fish were they? Mullet.
2018. What return did he get for the fifteen dozen smoked fish? 17s. for the lot, and a basket of fresh fish thrown in.
2019. Were they sold by the agents? He did not know how they were sold; they were sent to the Redfern market.
2020. Are there any prawns in Lake Macquarie? Yes; plenty of prawns.
2021. During the whole year round? They are very plentiful during the summer.
2022. Do you make a marketable commodity of them? No; we do not send any to market.
2023. Is that because you have no means of keeping them fresh? Yes.
2024. Are there any oysters in the lake? A few scattered about in the lake; we have dredged in the lake to see if they were on the bottom, but never got any.
2025. During your travels on the sea-coast have you ever seen any evidence pointing to the existence of deposits of oysters in the sea? I have seen spawn on the rocks away from the inlets; it is possible that spawn came from deep-sea deposits of oysters.
2026. When do the sea mullet show in the lake in any quantity? April is the best time for them.
2027. When do the garfish make their appearance? The river garfish come in about the same month.
2028. Do black bream travel about the same time? Yes, and they keep travelling later than the mullet.
2029. Have you ever caught any species of the herring in the lake? Yes.
2030. Was that purely the lake herring or —? The lake herring.
2031. Have you ever seen shoals of fish on the coast, travelling from the south to the north? Yes; we have never tried to catch them; we hardly know what they are. We see great shoals of salmon travelling outside.
2032. Do you consider portions of Lake Macquarie to be breeding and feeding grounds for the fish? Yes, portions of it; but fish when travelling, if they are ready, throw their spawn wherever they may be at the time. You can go from here to Sydney, outside, and you will see little fish in the pools, rocks, and other tide-left waters, and it is quite clear that those fish must be the result of sea-spawning. I have taken particular notice of that.
2033. Are there any portions of the lake naturally closed by the existence of patches of weed and rock? Yes, two places; they are natural closures. There is one off Dora Creek, they call it Muddy Lake, and there is Fennell Bay; they are natural closures, you cannot shoot a net in those waters.
2034. Have you ever had to complain of unjustifiable closures being made by the Fisheries Commissioners? Yes, we have.
2035. Do you know whether those closures were made on the recommendation of the inspector, or whether they were carried out at the will of the Commissioners? I think the inspector was the cause of most of the closures.
2036. Were any closures recommended by Mr. Smithers? I cannot say. 2037.

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2037. Does he visit the lake? Yes; he was down a couple of weeks ago.
2038. What was the object of his visit? To seize nets.
2039. What means does he adopt in order to catch the fishermen? If he sees a boat hauling across the bay he will not go straight to it in his boat, but he puts ashore and sneaks round upon us. I never knew him to come straight to us yet.
2040. Do you know of his having disguised himself in order to try and catch fishermen? No.
2041. Are there many red bream caught in the lake? Yes, fish not marketable; that is where this 3-in. mesh comes in. It destroys a lot of red bream, young fish.
2042. What extent of waters have you open to net fishing? I suppose there must be close upon 50 square miles. This lake is a hauling ground right round from one side to another. There are scarcely 50 yards upon which you could not haul.
2043. Do you think it is absolutely essential that the entrance to the sea should be kept open? Certainly, it should be kept open.
2044. Where does the greater portion of the fish supply in the lake come from? From the sea.
2045. Are there any Chinamen fishing here? No; there were some, but they are played out.
2046. Did the Chinamen use any other methods besides the net for catching fish? No, just the simple hauling net.
2047. Do the Europeans use different methods;—do they employ the long line or bultow? Yes, there was one man who did.
2048. Is there any necessity to close any further extent of water? No; we have enough closed now.
2049. You think the lake is well supplied with fish? Yes.
2050. *Mr. Thompson.*] Are you satisfied with the 300 fathoms of net? Most of the fishermen are not satisfied; they say it would be a fair thing to have 400 fathoms.
2051. Do you think it would be an improvement if the several existing nets were abolished and one general net of a maximum length and a minimum mesh substituted in their places for use in open water? Yes; I think that would be a very good thing; I am in favour of that. The fishermen generally would favour that so long as provision was made to prevent small fish from being destroyed or sent to market.
2052. If such an arrangement were brought about, would you object to certain waters being kept closed so as to provide for the continuity of the fish supply, at the same time to allow the marketable fish in those waters to be captured by means of set nets? Yes; that would be a good thing and very beneficial to the fishermen. In that way the breeding and feeding grounds would not be disturbed and no unmarketable fish would be caught.
2053. Would it not minimise the shrinkage of nets and be advantageous all round if the twine were tanned before being made up? Yes, it would; that would make a big difference to us.
2054. Have you ever considered the question of leasing portions of the lake to fishermen? Yes; the fishermen were speaking of it no later than a month ago.
2055. Do you think it would be a good plan? I can hardly give an answer to that.
2056. Do you think, if you are not inclined to favourably consider that question, it would be a good idea to limit the number of fishermen on any fishery? Yes; I think it would be a good thing in the interest of the fishermen themselves. It would be a capital thing. It is better for sixty or so to get a living than for 100 to get a partial living.
2057. How long does Mr. Sheddon keep his fish before sending it to the country? He gets them here at Toronto at 4 o'clock in the afternoon, and he sends them up country by the evening train.
2058. Then neither he nor anyone else here keep fish for a day or two and then send them away? No; that is not done. At the commencement of the summer Mr. Sheddon used to take fish from the lake to an ice-house in Newcastle. They were sent away fresh.
2059. You said fish do not keep so well in the boxes as in the baskets on account of the ventilation, would that be obviated if the boxes were constructed of wire netting, stretched on an iron frame; would that give you ventilation, and be sufficiently strong to prevent crushing? Yes, that would give ventilation. I would approve of such a plan of construction.
2060. Would you approve of gutting the fish before packing them for market? The fishermen would have no time to do it now.
2061. Supposing the Government were to make concessions in the shape of cheap railway freights, or if you realised prices commensurate with the extra labour involved, would you do it then? Yes; we could find time or pay for people to do it.
2062. You experience great trouble in getting your baskets packed in the train at the various lake stations? Yes.
2063. Are the fish often damaged by the rough handling they receive? Yes, they are.
2064. Would that difficulty be removed if it could be arranged to have a truck left on the siding at the several lake stations, so that the fishermen could pack the fish themselves in readiness for the train that would take it to Sydney or elsewhere? Yes; that would be an advantage.
2065. When do the black bream spawn in the lake? About the same time as the mullet. You will get them full-roed at the time you get the mullet.
2066. Can you tell me the size of the largest black bream caught here? We caught one here weighing about 9 lb. He was about 16 inches long from the tail to the nose.
2067. What size do the blackfish attain? I have seen them go to about 7 and 8 lb.; they will grow 14 inches long.
2068. Have you ever caught any schnapper in the nets here? Yes, plenty. When I first came to the lake we used to catch seventeen or eighteen baskets in a day; none of them would go under 6 or 7 lb.
2069. Are there plenty now? You might get a basket or a couple of baskets in a day.
2070. Whereabouts are the oysters in the lake? Some at Bolton Point, some at Fennell Bay, and at the Log Hut.
2071. What kind are they? Rock oysters.
2072. In respect to the growth of the oyster here—is it rapid? A slow-growing oyster.
2073. How long does it take to develop into a mature oyster from the time spat appears on the rock? About twelve or eighteen months.
2074. *President.*] Is the evidence you have given before this Commission to-day representative of the opinions and desires of the fishermen on the lake;—are they in accord with the views you have expressed to-day? Yes, they are.

Mr.

Mr. Daniel McGuinness, fisherman, Lake Macquarie, sworn and examined:—

- Mr. D. McGuinness.
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2075. *President.*] You are a licensed fisherman working on Lake Macquarie—how long have you been on the lake? Nearly three years this last spell.
2076. Where were you fishing before you came to Lake Macquarie? I started fishing on the lake some years ago, and dropped it, and then I commenced again.
2077. Are there any others associated with you in fishing? One man and my two sons.
2078. What is your average catch per week? From ten to twelve baskets per week.
2079. What class of fish? Principally bream.
2080. Black bream? Yes.
2081. What net do you use in the capture of the black bream? The bunt is 3-in. I used to use 2½-in., but the fish being so scarce I used a 3-in. bunt.
2082. Is that a sunken net? Yes, what we call a diver.
2083. Do you use that net to avoid the blubber? Yes, to a certain extent.
2084. Do you use any other net besides the net you term a diver? No; it is used for hauling purposes also.
2085. What fish have you caught with this net besides black bream? Flathead, blackfish, a few schnapper, a few mullet—principally bream and flathead.
2086. How do you dispose of the fish you catch? I sell some here—that goes north—and I send to Sydney.
2087. To whom do you consign in the market? Hudson lately; I have been sending to Augustus at the Woolloomooloo Market.
2088. Prior to your dealing with Mr. Hudson, at the Redfern market, did you send your catches to the Woolloomooloo Market? Yes.
2089. Comparing the returns received from the sale of your fish at the Redfern Market with those at Woolloomooloo, from which do you get the better return? From the Redfern Market.
2090. Have you had to complain of your fish being stolen in transit to the market? My agent does not give me any information in this respect; I have no means of knowing. It is quite possible that theft does take place; I have to trust to the agent's honesty in the matter.
2091. Are you satisfied with the freight charges on the railway? Yes; I would be more satisfied if the fish were carried in a better form than at present.
2092. If the Railway Commissioners adopted the system of conveying fish in a refrigerating car, do you think the fishermen would avail themselves of it, so as to send their fish to market in good condition? We would be well satisfied with the freight if the fish were carried properly.
2093. Do you think the fishermen ought to be brought into closer communication with the public? Yes; it would be a great benefit to us.
2094. Would it be any benefit to you if the agents were dispensed with? Yes; 100 per cent. better. They get the money, and the fishermen do the work.
2095. You do not think you receive a fair amount as a return for your labour; that is, comparing the prices realised by the middleman from the general public for the sale of fish with the prices you receive from the agent. Is the present state of things satisfactory? It is not satisfactory; the fishermen have proved that they are wrongly dealt with by their agents.
2096. How do you send fish to market? In baskets; I have sent in boxes.
2097. Do they carry better in the baskets, or in the boxes? I prefer the baskets, provided they are not heaped on top of each other as they are.
2098. Do you think that under the present system the fish are liable to be crushed and injured owing to the baskets being packed upon one another? I am certain of it. The baskets are not strong enough to bear the weight of the fish. As a consequence, they are crushed to pap when they reach Sydney.
2099. Are you satisfied with the handling the fish receive? No; not all. They are used in a most beastly way by those guards. They throw them about like stones. Our fish is badly treated and our baskets are crushed to pieces. It often happens we get nothing for our fish—our agents say they are crushed. We have to pay market dues and freight for nothing.
2100. Do you always receive your empty returns? No; I have losses at times.
2101. Do you know anything of the way in which the sales of fish are conducted at the Woolloomooloo Market? Yes.
2102. Do you think that system could be improved upon? Yes; a big improvement could be made.
2103. What do you suggest in place of the present system? Well, the fish is thrown on the floor in heaps and is liable to be trodden upon, and in other ways it is not displayed to proper advantage. Then, again, the fish that is first sold often brings a better price than that which is disposed of at the end of the sale.
2104. Do you think that there is any possibility of the agents entering into an arrangement with the hawkers in regard to the disposal of fish? That is our opinion. We are led to believe that the fishermen do not receive fair treatment. It is a certainty we do not get fair treatment in the sale of our fish. We are not there, and the agents send us what returns they like. We are totally unprotected.
2105. Do you think the Woolloomooloo Market is in a good position for the conduct of the business? No, I do not.
2106. What place would you suggest for a central market? Near the railway station. It would be better for the fishermen, as there would be less handling.
2107. Would you favour a proposal to have a market fitted up with raised tables on which the fish could be properly displayed? Yes, by all means, the fishermen want that done; the fish should be shown off to advantage, and the public would buy more readily.
2108. In regard to the operations of the different provisions of the Fisheries Act, do you think they operate fairly? Well no, they do not.
2109. Is there any room for an amendment in respect to the different kinds of nets used by the fishermen on Lake Macquarie? Yes, plenty of room; a big advantage to the fisherman, and no disadvantage to the small fish. They would not be killed.
2110. You have lately had the provisions of the Amending Act extended; I believe you now use a hauling net of 300 fathoms? Yes.
2111. Does that meet with your wishes? No, not altogether. We were allowed 150 fathoms, but that was insufficient, and the men consequently used the longer length, and broke the law. If they had not done so they would have had a poor chance of getting a living. We were afraid to ask for too much for fear

we would not get anything. Our idea was if we asked for 400 or 500 fathoms we should get nothing. We asked for 300 fathoms and got it. 600 yards of net seems a lot to use, but in miles of water like this it is not sufficient.

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2112. What length of net would you like? I would be satisfied with 500 fathoms; we would not kill as many small fish with a long net like that as we would with a short net with which we would be hauling constantly.

2113. As to the mesh of the hauling net, are you satisfied with that? In one sense; but we have to tan it so much, and it shrinks up so that the inspectors come and take it from us before it is half worn out.

2114. What mesh do you purchase in the first instance? For the wings we are allowed 3 inches. I have bought $3\frac{1}{2}$ inches, and have it at home now not half worn out, and am not able to use it.

2115. Why? It has shrunk so much through tanning; it will not go 3 inches now. If I use it they will take it from me, and fine me for using it.

2116. What do you allow for the bunt when purchasing your net? We are allowed by law $2\frac{1}{4}$ inches, we buy $2\frac{1}{2}$ -in. I find that I cannot wear it out, so I am forced to buy 3-in.; it shrinks so much. I lose good fish through that; good whiting will go through a 3-in. mesh.

2117. Can you make your nets legal nets after they have shrunk in that way? No; they are no use.

2118. Are they no use to the fishermen on Lake Macquarie? No use whatever. They are not small enough to catch garfish and too small for other fish.

2119. Have you ever had any nets seized? No, I am very careful about that; I have had no trouble with the inspectors.

2120. Would you approve of a provision in an Act that would allow all fishermen to use whatever mesh they like, the length of net not to exceed a certain maximum, say 600 yards, at the same time having a stringent provision as to the capture and sale of undersized fish,—would that suit you better than the present complicated system of lengths and meshes of nets? I certainly would favour that. That is what ought to be done, as the mesh in present use kills more immature fish than if a smaller mesh was used.

2121. Do you haul your net on to the beach? As a rule. Sometimes we land against a back net, but we always turn the small fish adrift.

2122. Would it not be possible for you to land your fish in say not less than 6 inches of water? Yes, we could land them in not less than 1 foot of water.

2123. Would you consider a provision making it compulsory on the part of the fishermen to land their fish in water not less than 1 foot in depth, a hardship? No, that would not hurt the fishermen; it could be done without any inconvenience against a little back net.

2124. Do you believe in the provision by which when a man's net is seized by an inspector and the man prosecuted, the inspector receives a moiety of the fine? No; it is a rotten provision. He gets his salary; it is certain that it makes the inspector hard on the fishermen.

2125. Do you think, in respect to the seizure of nets, that the fishermen's tools of trade should be confiscated? No, not at all; the fine is bad enough without taking the net away.

2126. Would you favour a proposal to inflict a fine or imprisonment for a term, say, not exceeding seven days, rather than take the tools of trade away from the fishermen? By all means, I would be in favour of imprisonment; but leave a man his tools, he cannot work without them.

2127. Are you of opinion that cases arising out of an infringement of the Fisheries Act should be heard with as little delay as possible? Yes, certainly, because men are kept idle three or four weeks sometimes. That means a loss to the fishermen, and then your net is away for three or four weeks, and it is damaged through neglect. It is put away wet, and it rots.

2128. Do you use the drift net? No.

2129. You said you caught schnapper in the net you use? Yes.

2130. Have you caught them lately? Yes, a few.

2131. Were they of large size? About the size of a bream.

2132. What is the largest-sized black bream you have caught here? I have caught them 4 lb. in weight.

2133. What is the largest blackfish you have caught? Four pounds.

2134. When do the black bream frequent this place in greatest numbers? In the winter-time,

2135. Are the blackfish migratory fish as far as Lake Macquarie is concerned? Sometimes they are plentiful; other times they are scarce.

2136. Where do you think the lake gets its supply from? From the sea.

2137. Is Lake Macquarie a breeding and feeding ground? Yes, it is; but the greatest supply comes from the channel.

2138. You think it is absolutely essential that that opening from the sea should be kept closed, and that the ingress and egress of fish should not be interfered with at all? I would keep that channel closed; it ought to be closed.

2139. Do you know of any natural closures, closed I mean by the existence of seaweeds or rocks, in Lake Macquarie? Yes.

2140. Are those natural closures sufficient without interfering with the present waters? I am quite certain of it. I believe you cannot work the greater part of Lake Macquarie.

2141. Have you had any reason to complain of unjustifiable closures being made by the Fisheries Commission since you have been on the lake? No; I cannot say I have.

2142. Is there a pretty active supervision over the fisheries of the lake? Yes; there are mostly some inspectors knocking round.

2143. Have you ever known any or all of the members of the Fisheries Commission to visit Lake Macquarie? I did hear Dr. Cox was down here sometime ago.

2144. What was the object of his visit? I think he brought a sort of trawl, he tried it; they dragged the trawl some distance, they got it full of blubber; I heard the experiment was a failure.

2145. Apart from that visit by Dr. Cox, have you heard of any other Commissioner visiting the lake? No.

2146. Have you heard the fishermen make any suggestions as to the administration and control of the fisheries; I mean have you heard them suggest that any change should be made in the administrative authority as at present constituted? Yes; the fishermen would like a change in the present state of affairs.

- Mr. D. McGuinness.
16 Mar., 1895.
2147. What would you suggest in the place of the present Commission? As far as we are concerned the fishermen would be glad if they had a body constituted which would pay greater attention to the fishing industry of the Colony; the fishermen would like to have a say in regard to the administration of the Act, as the circumstances of the different fishing grounds vary so; this makes it necessary that advice should be given by practical fishermen. Such a state of things would give greater satisfaction than the present system.
2148. Have you ever had any correspondence with the Fisheries Commission? No.
2149. Have you ever had any visits from any of the assistant inspectors in Sydney;—did you ever hear of Inspector Smithers or any assistant inspector disguising themselves for the purpose of trying to catch fishermen? No; I cannot say I have.
2150. Have you any knowledge of the working of the well-boat system? No.
2151. Have you any knowledge of trawling? No.
2152. Have you been engaged in the capture of crayfish? No.
2153. Are you aware they exist in large quantities off the coast? I have heard so.
2154. Do you know anything of the habits of the crayfish? No.
2155. Have you engaged in the smoking of fish? Only for my own use. I thoroughly understand how to do it; but I never smoke for sale.
2156. Do you think it could be profitably carried out if there was a good demand? Yes; especially in the mullet season.
2157. Have you the proper wood for smoking? Well, sawdust from hardwood, mixed stuff, is the best. It will not flare up, it keeps smouldering, it smokes away, and is constant.
2158. Have you noticed any oyster deposits in Lake Macquarie? No; we often get large oyster shells, which must be evidence of their having existed here.
2159. Have you seen any oyster deposits on the foreshores? Yes, some—what we call the rock oyster.
2160. Have you ever seen any shoals of fish off the coast? I have not had much opportunity of seeing them. I have heard that they do pass up and down.
2161. Have you ever heard that a species of herring passes along this coast at certain times of the year? I have heard a little about it.
2162. Do you know that whales frequent the coast of New South Wales? Yes.
2163. *Mr. Thompson.*] You say you would like a net of 500 fathoms;—of what mesh? Two-and-a-half inches in the bunt and the usual wings.
2164. How many men will it take to haul that length of net? Four men will work 500 fathoms of net.
2165. Do you use a windlass? Yes; I was the first to start the windlass here.
2166. What length of hauling line do you use? About 600 to 900 yards on each net.
2167. Does that enable you to go out well into the deep water in the lake? Yes.
2168. Would not this extra length of net prevent the fish from getting out of the net while in process of hauling, without such a long length of line? We want less rope and more net.
2169. If a car were placed on a siding at the several stations, so that the fishermen could pack their fish before the arrival of the train, would that tend to diminish the damage to the fish of which you complain? That would be a great improvement.
2170. You complain of undue handling of your fish? Yes; we send fish in the cars from Toronto to Fassifern, and there it is unloaded, and placed into another truck on the train; in some cases the truck is loaded at Toronto and shunted on to the train at Fassifern, and the extra handling is avoided. It is to our advantage to have the latter system adopted.
2171. You say you sometimes send fish in boxes instead of baskets, do you find that answer? I cannot say; I prefer the basket.
2172. Supposing these boxes, instead of being made of wood, were constructed of iron wire netting fitted on an iron frame, you would get plenty of ventilation then? That would be better for carrying, better in every way.
2173. Do you advocate the gutting of fish before despatching to market? That would be better, but it cannot be done.
2174. Could it be done if you received prices which would cover the cost of your labour? Yes; it could be done if we were paid for it.
2175. Have you ever considered the question of leasing portions of the lake to fishermen? I have; I think it would be a good plan.
2176. Would you give the fishermen the same rights to the fish caught within a leased area that the oyster lessees possess in the oysters caught in their areas? Yes.
2177. Does Mr. Sheddon purchase any fish from you? He does.
2178. What does he do with them? He sends them to Newcastle, and up the Northern line.
2179. Does he keep them on hand at all, or send them right away? He sends them away; sometimes he keeps a few in a cool-room at Newcastle.
2180. Are all the fish he sends away fresh? Yes.
2181. *President.*] Is the evidence you have given before this Commission, to-day, similar to that which would be given by the other fishermen on Lake Macquarie? Yes; I have been speaking on behalf of the great majority of them.

Mr. Theodore Gambrell, fisherman, Dora Creek, Lake Macquarie, sworn and examined:—

- Mr. T. Gambrell.
16 Mar., 1895.
2182. *President.*] Your name is Theodore Gambrell, and you reside at Dora Creek—Dora Creek is a tributary of Lake Macquarie? Yes.
2183. How long have you resided there? About seven years.
2184. How long have you been engaged in fishing? About four years.
2185. Were you fishing in any other waters before you came to the creek? Not in a practical manner.
2186. Who are associated with you in your fishing operations? I have my son and two men working with me. Sometimes I have six or eight men.
2187. Do you hold a license? We all hold licenses, but I hold the boat license.
2188. What fish do you catch? Mixed kinds of fish with the net I use. It is a ground net. We fish for bream, but we do not always get them. At the present time we are getting a few mullet, bream, flathead, flounders, and sometimes an odd whiting.

Mr.
T. Gambrill.
16 Mar., 1895.

2189. What is the season for black bream? About three years ago they started to come in about this time, and kept gradually increasing until the cold weather, and they were good then until about Christmas. When I first started fishing I did not notice a bream in the lake until the latter end of June or the beginning of July. That would be four years this season.
2190. I gather from your remarks that the bream you catch are school bream—migratory fish? I believe so.
2191. Do you think the fish supply for the lake comes from the sea for the most part? I do. I have been a keen observer. I have seen two fish spawning in the lake—the catfish and long tom—but no others. The other fish, when getting near spawning, have cleared out of the lake.
2192. You say you have caught flounders at times; are they in any number? Not in a great number.
2193. Have you ever caught soles? Yes; in great number.
2194. The mullet you catch—are they the sea-mullet travelling north? I believe so. The sea mullet come into the lake, and when it is getting near the time for spawning they clear away again.
2195. Then you are of opinion that those fish spawn at sea? Yes.
2196. Have you watched closely the habits of the several species of fish? Yes; since I have been fishing.
2197. Have you seen any evidences of mullet having spawned in the upper regions of any inlet or river? I have seen millions of young fish. I have seen half an acre in a patch; they were exceedingly thick. I believe they were young mullet hatched about that locality. I am speaking now of the Hawkesbury River, about 3 miles below Wiseman's Ferry.
2198. What time of the year was that? In the latter half of the year.
2199. What is your average catch per week? It all depends upon the fish supply in the lake. Sometimes we send away sixty baskets and at other times only five baskets.
2200. How do you dispose of your catch? Send them to Hudson, at the Redfern Market.
2201. By rail? By rail from the Dora Creek platform.
2202. Do you make out a consignment note for the fish? No; the porter, being obliging, does that for us.
2203. Are the fish weighed before they are sent away? No.
2204. Does the porter give you the receipt? Yes.
2205. Not for the weight, but for the number of baskets? Yes.
2206. Are you satisfied with the freight charges? I think they are reasonable. We used to have to pay 2s. 6d. for every single basket; now it is 1s. 6d. For every three baskets we are charged 2s. 6d., every other basket after that is 9d.
2207. Have you tried the experiment of sending fish in cases? I have on different occasions; last week I sent two boxes, holding just a basket of fish. One box was sold; the other was condemned; what for, I do not know.
2208. Who gave you the information that it was condemned? Mr. Augustus.
2209. Who is Mr. Augustus? A man who used to be a fisherman on the lake, who is in Sydney, and acts as an agent at Woolloomooloo.
2210. Have any of your fish ever arrived at the market in bad condition? I have not had much fish condemned.
2211. Have you ever had any of your fish stolen in transit? I have, especially when I have been sending to private individuals. I have sent a full basket from Dora Creek platform, and only half a basket reached its destination.
2212. Can you suggest any remedy for that; do you think if the fish were weighed at the station they are consigned from, and weighed on arrival at the other end, that would act as a check? I think that would be a check; it would be a good thing, but there is no station-master at Dora Creek, so it cannot be weighed there.
2213. Have you sent fish to Woolloomooloo Market? Yes; on odd occasions.
2214. Have you a knowledge of the manner in which sales are conducted at the Woolloomooloo Market? Yes.
2215. Are you satisfied with the mode adopted for displaying fish and selling them? I am not.
2216. Have any cases come under your notice where fish have been thrown on the floor and trodden on? I have seen them on the floor very close together, with very little room for people to walk about.
2217. Would it be possible for anyone to tread or spit upon them? Oh, yes; I reckon if you wanted to spit you would have to choose a place to do so.
2218. Would it be better to have the fish displayed on raised tables? Yes; undoubtedly.
2219. Would it be a good thing for the fishermen if they were brought into closer contact with the consumer? If it is possible, do it by all means, sir.
2220. Do you consider you receive a fair return for your labour under the present system? By no means.
2221. That is, comparing the prices paid by the general public and the returns you receive from the agents, you consider you do not get a fair thing? I do not think we get one-half.
2222. If you could get one-half of what the consumer pays for the fish would that satisfy you? Certainly, I would be satisfied.
2223. About how many pounds would a basket of fish weigh when full? An ordinary-sized basket of blackfish would weigh about 90 lb.
2224. What would a basket of mullet weigh? About 70 lb.
2225. And a basket of black bream? About the same as mullet.
2226. Well, now, supposing you received 1d. per lb. for fish all round, would that be a satisfactory return for you? I would like a little more than that.
2227. In the transit of fish you use baskets? Yes.
2228. They are sent back as returned empties, and you are not charged for empties? Not charged.
2229. Do you ever lose any baskets? Oh, yes, I do.
2230. Have you ever made any claim against the Railway Department for the loss of those baskets? No; I could not tell you where they were lost.
2231. Are they addressed to you when they are returned? Yes.
2232. Does the agent make out a consignment note for those empties? I believe so.
2233. Is not a receipt given by the railway officials for so many baskets? At all the other fishing ports there are railway officials at the stations, and you have to sign for your empties.

Mr.
T. Gambrell,
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2234. Then you think it is probable that your losses may be set down to the fact that there is no officer in charge at Dora Creek station? That is where it comes in.
2235. What is the average price per basket you receive for fish—I mean for fish of all classes? I have known fish to bring 28s. 6d. per basket clear, and I have known them to go as low as 1s. 9d. per basket.
2236. Have you ever had any returns from your agent, bringing you in debt for fish sent? No; I have heard of those who have.
2237. Would it be possible for the agents to work in with the hawkers with regard to the sale of fish? I believe it would be possible, but it might not be done. There may be dishonest men among some agents.
2238. Do you think it would be a good idea to allow the fishermen to sell their own fish in the market? It would be a lot better for the fishermen if fishermen and consumers could be brought together.
2239. Do you believe in having one sale only of fish during the day at the Woolloomooloo Market? No; I do not.
2240. Do you think it would be a good thing to have the market open all day? Yes; if we had cool chambers to keep fish in.
2241. In regard to the operations of the provisions of the Fisheries Act, you as a representative fisherman would probably be able to tell us how the provisions of that Act work—are the fishermen satisfied with the present Act? No; they are not.
2242. Did you complain sometime ago of not being allowed a sufficient length of net for a hauling net? We did.
2243. As a result you have had the provision in the Amending Act extended to Lake Macquarie giving you double the length of net? Double the length of net in one class of net.
2244. Does that wholly meet the grievance the fishermen had in respect to the length of the hauling net or would they like it longer? They would like it longer, but under the circumstances they thought it useless to apply for a greater length.
2245. You would ask for what limit of a hauling net? I represent a meeting of fishermen recently held at Dora Creek, at which they requested me to say that they wish to have no restrictions in the length of nets.
2246. Supposing an Act were passed authorising the use of nets of a length, say, not to exceed 500 fathoms? I think that would meet all requirement and satisfy everyone.
2247. So that a provision inserted in an Act limiting the length of a net to be used to 500 fathoms would meet all the objections of the fishermen? Certainly, it would.
2248. In regard to the mesh of the hauling net, are the fishermen satisfied with that? No, they are not.
2249. Do you know what they would like in regard to the bunt and the wings? Yes; the mesh of the present bunt is very destructive to young schnapper and such like. The mesh is of that dimension which catches them and kills them. If it were a smaller mesh, say 1½ in., less destruction of small fish would take place.
2250. In respect to the wings of the hauling net, have you any objection to the mesh? No; no objection. It is quite satisfactory.
2251. In using your hauling net do you land your fish on the shore? Not at all times; we rarely strand our fish. We nearly always take them out of the net in the water.
2252. In what depth of water? Sometimes up to our waists, sometimes knee-deep; nearly always by the side of the boat.
2253. Do you think it would be a good thing to incorporate a provision in an Act to compel the fishermen to empty their nets in not less than 12 inches of water? It would be no hardship.
2254. What other nets do you use in Lake Macquarie? The garfish net.
2255. Do you use a meshing net? It is used, but it has to be sunk to the bottom. It is used as a drift net sometimes by one of the men here.
2256. Is the whole of the net sunk, or is only that portion in the deep water sunk, and that portion towards the shore left floating? It all depends where the net is shot. It is heavily weighted, and it sinks to the bottom.
2257. Is that for the purpose of escaping the blubber? To catch the flathead.
2258. Have you any complaint to make in regard to the length and mesh of the garfish net? Yes, I have.
2259. What would you suggest as an amendment? Well, I saw the fishermen at Dora Creek this morning, and they asked me to inform the Royal Commission that they wanted a net which would be 50 fathoms in the bunt with 1-inch mesh, and 50 fathoms for each wing with the mesh for the first 25 fathoms of 1½-inch, and the balance 2 inches.
2260. If your proposals as to the length and meshes of the several nets were embodied in an Act, would such an Act give general satisfaction to the fishermen? I think so.
2261. What do you think of the proposal to allow the fishermen to use any net up to a limit of (say) 500 fathoms and whatever mesh they like, provided there was a provision in the Act to prevent the catching or selling of under-sized fish? I think that would be a good thing.
2262. Do you think the fishermen would be as anxious to conserve the fisheries as the Department? The greater number of them would; if I saw a fish being slaughtered I would try and stop it.
2263. Have you ever had any nets seized by the inspectors? I had one condemned.
2264. Was that the result of a prosecution against you? No.
2265. Was it the result of an inspection by one of the assistant inspectors? One of the inspectors came to my boat and condemned it. I wanted to use it for the week. I showed him I had full-sized stuff in the centre of the net, but he would not let me. Of course he had to carry out his duty; I do not blame the inspector. He was simply carrying out the provisions of a harsh law.
2266. Do you know of anyone having been prosecuted and having his net confiscated? I have heard of cases where fishermen's nets have been confiscated.
2267. Do you not think it a hard provision in an Act to take the tools of trade away from a man on the first offence? We think the Act terribly harsh in that respect.
2268. Would it be better to make a provision inflicting a fine or imprisonment for seven days rather than take the fishermen's tools of trade away? I think so; it would be better to fine or imprison a man than to take away his tools of trade. I was a gold-digger; well, they didn't take away my spades if I committed an offence, they fine a man or send him to gaol.

2269. Are you of opinion that more expedition should be shown in regard to prosecutions under the Fisheries Act, should cases against fishermen be dealt with more expeditiously and without delay? Yes; it is a hardship to have to wait so long until the case is tried.

Mr.
T. Gambrell,
16 Mar., 1895.

2270. In regard to closed waters, I believe a portion of Lake Macquarie is naturally closed? That is so. There are miles of the lake naturally closed. We cannot work there with the net.

2271. Do you think these so-called natural closures are sufficient to allow of fish breeding? I do.

2272. Are you satisfied with the waters you have at present to fish in? The fishermen want the whole of the waters open bar the entrance to the lake.

2273. Do you know of any unjustifiable closures that have been made by the Fisheries Commission? I think it is rather hard to close Mannering Bay.

2274. Why? Shoals of mullet visit that bay, and we are not allowed to catch them.

2275. Do you think the mullet you see frequenting Mannering Bay go there to spawn? No; none of them think so.

2276. Where do you think the sea mullet spawn? Outside.

2277. Do you know on whose recommendations these closures have been made? No.

2278. Do you know whether the Fisheries Commission as a body, or any member of that body, have visited Lake Macquarie to inquire into the condition of the fisheries? I never heard of their doing so.

2279. What is the general opinion of the fishermen regarding the present Fisheries Commission? As a representative of the Dora Creek fishermen, I have their authority to say that they look upon the Fisheries Commission as a body to which it is quite useless to apply for the redress of their grievances.

2280. Do you think that an authority should be brought into existence more in touch with the fishing industry—someone who would have a practical knowledge of the fisheries? I think it would be better to have a gentleman to whom the fishermen would not be afraid to speak—a man whom we could take out in our boats and speak to about our grievances.

2281. Supposing a new institution were established in Sydney for the administration and control of the fisheries, and local boards were established on which representatives of the fishermen might have seats, those boards to be boards of advice, would that give satisfaction? Yes; I would favour such boards to advise the Chief Commissioner, our fishermen to have representation on them. It would bring them into direct contact with the head authority.

2282. Your evidence goes to show that the Fisheries Commission have not taken that interest in the fishing industry that might have been expected from them? They have not done so.

2283. Are you conversant with that provision of the Act which allows the inspector or informer to obtain half the fine in connection with convictions? Yes.

2284. Do you approve of it? No, sir; we consider it quite enough if a man is paid his day's wages for the day's work. The fishermen look upon that as an inducement to the inspectors to seize their nets, and it looks very like it sometimes.

2285. Do you engage in catching prawns? No.

2286. Have you had anything to do with the capture of crayfish? No.

2287. Do you know whether there are any natural oyster-beds in Lake Macquarie? No.

2288. Have you seen any evidence of the existence of deposits of oysters in the deep sea? No.

2289. In respect to the matter of the fishermen's license, do you complain of the amount charged? Only for the boat. We would ask for a reduction in the license; we would like it to be a registration fee—10s. for the boat for ever.

2290. How do you obtain your license at the present time? I get my license from the Acting Clerk of Petty Sessions at Cooranbong.

2291. Do you pay him the fee? Yes.

2292. How far is Cooranbong from where you live? Between 4 and 5 miles from the Dora Creek platform.

2293. Supposing there were no Clerk of Petty Sessions at Cooranbong, where would you have to go? Down to Swansea.

2294. Would it not be better to give the fisheries inspectors or assistant inspectors authority to collect the license fees? They are the men who I think ought to do it.

2295. What sort of forms are the licenses issued on? Thick paper.

2296. Will it stand any kind of weather? No; it cracks and breaks easily.

2297. If the licenses were made out on parchment, would that be better? Yes; the miner's rights are on parchment, and they stand any weather.

2298. *Mr. Thompson.*] Instead of this parchment license you refer to, would it not be better still if you had a metal ticket, something like a railway ticket? That would be better than the parchment.

2299. You spoke of catfish and Long Tom spawning in the lake;—was the milt fish present at the time? I did not see the milt fish, but the spawn was apparently quite ripe and ready for extrusion.

2300. Would it be a desirable thing to compel aliens to become naturalised before allowing them a license to fish? Yes; they should not be allowed to fish until they become naturalised. Those foreigners always haul their nets high and dry on the shore.

2301. You heard the President explaining to you about this proposed net of a maximum length and a minimum mesh? Yes.

2302. Supposing it were adopted, would it not do away with a great deal of bother? It would do away with all bother altogether. It would be very desirable to have it.

2303. In that case would you agree to the permanent closure of certain waters in order to provide for the continuity of the fish supply, at the same time allowing set nets to be used in those waters in order to catch the marketable fish which they contain? I approve of the suggestion generally, but the Dora Creek fishermen do not wish to see any portion of Lake Macquarie closed, excepting the entrance.

2304. Do you think it would minimise the shrinkage of nets if it could be arranged that the twine were tanned before it is made up? Certainly it would.

2305. Do you use the long line, the bultow, in Lake Macquarie? It was used, but did not succeed.

2306. *President.*] Would you favour a provision in an Act leaving it optional to the authorities to regulate the number of fishermen who should be allowed to fish in any ground, while giving due regard to the necessity for finding fishing-grounds for other fishermen? I would favour that.

Mr. Lars Jansen, fisherman, Lake Macquarie, sworn and examined :—

- Mr. L. Jansen.
16 Mar., 1895.
2307. *President.*] Are you a licensed fisherman on Lake Macquarie? Yes.
2308. How long have you held a license? Between eight and nine years; but I took a trip home to the old country once during that time.
2309. Have you been fishing for the most of that time on Lake Macquarie? Yes.
2310. Have you had experience in connection with fisheries elsewhere? Yes; I was brought up as a fisherman. I followed fishing in Denmark.
2311. Are the fisheries there very extensive? Yes; they are.
2312. Are many men employed in the fisheries in Denmark? Yes; they work on the co-operative principle. Every man is a shareholder. There are thousands of men employed.
2313. Do the fishermen get a fair return for their labour? They are paid on the spot. Big vessels, smacks and ketches, come and take the fish from the fishermen. They put the fish into the wells, and the vessels take them to the big cities.
2314. Are the fish sold in a market? No; to the general public. Anyone can go down and buy fish.
2315. Are they sold alive? Yes.
2316. Do the fish sold alive realise better prices than those that are dead? Oh, yes.
2317. What class of fish is caught off the Danish coast? Flounders and codfish.
2318. Do they catch them with the trawl? Yes; with the trawl, the meshing net, and the hauling net.
2319. Have you had experience in trawling? Yes; I have.
2320. Have you ever had any experience in deep-sea fishing on the New South Wales coast? No.
2321. Do you think, from the knowledge you have gained in other fisheries, it would be possible for trawling to be carried on outside; supposing a trawl survey were made, and it was found that there were miles of ground over which a trawl could be drawn, do you think it would be worth while making an experiment in trawling on this coast? It might be. I think the fish would not be on those grounds.
2322. But your opinion regarding the nature of the bottoms is not the result of practical experience here? That is so.
2323. How do they trawl in your country—with the current, against the current, or across it? Against the current. Of course they cannot do that when the tide is too strong.
2324. Have you had experience in steam trawling? No; I have only trawled from stationary vessels. We used to anchor our smacks, let the trawl overboard, and then haul it in again. That was some years ago.
2325. Is anyone engaged in fishing with you on the lake? Yes; one man.
2326. What net do you use? A garfish net.
2327. Have you used the hauling net? Yes.
2328. Where do you send your fish? To Sydney. Sometimes I sell a few here.
2329. Do you consign your fish to an agent in Sydney? To Hudson, at the Redfern Market.
2330. Have you sent fish to the Woolloomooloo Market? Yes; to Augustus and to Morris.
2331. Have you always been satisfied with the returns you obtained? No.
2332. Do you think you have received a fair price for your fish? No; I have not.
2333. Do you think if the agents and hawkers were done away with, and you were brought into closer contact with the general public, it would be better for you? Oh, yes, it would.
2334. If you got half the price the public pay the hawkers for fish, would that pay you well? Oh, yes, it would.
2335. Have you any complaints to make in regard to the provisions of the Fisheries Act? Yes; in regard to the closures and to the mesh.
2336. What would you ask for in respect to the mesh? Let a man use as small a mesh as he likes. He will save all the more fish. The bigger the mesh he is forced to use the more fish he kills. Small fish get caught and gilled. With a small mesh they would not get caught.
2337. Would you favour a proposal to allow the fishermen to use a net of a maximum length, say 500 fathoms, allowing them to use any mesh they like, providing provision is made to punish them for catching undersized fish? I favour that.
2338. You send your fish by rail? Yes.
2339. Have you cause to complain of your fish being stolen on the road? I have had seven baskets lost in two weeks, baskets and all. I tried to get some redress but could get none.
2340. Do you lose your baskets when they are being returned to you? Yes, sometimes.
2341. In regard to the closures, do you think there is too much water closed in Lake Macquarie? Yes; there ought to be none closed.
2342. Why do you say that? Because there are places in the lake overgrown with weeds; they are naturally closed. Then there is the entrance to the lake; that is closed. I think it is doing us harm to have the entrance closed.
2343. Where do you think the lake gets its supply of fish from—the sea? The fish are in the lake alright.
2344. How do they get here? They spawn in the lake.
2345. Do you think the fish in the lake were bred here? Yes.
2346. Do you know that great quantities of fish come into the lake from the sea? I have never been down to the entrance to take notice of that.
2347. You think the existing closures are sufficient to allow the propagation of enough fish to enable the fishermen to gain their livelihood without depending upon the entrance? I think so.
2348. Have you ever had any nets seized? No.
2349. Do you believe in offering an inducement to people to inform on the fishermen for using illegal nets;—do you believe in offering them half the fine? I do not think that is right.
2350. Do you believe in nets being taken away from a man? No; I do not believe in that.
2351. Would it be better to punish a man rather than seize his net? Yes; far better to punish him than take away the tools he has to work with. Fine or imprison him, but do not take away his nets.
2352. Have you watched the habits of the fish in the lake? Yes.
2353. What time do black bream spawn? February and March.
2354. Do you know whether they spawn twice a year? I think they do.
2355. What time do the sea mullet spawn? About March and April.

2356. Have you ever known or heard of any members of the Fisheries Commission visiting Lake Macquarie? Dr. Cox was here once. He hired a boat and went out into closed waters and made one or two hauls.
2357. For what purpose? To see if there was any fish near the entrance.
2358. How did they turn out? They got six or seven baskets of fish. They found the mesh was too big for catching prime fish.
2359. What mesh was it? Two and a half inches.
2360. Do you think there are too many fishermen on Lake Macquarie? No.
2361. Could you stand another fifty or sixty fishermen on the lake? Yes; and get just as many fish.
2362. Are there any young schnapper in this lake? Yes; they are very plentiful. You can cast your net anywhere and get a basket.
2363. Where do they come from? They breed in the lake.
2364. Then you do not think it is possible for them to have come from the open sea? No.
2365. Have you caught any schnapper in the lake? A few with lines. I have tried with long lines and succeeded.
2366. Have you caught them with the roe in them? I cannot say whether they had the roe in them. I sent them straight away to market.

Mr.
L. Jansen,
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Mr. Francis Aldrich, Assistant Inspector of Fisheries, Swansea, Lake Macquarie, sworn and examined:—

2367. *President.*] Your name is Francis Aldrich, and you are an Assistant Inspector of Fisheries stationed at Lake Macquarie? Yes.
2368. Does your control extend any further than Lake Macquarie? No.
2369. How long have you been here? About fifteen months.
2370. Were you connected with the Fisheries Department before that? Yes.
2371. Where were you stationed? At Tuggerah Lakes.
2372. How long were you at Tuggerah Lakes? Two years.
2373. Were you stationed anywhere else before that? Yes; I was assistant to Mr. Grant, the Inspector of Fisheries at George's River and Botany.
2374. Had you any connection with the Department of Fisheries prior to that? No; my first appointment was to assist Mr. Grant at Botany and George's River.
2375. Prior to that were you in the employ of the Government? I was in the Telegraph Department between four and five years.
2376. How came you to leave that Department? I resigned because indoor work was against my health. I subsequently obtained a position in the Fisheries Department.
2377. How many licensed fishermen are there on Lake Macquarie at the present time? About seventy-five.
2378. Do they all appear to earn a decent livelihood? Yes; those that work.
2379. Do you mean by that there are some that loaf? Yes; and some when they do earn a pound or two never leave the public-house until it is spent.
2380. How many licensed boats are there on the lake? Twenty-five.
2381. What salary do you receive? £130 per annum.
2382. Did you receive that salary when you were first appointed as assistant inspector? No.
2383. What salary did you receive? £140 per annum.
2384. So that within a period of three years you have suffered a reduction of £10 per annum;—do you know of any reason for that? It was done on the score of retrenchment. I may say I was retired in August, 1893, and reappointed a month later at the lower salary.
2385. So that you lost a month's pay and you also lost £10 per annum? Yes; but during that month I did work at the Tuggerah Lakes, for which I was not paid.
2386. What was the cause of your re-instatement? I saw the Commissioners of Fisheries, three of them, Mr. Hill, Dr. Cox, and Mr. Hyam, with reference to the matter.
2387. Did you point out that it was false economy to leave the fisheries of Lake Macquarie without any supervision? Yes, I did.
2388. Have the Commissioners found fault with you on any occasion? No.
2389. During the month that elapsed, part of which time you spent on Tuggerah Lakes, were the Lake Macquarie fisheries left without supervision? No; Mr. Boyd was re-instated to do duty, and when that occurred I received notice that my services would not be required any longer.
2390. And when you received notice of your re-instatement were Mr. Boyd's services dispensed with? Yes; the *Gazette* notice stated I was appointed *vice* John Hesse, retired.
2391. Are you allowed a house to live in? No; I am not.
2392. Do you pay your own house rent? Yes.
2393. What does that amount to per week? Five shillings per week at present.
2394. Where do you reside? At Swansea.
2395. Are there not some Government buildings at Swansea which have been unoccupied for some time? Yes; one, the property of the Harbours and Rivers Department.
2396. How long has that been unoccupied? Well people go there from Maitland, Singleton, and those districts, and they spend sometimes a week or a fortnight in the place. I am given to understand they do this by permission of Mr. Walsh, the District Engineer.
2397. Do you know whether Mr. Walsh receives any rental? I cannot say.
2398. Have you made any application for the use of this building? I spoke to Mr. Thompson once, and to Mr. Smithers lately, but I have never made an official request for it.
2399. Could that building be utilised for the inspector's residence? Yes, it is all it is fit for.
2400. Was there not a site, selected by yourself, obtained from the Government for the purpose of an inspector's residence? Yes.
2401. Is this Government building you speak of as conveniently situated for the purpose as that site? No, not nearly so.
2402. Where did you select a site? At the north end of the retaining wall, on the south bank of the channel.
2403. Are you of opinion that your present residence is not so conveniently situated for the proper discharge of your duties as one erected on the site recommended by you would be? It is not fit for me to live in if I have to watch the waters.
2404. Are you supplied with a boat? Yes.

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2405. Do you find you can get about the lake sufficiently fast and exercise proper supervision with that boat? No, a small steam launch would suit the purpose far better.
2406. What was the total number of baskets of fish sent from Lake Macquarie during 1894? 10,000 odd. I think 20,000 baskets of fish were sent in 1892.
2407. What classes of fish were sent in 1894? A great many black bream. I think the principal fish were mullet and blackfish.
2408. What would you estimate the value of that catch of 10,000 baskets? About £4,000.
2409. What markets were they sent to? To the markets in Sydney and to the inland towns. I think about one-half of the fish from Toronto is sent to the northern towns.
2410. What time of the year do the mullet appear in the lake in any great numbers? From before Christmas up to April; if the weather is bad they clear out from the lake before April.
2411. What mullet are those? Sea mullet.
2412. So that the lake is fed from the sea by shoals of sea mullet? Yes; they come into the lake.
2413. Do they breed in the lake? I think so.
2414. Have you ever noticed any young fry about? Oh, yes.
2415. Where do you think their breeding grounds are? My theory of it is that they breed wherever they are, whether at sea or in the lake.
2416. When do the black bream make their appearance in any great numbers? About May. Last May and June I saw more black bream in the channel and in Lake Macquarie than ever I saw before; they must be in the lake at the present time.
2417. Are those black bream the school bream or bream the result of spawn deposited in the lake? They are fish travelling.
2418. Then you think they come in from the sea? I am sure of it.
2419. Are they what you call migratory fish? Exactly, if you caught a fish coming in from the sea you would notice it very bright and silvery in appearance, different altogether in colour and look to the inside fish.
2420. I suppose any of those fish remaining in the lake would change their characteristics? I think so.
2421. Is the entrance to Lake Macquarie a good place for noticing the habits of fish? For the habits of fish travelling.
2422. The blackfish;—are they a local fish? They travel, but I think they are more local than bream, although when bream travel you will always find whiting and blackfish accompanying them.
2423. Have you seen many soles or flounders caught here? Yes; a good many flounders caught at the entrance to the lake. About the middle of winter, I have seen millions of soles and speared them myself.
2424. Was that at the entrance to the lake? Yes, in the south channel, the original channel.
2425. Do the sea garfish frequent the lake very much? I have not seen any sea garfish in the lake.
2426. Do you think it is absolutely essential that the entrance to the lake should be kept open—I mean that there should be a free channel so as to allow of the free ingress and egress of fish? Oh, yes, certainly it is.
2427. In order to protect the fish and allow them to enter the lake, do you consider it necessary the entrance should be closed to net fishing? Yes, I think it should be a permanent closure.
2428. Can you tell the Commission the largest-sized black bream you have seen caught in Lake Macquarie? I saw one caught at Mark's Point—it was in November last—it weighed 5 lb.
2429. Was it in spawn at that time? Yes.
2430. What is the largest-sized blackfish you have seen caught? About the same size—5 lb.
2431. And the largest mullet caught in the lake? About 7 lb. in Lake Macquarie. I saw one a long time ago; it weighed 9 lb.; it was caught at Botany.
2432. Do you consider the grounds of Lake Macquarie good feeding as well as breeding grounds? Yes.
2433. Taking the lake as a whole, what extent of water is available for the fishermen to haul at the present time? Two-thirds of the lake are available.
2434. Has the other third been closed against net fishing by proclamation? Part of it; the other parts are naturally closed by the existence of weeds and rocks.
2435. How much would you say is naturally closed by weeds and rocks? About 10 square miles.
2436. Have you recommended any closures in Lake Macquarie? No.
2437. Have you ever heard the fishermen complain of not having sufficient water open to them? I have—one or two; they are the worst men we have to deal with.
2438. Do you think there is sufficient water opened to net fishing considering the number of men on the lake? Yes, I do.
2439. What nets do they principally use in catching fish? The diver-hauling net, 2½ inches in the bunt, and 3 inches in the wings.
2440. Do they use the meshing net? Only in the winter-time. Mr. Hellings told me yesterday he had seen one boat using a meshing net; that is the first I have known of this year.
2441. Why do they use the meshing-net only in the winter-time? Because the fish will mesh only at night, and being cold weather they will keep for transmission to market. They use the hauling net in the summer because they catch fish at any time with it.
2442. Do they haul their nets on to the shore so that the fish become stranded? Sometimes.
2443. Do any of the fishermen haul their nets on to the shore, allowing the top and bottom lines to be on the shore, and the flue of the net to be in a certain depth of water? Sometimes they do, especially if the inspector is about.
2444. Have you seen evidences of the destruction of many young fish? Yes, I have.
2445. Do you think that if proper supervision were exercised that destruction could be minimised? Yes, it could.
2446. In regard to the mesh of the hauling net, do you know if it is satisfactory to the fishermen as well as in the interests of the young fish;—does it protect them sufficiently? Yes, I think so; I have heard no complaint about it.
2447. Under the provisions of the Amending Act a longer net has been allowed in Lake Macquarie? Yes; 600 yards. I think the mesh should not be less than 3 inches throughout. In Lake Macquarie, at the present time, the fishermen say they cannot get net suitable for the present bunt. Nearly every new net on the lake now is 3 inches in the bunt and 4 inches in the wings. The fishermen think those meshes are more suitable, being lighter than the prescribed meshes.

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2448. Do you think the meshes you have just mentioned are sufficient to protect young fish from being destroyed? Yes, with the exception of young schnapper. In the wings of a net when hauled to shore you will sometimes see a basket of these little red bream. The smaller the mesh the better it would be for them because it would not damage them.

2449. Supposing the mesh of the bunt were considerably reduced, do you think that would be a means of averting the destruction you have just alluded to? I cannot see how it would, because if you saved the schnapper you might destroy other small fish.

2450. Do the other small fish get meshed? Yes.

2451. So that it matters not what mesh may be adopted, some fish will be destroyed? Yes.

2452. It must be so where the round fish and the compressed fish are taken together in the one net? Yes.

2453. What would you think of a proposal to allow of a hauling net being used of any length up to 300 fathoms, with whatever mesh the fishermen liked to use, so long as there was a provision made compelling them to empty their nets, in, say, not less than a foot of water, and further, that a provision should be made to punish them severely for sending undersized fish to market? I do not think that would suit, any sized mesh with 300 fathoms.

2454. Which do you think would be of greater value to the fisheries of Lake Macquarie, to retain the present meshes of the hauling net which, according to your evidence, destroy a great number of young schnapper, or to adopt a smaller mesh and protect those small schnapper, and put up with the loss of the other varieties of fish? I take it the present system would be the least destructive. If you allow a fisherman to use any mesh in the net he liked up to 300 fathoms, he might have it a 1 inch mesh, and if that was so, on the flat at the south end of the entrance closure there would be tons of little whiting, 2 inches long, destroyed in one haul.

2455. Do you think it would be possible for the fishermen to haul a net of 1 inch and 600 yards long over those flats. Yes, but if the net were shot out in deep water on a muddy bottom it would be impossible to use it.

2456. Supposing the Department made restrictions as to the use of these nets in certain waters, would that overcome the difficulty? Yes it would.

2457. Have you ever had occasion to seize any hauling nets? Yes, several times; for using them in closed waters.

2458. Were those nets confiscated? Yes.

2459. What would be the average value of the nets so seized? About £15.

2460. If in any new legislation, power were taken to declare by proclamation the particular size of a net to be used for specified purposes, I suppose your objection to a maximum length and a minimum mesh would cease? Yes, it would.

2461. Do you think it is necessary that the present length of net should be allowed in the lake? I think it is.

2462. You have said the fishermen use the meshing net, does that require any alteration as far as the length and mesh are concerned? Yes; my idea of a meshing net is that it does not matter what length it is provided it is used in free water.

2463. Do you think the mesh at present allowed is sufficient to permit of the capture of all the marketable fish? No. I have had many complaints about that from the fishermen; they say it is too large and will not catch a good marketable fish; I mean a fish that is liable to escape.

2464. Would any harm result from allowing the use of the meshing net in closed waters to catch the marketable fish there? I do not think there would be any harm with a mesh of not less than four inches, providing it was used under supervision.

2465. Would there be any likelihood, then, of the feeding or breeding grounds being disturbed? Not at all.

2466. Are garfish nets used on the lake? Very seldom; it is the poorest place I have ever seen for garfish, they are so small.

2467. Garfish do not develop very well in the lake? No.

2468. Do the fishermen use the garfish net under the plea of fishing for that class of fish and take other fish with it? Yes.

2469. Do you think there should be any alteration in the length or mesh of the garfish net? I think it is plenty small enough, the mesh of the garfish net. I do not think it would hurt to have the bunt of the net a little longer, because river garfish cannot be caught in the same way as the sea garfish.

2470. Have you ever noticed an anomaly in the Act in regard to the length of the garfish net? Yes? the assumption is that it should be only 90 fathoms in length, whereas the Act states it can be any length.

2471. Are prawn nets used in the lake? Only by private individuals for catching bait for line fishing.

2472. Are prawns in any quantity in the lake? Yes; in times of heavy rain, when the water is fresh and high, you can get plenty of prawns.

2473. Do they use set lines in the lake? Occasionally; once in two or three months.

2474. Have you seen any shoals of fish making their way from the southward to the north, outside? I have not; I have heard of them.

2475. Have you heard there is a species of herring travelling on the coast? Yes; on one occasion I was told of their being washed ashore in myriads on the Nine-mile Beach, north of Lake Macquarie entrance. It was an Englishman who told me about it; he said he knew that they were herrings right enough, because he had seen them and eaten them in England many a time. I was two days late, or I should have got some specimens.

2476. Have you had any experience in deep-sea fishing? No more than schnapper fishing with the line.

2477. Do you know whether sand-banks exist off this coast? I cannot say.

2478. Have you had any experience of well-boat fishing? No; I saw a small well-boat in Lake Macquarie some time ago.

2479. Were the fish in it alive? Yes; I ate a schnapper that came out of that well after it had been there three days.

2480. Was that schnapper caught in Lake Macquarie? Outside, off Catherine Hill Bay; I saw the well-boat come in over the bar.

2481. Do you think the well-boat could be brought into more general use with a little more enterprise on the part of the fishermen? Yes, I do; if I were a fisherman to-morrow the first thing I would go in for would be a well-boat of some description.

2482. Do you think it would be much better for the development of the industry if that kind of fishing were adopted? Yes.

2483.

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2483. Do you think fish would realise a better price alive than dead? Certainly; there would be a bigger demand for fish, too.
2484. Do you know anything of the way in which the business is conducted at the Woolloomooloo Market; have you ever heard the fishermen complain of the manner in which business is carried on there? Yes; they are always complaining of losing their fish, and not getting sufficient money for them.
2485. Do you think any improvement could be effected in the method of displaying the fish in that market? If they were placed on stands or raised tables it would be much better than putting them on the floor.
2486. Do you think the Woolloomooloo Market is the most centrally situated market? If it were in direct communication with the railway it would be far better as the greater proportion of the fish is sent to market by rail.
2487. Would that prevent much of the handling which now takes place? Yes; unnecessary handling and carting.
2488. In regard to the number of fishermen on Lake Macquarie, do you think, for general application, it would be a good idea to limit the number of fishermen on any fishing grounds? Yes; I think it would be a very good idea.
2489. You think it would be better to allow 75 or 80 fishermen to have a fair means of earning a livelihood at one place than to permit double that number to obtain only a partial livelihood? Yes, I do.
2490. Do you know of any crayfish fisheries near Lake Macquarie? Yes; crayfish are in about the month of September, just outside the lake.
2491. Are those fisheries worked at all? Very little.
2492. Have you noticed when the crayfish spawn? No, I have not.
2493. Have you seen full-roed crayfish sent to market? Not many of them.
2494. Do you know they are sent to market in full roe? I have heard so.
2495. Do you think it would be a good thing to prevent the capture and sale of female fish when in roe? Certainly it would.
2496. Have you ever seen whales off the coast? Yes.
2497. What species? Humpbacks principally, I have seen those in droves.
2498. Do you know anything of the oyster fisheries? Very little. When I was in George's River I used to know a little about them. At the time I left the disease was very destructive in that river, and they were all destroyed.
2499. You have a knowledge of the system by which areas are let out as oyster leases;—do you think that is a satisfactory system? I think it would be better if the rates charged were a little cheaper to allow smaller parties to have a say as well as other people with means.
2500. You have no oyster fisheries in Lake Macquarie? No.
2501. Would it be a good provision to allow of the leasing of an arm of a river for oyster culture? Yes.
2502. The lessee to be subject to certain conditions and proper supervision, and to pay according to results, instead of at per 100 yards? Yes. I think that would be far better than the present system.
2503. Have you ever heard of any pilfering of oysters taking place? Yes.
2504. Do you think it is caused by indiscriminately granting areas of 100 yards between larger leases? People take up those areas of 100 yards because they can work the adjoining areas as well as their own.
2505. Does it also give them the opportunity of stealing from Crown lands? Yes.
2506. Have you ever seen any evidence of deep-sea deposits of oysters in the lake? I have seen the shells, any amount of shells everywhere.
2507. Have you not some oyster deposits on the foreshores at the entrance to the lake? On the retaining wall.
2508. Where do you think the spat came from? I can hardly say.
2509. Have the Fisheries Commission on any occasion visited Lake Macquarie? Yes; the President has been down twice.
2510. What length of time elapsed between the two visits? About three weeks or a month.
2511. What was the object of his visit in the first instance? I cannot say; we were dredging in the middle of the lake, the President and myself.
2512. Who accompanied Dr. Cox on the first occasion? Mr. Hedley, from the Sydney Museum, and Mrs. Cox.
2513. Did he do anything else besides dredge the lake for shell fish? I rowed him down the channel as far as the bar; he looked at the beach and returned to Belmont.
2514. How long did he stay? Two days.
2515. Did he make any inquiries regarding the fisheries? He made a few inquiries concerning the fisheries of the lake.
2516. Had you any official intimation of his proposed visit? I was instructed to meet him on the arrival of the train at Toronto.
2517. What did he do on the second occasion he visited the lake? Trawling with the steamer on the lake, he and Mr. Waite and Mr. Thompson were down together.
2518. What did he trawl for? To see if fish could be caught in the lake with the trawl.
2519. Did he catch any? Yes, one flathead the first try; the last haul we got about a dozen flathead.
2520. What else did he do? I engaged some fishermen to haul a net in closed waters.
2521. Was that for the purpose of ascertaining whether the fish supply in closed waters was good or not? Yes; and also to show Mr. Waite the fish in the closed waters, and likewise other specimens.
2522. What did the experiment prove? Proved there was plenty of fish.
2523. How long did he remain on that occasion? About twenty-four hours altogether.
2524. Have any of the other Commissioners visited the lake to your knowledge? Not to my knowledge.
2525. Would it be a good idea, instead of issuing the fishermen's license on paper, to give them a medal, something that could be tacked on the boat? Yes; it would be always on hand when demanded by the inspector, and it would not be destroyed by water.
2526. Would it be better to allow the inspectors to issue licenses and collect fees? Yes, it would be far better for the fishermen and for the revenue. There are occasions when runaway sailors come to Lake Macquarie and obtain work; I go looking to see if they have licenses and find they have none. If I threaten a prosecution they will go away. On other occasions, if I was allowed to take fees, the fishermen employing these men would give me the money; I have had it offered to me on several occasions.

2527. *Mr. Thompson.*] Why cannot river garfish be caught the same as sea garfish? The sea garfish can be hauled in the flue of the net without attempting to escape; the river garfish will travel along the net and escape at the ends.
2528. Would you favour 500 fathoms of net rather than 300 fathoms as a maximum length? No, I would not; I think 300 are sufficient.
2529. Have you ever considered the question of leasing the lake in portions to the fishermen? No.
2530. On the face of it do you think it would be a good plan? It would require some study to give an answer.
2531. Would you license amateur fishermen? I would make them pay a small license.
2532. Would you refuse to license aliens until they become naturalised? Yes, I would; they are our whole trouble in the fishing.
2533. Would it be advantageous to establish a system of sending fish gutted to market? Yes, it would be advantageous if it could be adopted.
2534. What difficulty would there be in the adoption of such a plan? The fishermen would not do it unless they got an extra price commensurate with their labour.
2535. Do you think the public would be willing to pay the extra price for the convenience offered them? Yes; I think so.
2536. Do you think the fishermen would gladly adopt the plan of gutting their fish if an inducement were offered in the shape of reduced freight by rail? Yes.
2537. Which species of mullet is it that goes to the sea and returns as the sea mullet? The hard-gut; we call them "bullies."
2538. Have you found any difference in the condition of mullet when captured in the daytime and when captured at night? I have never noticed any difference.
2539. Have you heard that mullet captured in the daytime are full of mud, and that when taken at night their stomachs are perfectly clean? I have not. It might be so if the fish were captured after feeding.
2540. Do you favour the opinion expressed by some persons that the smaller the mesh used the less the destruction of small fish? The smaller the mesh, the lesser destruction to the compressed fish.
2541. Do you favour the seizure of a fisherman's nets, his tools of trade, for breaches of the law? No; I would fine him or imprison him.
2542. You think that would meet the case? Yes.
2543. You have heard a great deal about fish being pilfered in transit;—would you think it a good plan, in substitution for the baskets, to employ locked boxes of galvanised wire netting stretched on iron frames? That would be far better than the present system of carrying fish in baskets, and if locked it would prevent pilfering.

Mr.
F. Aldrich.
16 Mar., 1895.

THE HAWKESBURY RIVER FISHERIES.

MONDAY, 18 MARCH, 1895.

[*The Commission met at the "Brooklyn Hotel," Brooklyn, Hawkesbury River, at 10.45 a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Joseph Izzard, fisherman, Brooklyn, Hawkesbury River, sworn and examined:—

2544. *President.*] Your name is Joseph Izzard, and you reside at Brooklyn, on the Hawkesbury River? *Mr. J. Izzard.*
Yes.
2545. What are you by occupation? A fisherman; I also own a number of boats. *18 Mar., 1895.*
2546. How long have you been engaged in fishing? Nearly twenty-eight years; fishing has been my chief occupation during that time.
2547. Where have you fished—on the Hawkesbury River? Yes; with the exception of a few months, when I was fishing at Cape Hawke.
2548. Do you consider you have a good practical knowledge of the fisheries of the Hawkesbury River? Yes, I do; I have a good knowledge of the fisheries here.
2549. How many fishermen are there on the river? About forty licensed fishermen.
2550. And the evidence you are about to give before this Commission, can that be accepted as evidence which would be given by the fishermen if all of them were examined before us? As far as I know it can be; they look upon me as their leading man, and I am to give evidence in their behalf.
2551. Have you a Fishermen's Association on the Hawkesbury? Yes; we had a meeting a short time ago, at which matters affecting the fishermen were discussed. I can show you the result of one of our last meetings in this petition, which I beg to hand in to the Royal Commission:—

Petition to the Royal Commission on Fisheries.

Hawkesbury River, 16 March 1895.

We, the undersigned fishermen and others, resident on the Hawkesbury River, do hereby humbly request you to use your best influence to have the waters declared closed between the north and south heads of Broken Bay as far up as Croppy Point against sea mullet fishing, for a period of two months from date, so as to enable the mullet to spawn, and thereby greatly increase their number in these waters in the near future.

F. Cox	fisherman	Brooklyn	G. Hibbs	fisherman	Brooklyn
A. Collier	"	"	R. Izzard	"	"
L. Cox	"	"	A. Hansen	"	"
C. Williams	"	"	E. Ross	"	"
James Bennett	"	"	E. Parkyns	"	"
R. Byrnes	"	"	S. Cole	"	"
James Byrnes	"	"	W. Lloyd	"	"
James W. Garthon	"	"	Geo. E. Woods	"	"
Charles Brown	"	"	James Cole	"	"
James Ross	"	"	Joseph Green	"	"
William Sutton	"	"	Joseph Izzard	"	"
Albert Sutton	"	"			

Four other men wished to have their names added to the petition, but they are away.

2552.

- Mr. J. Izzard. 2552. Did you belong to any Fishermen's Association in Sydney? I did, but of late the Fishermen's Association has been broken up. We were 500 strong, or about that on one occasion.
- 18 Mar., 1895. 2553. Did that Association do any good to the fishermen? I do not know that it did, through the fault of the fishermen themselves.
2554. In what way? Some wanted too many concessions; others wanted nets out of reason altogether; others wanted unreasonable weights. They could not agree among themselves.
2555. Do you think that want of unanimity was due to the diversity of interests connected with the different fishing grounds? I think it had something to do with it.
2556. What was the name of the Association you belonged to in Sydney? The New South Wales Fishermen's Association.
2557. Was it the only one in existence? Yes; so far as I know. I am told they have formed one since in Woolloomooloo, but it is a sort of benefit society, I think.
2558. Have you ever attended any representative meetings or conferences of fishermen held to take into consideration the question of our fisheries? I attended one conference at the Town Hall, in Sydney, a few months back.
2559. Did any good result from that conference? I think not. The only good I know of was the railway authorities made a little concession in regard to the carriage of fish.
2560. Of late you have been engaged in fishing and boat-letting;—was it necessary for you to combine boat-letting with fishing in order to earn your livelihood? I found we had such a small extent of water to work in, and there are so many boats that we scarcely had a haul, so I went in for boat-letting.
2561. Have you anyone associated with you in your fishing operations? Two sons and two men. My two sons are licensed fishermen. One man is licensed also; the other attends to the boatshed.
2562. What is your average catch per week? About fourteen baskets.
2563. Where do you consign your fish? To the Redfern Market; sometimes to Woolloomooloo, but seldom there.
2564. Do you send your fish by rail? Yes.
2565. What classes of fish are they? Mullet, bream, whiting, flathead, jewfish, blackfish—occasionally a few soles and flounders.
2566. You have had business with the Woolloomooloo Market;—did you consign to an agent there? Yes.
2567. Were you always satisfied with your returns? No; I was very often in debt.
2568. Have you ever had to complain of the loss of fish in transit between the Hawkesbury and the market? Yes; not by rail; by the carters only.
2569. You think the pilfering takes place between the railway station and the market? Yes.
2570. What would be the average weight of your baskets of fish? Three-quarters of a hundredweight.
2571. You are not satisfied with the prices realised by the agents;—would it be better to adopt a system by means of which the fishermen could be brought into closer communication with the consumer? Yes; that would be a very great advantage to us.
2572. Would the fishermen generally be satisfied if they received (say) half of the amount paid by the public for fish? Yes; it would be nearly a quarter more than they get now. Last year I sent one basket of whiting from Cape Hawke; the basket brought 8d., and I saw a hawker retail one of the fish from that basket and obtain a shilling for it in Sydney.
2573. How many fish would that basket contain? About 5 dozen whiting.
2574. So that if you had realised half of what was obtained by the hawker for that basket of fish, taking it for granted that all the fish were sold at the price stated, you would have received about 30s. for your basket instead of 8d.? Yes. On another occasion I sent ninety-three baskets of bream and whiting from Cape Hawke to Sydney, and I only received £3 for the lot.
2575. Are you familiar with the manner in which they conduct business at the Woolloomooloo Market? Yes.
2576. Do you think there is any room for improvement in the way of displaying the fish? Yes; a great deal.
2577. Do you object to the fish being thrown on the floor in heaps? Very strongly.
2578. Do you think that system creates a prejudice in the public mind against the use of fish, in consequence of the fish being trodden upon and spat upon? Yes; it only requires one visit to that market to prove that. I have seen men come in out of the streets and scrape the fish together with their dirty boots in heaps on the floor, and I have seen them tread upon and spit upon the fish. It is disgusting.
2579. Do you think it would be an advantage to display the fish upon raised tables? That would be a great improvement.
2580. In disposing of your fish do you arrange to catch the only sale at the market? We try to; if we miss that early sale we have to pay for storage in the cold chamber, 9d. per basket.
2581. Would it be an advantage to have the market open all day for the sale of fish, or to have sales two or three times a day? I think two sales would be sufficient, say one in the early morning and the other at 10:30 a.m.; it would allow of men who had been fishing all night to send their catch to market in time for the second sale.
2582. Is the market at Woolloomooloo centrally situated? It is not.
2583. Would you recommend that a more central site be selected for a fish market? I would recommend a site somewhere near the Haymarket; a site contiguous to the railway station would give satisfaction, and it would stop a lot of pilfering.
2584. Would a site where fish could be taken from the railway trucks, and put right into the market, thereby saving extra handling, be more satisfactory to you? Yes; that would be a great boon to the fishermen, and it would save cartage.
2585. Supposing it was arranged that fishermen could sell their own fish in the market, would that be agreeable to the men? I hardly think that would suit, for the simple reason that they would be hanging out for a price until too late in the day.
2586. Do you think there is any possibility in existing circumstances of the agents working in with the hawkers to their own advantage? I feel sure they do. I am sorry to say auctioneers do so too, occasionally.
2587. You have sent some of your fish to Redfern, is that to Mr. Hudson's market? Yes.
2588. Have your dealings with that market been more satisfactory than with the Woolloomooloo Market? Yes; a great saving to me; there is no chance of stealing, and no cartage. 2589.

2589. Do you think you would realise better prices for your fish if you could send them gutted and cleaned to market? It could not be done on the far-away stations. Mr. J. Izzard.
2590. But supposing the prices realised for the gutted fish were sufficient to recoup the fishermen for engaging extra labour for the work, is there any reason why it should not be done? I think it could be done then; it simply depends upon the prices received. 18 Mar., 1895.
2591. Have you sent fish to the interior? Yes.
2592. Did you send them in the ordinary way, or packed in ice? In the ordinary way; that was in the winter time. I never attempted it in the summer time.
2593. If the Railway Commissioners were disposed to institute a better means for the carriage of fish by placing a refrigerating car on the line for the use of the fishermen, would it be availed of? I think it would be very beneficial to the fishermen in distant places. I do not know that it would be a great benefit to the men here.
2594. Do you think if such a means were adopted, it would be possible to send fish to the towns in the interior? Oh, yes; it would.
2595. Looking at the population of New South Wales, do you think the quantity of fish is consumed that might be consumed? No; for the simple reason that the hawkers charge too high for the fish, and there is no proper means of sending fish in good condition to the inland towns.
2596. Have you had to complain of the loss of returned empties? Oh, yes; any amount.
2597. You think, then, that not sufficient care is taken to insure the safe delivery of returned empties? No; on several occasions my baskets have been carried on to Dora Creek, and sent back to the Hawkesbury in a week's time, but that is generally the fault of the agent.
2598. Does the agent make out a consignment note for returned empties? He generally puts a ticket on them.
2599. Does he send you a receipt for them? No; the guard has a paper, a manifest.
2600. Have you sent any fish in boxes? I generally send in boxes now. I prefer boxes when sending by rail. I use the baskets when sending by steamer.
2601. Why? The weight; when the baskets are packed four or five deep, those underneath suffer great injury, owing to the weight resting upon them; the boxes resist the weight better.
2602. In regard to the classes of fish you send to market, are those fish you have mentioned sent all the year round from the Hawkesbury? Yes.
2603. When are the black bream in greatest numbers? Generally when there are freshes on.
2604. Are they the school black bream? Yes; it is the only time we get many black bream when there are freshes in the river.
2605. Is the Hawkesbury a spawning-ground for black bream? Yes, parts of the river.
2606. What is the largest black bream you have caught here? $5\frac{1}{2}$ lb. I saw one caught by the line; it weighed 6 lb. and some ounces.
2607. Speaking generally, do you think the Hawkesbury fisheries contain breeding-grounds? Yes.
2608. As to the mullet, when do they seem most prolific in the Hawkesbury? In February they are generally thickest. They generally begin to travel about the latter end of March.
2609. Do you think the sea mullet spawn in the Hawkesbury? I do. I think they come into the mouths of all the rivers for that purpose.
2610. Do you think they spawn at sea? No, I do not. I think they come into the smoother water for protection during the spawning season.
2611. What is the largest blackfish you have caught? I have caught some very large ones at Cape Hawke.
2612. But here on the Hawkesbury? Not more than 7 lb.
2613. Have you fished for garfish? Yes; a little.
2614. When are they to be found in greatest numbers in the river? So far as the river is concerned we only get a few that we call river garfish, but they are very scarce.
2615. Do you catch jewfish in the net? Yes; in great quantities.
2616. At what time of the year do they make their appearance in great quantities? January, February, and March; they are very thick at the present time.
2617. Have you ever caught any schnapper in your net? Yes.
2618. Do you think they enter the Hawkesbury to spawn? It is possible they do; we get so many small ones here.
2619. What nets do you use? A mullet net, 150 fathoms long, $2\frac{2}{3}$ -inch bunt, and 3 inches in the wings, a prawn net, also, and a meshing net, having a 4 inch mesh.
2620. In respect to the hauling net, is the length allowed you by law sufficient for you to carry on your work in the Hawkesbury? Quite sufficient in the Hawkesbury River.
2621. Are you satisfied with the meshes of that net? Yes.
2622. Do you haul your net on to the shore? Yes; the mullet net or hauling net.
2623. Do you empty your fish from the net on the shore or into the boat? Into baskets, and carry them to the boat; all the small fish we throw back into the water.
2624. In hauling do you allow the lead-line to be brought on to the shore and the top-line also, and permit the flue of the net to remain in any depth of water? Yes; that is what we call hauling to shore, as long as we have the lines on shore.
2625. Do you think it is a protection to the young fish you may have caught with the others? Yes; it allows them to escape.
2626. Would it be considered a hardship if it were made compulsory for the fishermen to empty their nets in at least a foot of water? It could not possibly be done in all cases in this river; some of the places where we haul are pretty steep.
2627. Have you seen many young fish killed by the use of the hauling net? Yes; I have seen a quantity of young fish killed by the hauling net when the blubber is bad.
2628. Do you often find young fish getting meshed in the bunt? A few; not many, as a rule.
2629. From what you have said, I take it you do not require the provision of the Amending Act giving you a further length of net to be extended to this place? Not on the Hawkesbury River.
2630. If you were allowed to use a net of smaller dimensions as to mesh than you now use, would there not be less likelihood of small fish getting killed by being meshed? There is no doubt about it; the $2\frac{1}{4}$ -inch mesh now allowed kills a lot of small fish which are not of a marketable size.

- Mr. J. Izzard. 2631. Supposing you were allowed to use a net of any dimensions you liked, and were compelled to land your fish in a certain depth of water, and that there was a stringent provision to punish fishermen for catching or sending undersized fish to market, would that be more satisfactory to you? Yes, I think it would.
- 18 Mar., 1895.
2632. Have you ever had any nets seized? No.
2633. Have you heard of fishermen who have had nets seized? Yes.
2634. Was it for having nets of illegal size as to mesh? Yes, on some occasions, and for fishing in closed waters.
2635. Do you know whether the nets so seized were of a legal mesh in the first instance? There have been nets seized in closed waters which were of a legal mesh, and the nets seized in open waters were of a legal mesh in the first instance.
2636. How do you account for them becoming of an illegal mesh? In consequence of the tanning and constant use of the nets.
2637. Were those nets returned to the fishermen? I never knew of a case on the Hawkesbury yet where the nets were returned, with the exception of one prawn net to Mr. Gardiner.
2638. Do the fishermen when purchasing a net allow for shrinkage? Yes; they generally allow half an inch in the bunt and a quarter of an inch in the wings.
2639. What is your idea in respect to seizures;—do you think nets should be confiscated for the first offence? No; I consider a man's tools of trade should not be taken from him. The fine should be made heavier.
2640. You would not object to a provision being incorporated in an Act making an offence punishable by fine or imprisonment for a term not exceeding seven days;—would you prefer that rather than see a man's tools of trade taken away from him altogether? Yes, I would; it is a very serious matter taking away a man's tools of trade, especially in the case of a fisherman; why, his wife and family may be left starving.
2641. What would you consider to be the value of those nets? From £18 to £25.
2642. Are you of opinion that more expedition ought to be shown in dealing with offences under the Fisheries Act? Yes; great delays have taken place in respect to prosecutions, and men have been debarred from using their nets for a considerable period while they have had to wait for the decision of the Court.
2643. Do you think cases should be dealt with within a period of (say) seven days from the time of instituting proceedings? Yes.
2644. You have used a prawn net;—was that used for the purpose of catching prawns for market? Yes.
2645. What quantity do you generally send to market? About a basket a night on an average.
2646. Is this a prawn breeding-ground? I have seen a lot of small prawns here, but I do not know much about them.
2647. Is there much prawning done in the Hawkesbury River? No; very little.
2648. You use a meshing net of 4 inches;—do you think that mesh might be reduced with advantage? I think the meshing net ought to be reduced to 3½ inches and another 60 fathoms added to it. No man can make a living with 60 fathoms of net.
2649. I suppose it is possible that, by the use of the present mesh, good marketable fish make their escape? Yes, it is; fish weighing 1 lb. can go through a 4-inch mesh.
2650. What fish do you generally catch in the meshing net? Mullet, bream, jewfish, flathead, and blackfish.
2651. What is the largest mullet you have caught in the meshing net? Six pounds.
2652. Have you caught any larger ones in the hauling net? Yes—6½ lb.
2653. In respect to closed waters, are you as anxious as the Government to protect the breeding-grounds? Yes.
2654. Have any unjustifiable closures taken place on the Hawkesbury River? Yes, in 1881, about 100 miles of the waters of the river were closed against net fishing.
2655. Were those waters in the main river? In the main river and its tributaries.
2656. Supposing only the tributaries had been closed, would you consider that a hardship? Yes.
2657. Why? In winter-time the fish always make up the tributaries in deep water, and there they continue for warmth. You would not catch twenty baskets in the main river.
2658. Are there many people living on the upper reaches of the Hawkesbury who obtain their food supplies by catching fish? Yes.
2659. And these closures have to an extent deprived them of the means of subsistence? Yes.
2660. Have any closures been made lately that have acted prejudicially to the interests of the fishermen? Yes; Mooney Creek and Mullet Creek are both closed.
2661. Who recommended those closures? Mr. Smith recommended portions of those creeks to be closed, and the Fisheries Commission closed the whole of Mullet Creek and the greater portion of Mooney Creek. Other creeks that were already closed were necessary closures.
2662. Would harm result if the fishermen were allowed to use meshing or drift nets in closed waters? If they were confined to that size of mesh alone they could do no harm.
2663. They could then get marketable fish in closed waters and not disturb the feeding or breeding grounds? That is so; the meshing net will never disturb breeding or feeding grounds.
2664. And consequently the young fry would be protected? Yes.
2665. Do you believe in that provision of the Act which allows a moiety of the fine to go to the informer? No; I do not approve of it.
2666. Do you think that acts as an inducement to inspectors and others to be harsher to the fishermen than they ought to be? Yes; that should be done away with altogether. I can prove it. The inspectors have recommended larger closures than were necessary in order to give them a greater field for catching fishermen using nets in closed waters, and thus make them liable to be fined or have their nets confiscated.
2667. Do you complain of any other provision of the Act operating harshly upon the fishermen? I think the inspector should be allowed to issue licenses to the men to save them expense.
2668. Have you any objection to the amount charged for the license? It is hardly heavy enough.
2669. Are you not supposed to have your license in your boat? Yes; according to the Act.
2670. Is the paper on which the license is issued durable? No; it is not sufficiently durable to be always carried in the boat.
2671. Would it be an advantage to have it printed on parchment? It would be an advantage.

2672. I suppose you are of opinion that if the licenses were issued by the inspector, fishermen would not be harrassed so much by being requested to produce their licenses so often? That is so. The inspector would know everyone on the river, and it would save him a lot of trouble. Mr. J. Izzard.
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2673. Would you favour a provision limiting the number of men to the respective fishing-grounds? No; I am not in favour of that.
2674. So that if a fishing-ground was only capable of giving employment to forty fishermen, you would have no objection to double that number fishing in the waters? No.
2675. I suppose your objection is prompted by unselfishness? Yes; that is so.
2676. Do you know of any occasions when any or all of the Fisheries Commissioners have visited the Hawkesbury River? No.
2677. Do you think if any one or all of them had visited these fisheries you would have heard of it? It would seem very funny if the Fisheries Commission came and we did not hear of it.
2678. Have you ever approached the Commissioners as a body asking for relief or redress of your grievances? Not the Commission.
2679. Have you ever approached the Colonial Secretary and made representations which have afterwards been sent on to the Commissioners? Yes, six or seven times.
2680. Did your deputations to the Colonial Secretary result favourably? We got very good promises, but that is all; we got no actual redress from the Fisheries Commission as the result of our deputation.
2681. Did you as a member of the Fishermen's Association ever approach the Colonial Secretary and ask for certain reforms? Yes, on three different occasions.
2682. Did you get any satisfactory result? No, I never heard any more about the matter.
2683. Can you give the Commission the names of the Colonial Secretaries you have waited upon? Yes; Sir Henry Parkes, on four or five occasions; Mr. Barton, on behalf of Sir George Dibbs, on another occasion; and Mr. Brunner on one or two occasions.
2684. Did they express sympathy with you on those occasions? Yes; particularly Sir Henry Parkes. He promised faithfully he would see that something was done. On the last occasion he told us he was powerless to do anything. He said the Commission was appointed by Act of Parliament, and it would take an Act of Parliament to remove that body.
2685. Do you know whether the Commission have visited any of the other fishing grounds? No, not that I have heard of.
2686. Do you think that the Fisheries Commission, as a body, have carried out their duties satisfactorily to the fishermen and to the public? No, I do not.
2687. Would you deem it advisable to continue the present authority, or would you suggest or recommend the creation of another administrative authority? I would suggest that the present Commission be abolished, and that there should be appointed in their place one man as Chief Commissioner, and one head inspector who should be a travelling inspector; in addition to this we should have local boards to advise, on which fishermen representing the different fishing centres should have seats. The travelling inspector should be a thoroughly practical man. The Chief Commissioner should be a gentleman having a thorough knowledge of our fisheries and the working of the Act, so as to give satisfaction to all parties.
2688. Then you think it desirable to create an authority that will take more interest in the development of our fisheries,—you would like to see a man appointed who would pay periodical visits to the different fishing grounds? Yes; I think that would be a good thing.
2689. You do not think it possible for the present Fisheries Commission to have a knowledge of the local circumstances of the fishermen, and to be able to administer the Act fairly, they not having travelled about and acquired a knowledge of the local conditions of the respective fisheries? No, I do not.
2690. Have you had any experience in oyster culture? A good deal.
2691. Have you held any leases? No.
2692. Have you known those who have? Yes.
2693. Has the system of leasing been satisfactory? No; it has been a fraud upon the public.
2694. Do you know whether the oyster-beds in the Hawkesbury have been attacked by any disease? Yes, the worm has been troublesome here; I think the difficulty could have been coped with if the lessees had paid a little more attention to experiments.
2695. Did the worm attack the natural or the artificial beds, or both? The artificial beds first, and then worked itself into the natural beds.
2696. Have many oysters been obtained from the leases here? Not many of late years.
2697. Is that owing to the ravages of the worm? No; those 100 yards leases could not produce one-tenth of the oysters that it was said came off them.
2698. Was that because there were facilities for the men who held the 100 yards to steal oysters from the larger leases and from the Crown lands? Yes.
2699. Would you favour a provision which would prevent that state of things occurring, by leasing, say, an arm of a river to one man? Yes; I would favour leasing a creek or an arm or a side of a river to one man.
2700. Does the present system appear to you to be like indiscriminate free selection? Yes. There is on Berowra Creek a lease of 200 yards which brings into the State £2 per annum as revenue, and I am prepared to pay 100 sovereigns per year for the creek. The man who has the 200 yards simply has the whole of the creek to himself for £2, and I am prepared to give 100 sovereigns to the Commission for the lease of the whole creek any time they think fit.
2701. During the time the oyster-beds, natural and artificial, have been attacked by the worm disease, have the lessees paid rent to the Fisheries Commission? I think only one or two.
2702. Was it because they were unable to get any results from their beds that they were not able to pay their rent? They had no money, and you cannot get blood out of a stone.
2703. Would you be in favour of a provision by which lessees should pay so much per bag as royalty instead of charging an annual rental for their oyster leases, provided that due consideration were given to the proper working of the oyster-beds, so as to ensure the systematic working of the oyster fisheries? I am in favour of that; it would be a good thing.
2704. Do you know anything about the growth of oysters in the Hawkesbury River? Yes.
2705. How long does it take for an oyster to develop into a marketable oyster after the spat has been noticed? On some occasions they are large enough for market in seven months; on other occasions fourteen months.

- Mr. J. Izzard. 2706. How do you account for that? If the spat is in very strong water they do not grow so well as in quieter water. I can prove that by taking the spat from the one place and putting it in sweeter water than the other; the spat placed in the sweeter water will grow much quicker than spat placed in stronger water.
2707. Probably the growth of oysters in the upper portions of the river is owing to the fact of their obtaining their due proportion of fresh water? Yes, it is.
2708. Have you had any practical experience in deep-sea fishing? Only with the line.
2709. Where have you fished with the line? Off Sydney Heads, wide off Long Reef, Broken Bay, and other places.
2710. What description of fish did you catch? Schnapper, nannegai, morwong, flathead, sweep, and Sergeant Baker.
2711. In catching the Sergeant Baker have you ever noticed that its existence at a given place is evidence of schnapper frequenting that ground? Yes, I have found it to be so; the appearance of the morwong is a still better sign of the existence of schnapper.
2712. During your trips outside have you discovered any smooth bottoms that would be suitable for trawling over? Yes; in several places.
2713. Have you ever done any trawling? No.
2714. Have you had any experience in connection with the use of the drift net outside? No.
2715. Have you ever noticed any shoals of fish travelling from the south to the north? Yes; great schools of fish.
2716. What were they? Some call them herrings. I caught a few of them; but I do not think they are the same class of fish as the English or Scotch herring.
2717. Do you think the fish you caught could be made into a marketable commodity? Possibly so.
2718. Have you seen shoals of other kinds of fish travelling? Yes; large shoals of mullet, kingfish, tailer, and other fish I do not know the name of. They were like mackerel.
2719. How far off the coast would that be? Four and five miles off—between Broken Bay and Sydney.
2720. Have you ever done any well-boat fishing? I have seen well-boats.
2721. Do you think they could be used in connection with the fisheries of the Hawkesbury River, in order to carry fish alive to market? Yes, they could. If the fish could be kept alive they would sell well. There is no doubt about that.
2722. Have you done any fish-curing? Yes.
2723. By what means? I have tinned, salted, dried, and smoked them.
2724. Have you sent any to market? I have sent salted and smoked fish to the market, but no tinned fish. I have sent samples and could get orders for tinned whiting, bream, and garfish, and some mullet, but I could not get a sufficient quantity of bream and whiting to fill the orders. The first sample I sent in to Sydney I received an order for 1 ton of bream, a ton of whiting, and half a ton of mullet. I wanted them to reverse the order, but they would not do so. Had I known what I now know I could have filled the order by getting my supplies from the northern rivers.
2725. Do you think there is room for development in the fish-canning industry? Yes; I am sure there is a great industry to be created in that direction.
2726. You only want the fish and the enterprise? Yes.
2727. You speak from having had practical experience in fish-curing and canning? Yes, I do; I have a thorough knowledge of it. I gave samples of fish canned by myself to different people to taste, and they said they never eat anything to equal it.
2728. Have you seen any whales on the coast? Yes; I have seen as many as seven at one time while running from Sydney to Broken Bay.
2729. What species? The black whale, I think; they were very large.
2730. Mr. Thompson.] What temperature did you obtain when tinning fish? I will tell you the process. The first thing is to clean your fish and put them in salt and water for twenty-five minutes; then take them out and hang them up for eight hours in the smoke-house; then you cut up the fish and weigh it, put them in your tins, and solder them up. You then put them into a pot and boil for four hours; at the end of that time take them up and punch a hole in the top of the tin to let the steam escape; you leave them open for four minutes, then solder up again, and after that the tins should be put into very cold water for three hours. If either end of the tin becomes convex, that is an evidence that the fish will not retain its quality. The remedy for that is to boil a second time and punch a second time; but they are what we call do-overs.
2731. How long do you find these tins of fish to last? I have had them for two years, and the fish remained fresh and in good condition.
2732. Would it not minimise the shrinkage of nets if the twine of which they are made were tanned before being made up? Yes, it would. If the twine had two good tannings before being made up, I feel sure it would not shrink more than one-sixteenth of an inch.
2733. Have you ever considered the question of leasing out waters in portions to fishermen? Yes, it could be done; but it would not be profitable, because you would want a man to watch the water continually; it would be rather a monopoly, too.
2734. Would it be an improvement if your fish-boxes were made of wire netting instead of wood? It would be if it were not that the dust in process of carting through the streets would destroy the appearance of the fish.
2735. Have you any trouble at this railway station in loading your fish? We had some time ago, but since we have had good officers on the railway here the baskets of fish have been loaded with the greatest of care.
2736. Can you tell me when the black bream spawn? My experience of the black bream is that they do not spawn at the same time as the mullet. About a fortnight ago—that was in February—I caught a few and they were ready to drop their spawn, while in others I caught at the same time the spawn was scarcely formed.
2737. Is there any other time of the year in which you have found them in spawn? Yes; in May, just a little.
2738. Do you ever find them in spawn in September or October? Yes; in September.
2739. Where do the mullet spawn? It has been my experience that the mullet come down from the heads and work towards the sea. They spawn in the mouths of the river, on the sandy bottoms. 2740.

2740. You do not use the long line here—the set line? No; I do not approve of it. It is not used in the river, except by amateurs. Mr. J. Izzard.
2741. How would it do instead of having the fishermen's licenses made of parchment to construct them of metal, something like a railway ticket? I think that would be very good for the fishermen; they could nail them on to the side of their boat, and there they would be. I approve of that for both boat and fishing licenses. 18 Mar., 1895.
2742. Do you think amateur fishermen should be licensed? No.
2743. Would you refuse a license to aliens until they became naturalised? No.
2744. Are crayfish plentiful at the mouth of the Hawkesbury? They were very plentiful some years ago. I have known 24 dozen caught by one boat at the mouth of the Hawkesbury.
2745. *President.*] Do you think you have sufficient water opened to net fishing at the present time? No; we have waters closed now that would be a boon to the fishermen, and no harm to the industry to have worked; that is Mullet Creek and Mooney Creek. At night-time you can hardly hear one another speak the fish make so much noise. They are all big mullet, and fit for market; they will go away in a few weeks.
2746. Are there any other waters closed besides those you have mentioned? Yes; 6 or 7 miles of Berowra Creek and Marra Marra Creek, and several miles of Mangrove Creek, and the greater part of Cowan Creek.
2747. Do you think the best time for ascertaining the condition of the fisheries—that is, for ascertaining the supply of fish there may be in the fisheries—is the night time? Yes. You can go up any creek in the day time, and you will not see a mark on the water; if you go up at night you can hardly hear yourselves speak, owing to the noise made by the fish.
2748. Have you any knowledge of the fishing-grounds about Woy Woy;—are they adapted for breeding-grounds, and so forth? Yes; those grounds are well adapted for breeding-grounds; it would be better, instead of closing a portion here and there, that a big arm should be closed altogether. I consider those few acres closed here and there are nothing but traps for fishermen.
2749. Do you believe in preserving breeding-grounds by closures wherever justifiable? Yes. Also I advocate the use of garfish nets in proper places—not up the rivers; they are very destructive to young fish. The garfish net should not be used above Croppy Point.
2750. Would any harm result from amateur fishermen visiting Woy Woy and catching mature fish? I think harm will result if there is not a stringent provision to prevent them catching undersized fish.
2751. Do you wish to add anything to the petition you have presented to the Commission to-day? Yes. I would like to say that we wish the request for closing the heads to apply also to the tributaries below Croppy Point—that will include Cowan Creek and Pittwater.

Mr. James Ross, fisherman, Peat's Ferry, Hawkesbury River, sworn and examined:—

2752. *President.*] Your name is James Ross, and you reside at Peat's Ferry? Yes. Mr. J. Ross.
2753. How long have you held a license? Since 1881. 18 Mar., 1895.
2754. Are any other persons fishing with you? My son and another man at present.
2755. Have you confined your attention to the Hawkesbury River, or have you fished elsewhere? On the Hawkesbury. I have never been anywhere else.
2756. Do you notice any difference in the fish supply in the Hawkesbury at the present time, comparing it with the time when you commenced fishing? A little difference in some parts of the river.
2757. Are the choice varieties of fish as plentiful now as they were in 1881? Hardly so plentiful.
2758. Do you think over-fishing has anything to do with it? There are such a lot of boats where the choice fish are that it disturbs them and drives them away.
2759. What fish are you catching now? Mullet generally.
2760. Do you send your fish to market by rail? Yes.
2761. What is your average catch per week? About four or five baskets per week.
2762. Where do you send your fish? To the Redfern Market.
2763. Have you sent any fish to Woolloomooloo? Not for some years.
2764. Were you satisfied with your transactions with the Woolloomooloo Market when you were sending fish to that place? No; very dissatisfied.
2765. I suppose you disposed of your fish through an agent? Yes.
2766. Are you of opinion that you received fair prices for your fish compared with the prices the public had to pay? No.
2767. Do you think that if the fishermen generally received, say, half of the amount the public pay for fish, it would be a fair return for their labour? We would be well satisfied.
2768. Do you think it would be an advantage to the fishermen if they were brought into closer business relations with the general public? I am sure it would be. It is what we have been trying to do.
2769. Have you a knowledge of the system adopted in the Woolloomooloo Market;—have you seen the way the fish are displayed there? I have. I have seen fish thrown upon the ground and walked over, and spat upon.
2770. Do you think the perpetuation of such a system as that tends to increase the consumption of fish? No; it does not.
2771. Would you favour the method of displaying fish on raised tables, instead of throwing them on the ground? Yes; it would be much better.
2772. Have they raised tables at Redfern? I believe they have.
2773. Do you find fault with the charges made by the Railway Commissioners for the carriage of fish? No.
2774. Do the officials on the railway handle your fish in a proper manner? Yes; I think so, as far I have seen.
2775. Have you ever lost any fish between the place of consignment and their destination? On one occasion.
2776. Have you any idea where they were lost? No.
2777. Do you think they were stolen? I cannot say. The agent wrote to me stating that he had not received the fish, and asked me to inquire into the matter, but I let it drop.
2778. Have you ever lost any returned empties? Yes; many a time.

2779.

- Mr. J. Ross. 2779. Do you think more care should be exercised in this matter? Yes; more care should be shown.
- 18 Mar., 1895. 2780. Do you think the market at Woolloomooloo is in a proper position, or would it be better to have a more central site for a fish market? Yes, it would; the Woolloomooloo Market is not central enough.
2781. If we had a central market, say at the Redfern Railway Station, would it not save the present unnecessary handling of the fish? Yes; it would.
2782. Have you sent fish to market in boxes? Yes; mostly in boxes.
2783. Which do you find the best—boxes or baskets? Boxes.
2784. You send your fish so as to catch the early morning sale, the only sale at the market in Sydney? Yes.
2785. Would it assist the fishermen in the disposal of their catches if two or more sales were held per day at the market? I am sure it would be a very great advantage if there was an extra sale at the market, say about 10.30 a.m.
2786. Why? Because we could remain at home all day and we could catch our fish at night, and they would be in first-class order to send to market for that sale. A mullet caught during the day is as full of mud as he can hold, but the same mullet caught after 9 o'clock at night would be free from mud; his entrails would be red and clean.
2787. What nets do you use? The hauling net and the garfish net. I use a meshing net occasionally.
2788. Would you like any alteration made so as to allow of a greater length of the hauling net in the Hawkesbury River? No; I am satisfied with the length.
2789. Are you satisfied with the mesh? No; for good reasons.
2790. What are they? I would like to see no closed waters, only at certain times.
2791. So that you think that by prescribing nets of certain dimensions such as will protect the young fish that is all that is necessary, and no closures need be made? Yes; that is all I think should be done.
2792. Do you haul your net on to the shore so that the fish get stranded? Well, in certain places you cannot do anything else.
2793. In what depth of water do you take your fish out of the net when you do not haul right on to the shore? In some places it would not be deeper than 6 inches.
2794. I suppose you haul your lines on to the beach clear of the water, allowing the flue of the net to remain in 6 or 12 inches of water? Well, barely that much at times.
2795. Have you found undersized fish get meshed in the bunt? Plenty of times. I have taken them out until I have been sick and tired of it.
2796. Would you suggest, in order to obviate that, that the bunt should be made smaller? No.
2797. What would you suggest? I would suggest nothing less than a 2½-inch bunt, and that the river be thrown open.
2798. You think the undersized fish could escape through the 2½-inch mesh? Yes.
2799. Would it not be possible to prevent the smaller fish being meshed by using the smaller mesh? I cannot see it.
2800. Are you satisfied with the mesh of the wings? That is correct.
2801. Have you ever had your nets seized? Never.
2802. Have you known those who have had nets seized? Yes.
2803. For fishing in closed waters? I believe so.
2804. And for fishing with an illegal mesh? Yes; on some occasions.
2805. Do you know whether the nets when first used were of a legal mesh? Yes; I remember one net. The mesh of that was legal.
2806. Was that net confiscated? Yes; it was.
2807. Do you believe a fisherman should lose his net for committing an offence against the Act? No.
2808. Would a fine or term of imprisonment—say, not exceeding seven days—be better than confiscating a man's net, and leaving him without his tools of trade? Yes; it would.
2809. How do you account for the net becoming illegal after it has been once passed as legal? Owing to the shrinkage of the net through the constant tanning.
2810. Do not the fishermen allow a certain amount for shrinkage when buying their nets? Some of them do—not all.
2811. You use a garfish net;—are you satisfied with the dimensions of that net? Yes; I am satisfied with the garfish net the way it is at present; but I am against garfish nets, although I use one.
2812. Why? Because they seem to me to be too destructive to the small fish.
2813. Do you catch many garfish in the Hawkesbury? Not at present.
2814. Do you believe in the provision which allows an inspector, or an assistant inspector, half the fine in connection with the prosecutions of fishermen? No, I do not; I am against that altogether. The inspector ought to be satisfied with his salary. I do not think it is right that he should have half the fine.
2815. In regard to the meshing net; do you use that frequently? That is a net I would like used more than any other.
2816. Would you like that to be of longer length? Yes; I do not see why we should not have the same length of meshing net as of hauling net—150 fathoms.
2817. You would have no alteration in the mesh of that net? Yes; we should have from 3 inches upwards, instead of 4 inches.
2818. Are you of opinion that a lot of marketable fish escape through the 4-inch mesh? Yes; certainly.
2819. Would you favour a proposal permitting the use of nets up to a maximum length, say 150 fathoms, the fishermen being allowed to use whatever mesh they liked, provided they were compelled to empty their nets in not less than 6 inches of water, and that there was a stringent provision to prevent the possibility of undersized fish being sent to market;—would that be better than having these complications in respect to the length and mesh of nets such as we now have? Yes; it would be better. It would take all the trouble away from the fishermen.
2820. Do you think all the closures that have been made have been justifiable ones? No.
2821. Have any of those closures operated harshly against the fishermen? Yes; they have.
2822. Have any waters been closed on the score that they were being depleted, when such was not the case? Yes; on one occasion.
2823. When was that? In 1891, I believe. The closure was on the river, from Bar Island upward.
2824. Is the Hawkesbury River a breeding-ground? It is to a certain extent.
2825. Would you favour closures to allow the fish to breed if such closures were justifiable? Yes.

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2826. In order to obtain a good supply of fish for the Sydney market, would you favour a proposal to allow a meshing net, or any other kind of drift net, to be used in closed waters so as to catch the marketable fish? I would favour that, providing closures are made at the heads of waters, and not at the mouths.
2827. In regard to the administration and control of the fisheries, you are doubtless aware that a Board of Commissioners was appointed under the Act of 1881 to administer that Act? Yes.
2828. Has it come to your knowledge that any one or all of the members of that Board have visited the Hawkesbury River fisheries? Not to my knowledge; they could not have come without my knowing of it.
2829. Have you and others approached the Colonial Secretary at different times with a view of obtaining redress for your grievances? Yes.
2830. Has any good resulted from your labours in that direction? No.
2831. Are you satisfied with the Fisheries Commission as at present constituted? No, I am not; I am very dissatisfied with it.
2832. Do you think anything should be done to try and bring about a reform in the administrative authority? I think one practical fisherman should be appointed at the head of affairs, a person who would take a little more interest in the fishermen and their grievances than the present Commission does.
2833. Do you think it absolutely necessary that the person charged with the control of the Fisheries Department should have a personal knowledge of the circumstances connected with the several fishing-grounds? Yes, I do.
2834. Have you done any well-boat fishing? None.
2835. Any trawling? None.
2836. Have you done any deep-sea fishing? None.
2837. Have you had any experience of oyster culture on the Hawkesbury River? A little.
2838. Have you held a lease? I held somewhere about 2,000 yards.
2839. Where? Mooney Creek and Porto Bay.
2840. Did you get profitable returns from the beds? Yes, I could make it do.
2841. Were they natural or artificial beds? Natural.
2842. Why did you give up your leases? There was so much pilfering and thieving, I was obliged to get rid of them.
2843. Are you a believer in the system of allowing a man to take up a lease of 100 yards between larger leases? No.
2844. Has not that system been the means of encouraging stealing from the beds contiguous to that 100 yards? Most undoubtedly it has, I have proved that myself.
2845. During the time you held those leases were your beds visited with any disease? Yes, very badly.
2846. Did you do anything to try and check it? No.
2847. Do you know of anyone who tried an experiment to check the spread of the disease? No.
2848. What was the nature of the disease? I think it was a small worm which attacked the oyster and centred itself in the shell.
2849. Did your oysters develop quickly from the spat stage? It was just according to what water they were in.
2850. What water is best adapted to the rapid growth of the oyster? Mooney Creek is the best, I think, because it is very shoally.
2851. Do you think that a better system of leasing would be to lease a portion of the river or the tributaries? I think so.
2852. Would you favour the leasing of large areas for oyster culture, providing there were stringent conditions for working the leases in a systematic and proper manner, the lessee to pay a royalty on every bag, and not so much per 100 yards, as at present? That would be a very good idea, I would favour that.
2853. What do you think would be a fair price to charge as a royalty on each bag of oysters? About 2s. 6d. per bag.
2854. You think that would be the amount you, as a lessee, would be able to pay, and you also think it would give a fair return to the Government? Yes, I think so.
2855. Have you done any fish-curing? No smoking; salting and drying. I used to make my living out of it, that was when there was no limit to the meshing net, but since it has been cut down to 60 fathoms, I find it insufficient to allow of my catching enough to salt and cure.
2856. Was it because you could not get the proper kind of wood to burn that you did not go in for smoking? No; I never touched it; there was very little of it done at the time I speak of.
2857. In regard to the fishermen's license, do you advocate any reduction? No; the fee is right enough, but I think our local inspector should issue the license to us.
2858. So that instead of your being compelled to apply to the nearest clerk of Petty Sessions, who might be miles away from you, you think the local inspector should be authorised to issue the licenses? Yes; he is the fit and proper person.
2859. Would that be the means of assisting the inspector in identifying the fishermen more readily afterwards? Yes; it would.
2860. *Mr. Thompson.*] You mentioned something about garfish nets a little while ago, what do you suggest as to their use? I suggest they should not be used above Croppy Point.
2861. As to the petition for closing the mouth of the Hawkesbury, and thereby facilitating the breeding of the mullet, how do you know the mullet breeds there? I have seen the mullet come in in schools into Patonga Creek, and about the sand beaches.
2862. Have you seen them spawning there? I cannot say I have.
2863. Have you seen mullet spawning anywhere? I cannot say I have.
2864. Then if the Government acceded to the prayer of your petition presented to the Commission to-day you really do not know that the end desired would be gained? I have seen big mullet knocking about there for nearly a fortnight, when they were not disturbed so much as they are now.
2865. How high up the river have you seen the sea mullet go? Not further than Mullet Island Beach.
2866. You propose to close this water from Croppy Point downwards? Yes.
2867. Then if the fish pass that limit they could be captured? Yes; but it is very rarely they do.
2868. Do you want the prayer of your petition considered at once and a recommendation made upon it, or would you like the Royal Commission to make a recommendation to have the closure a permanent one, during the months of March and April in each year? That was the object: to have the closure every year in those months.

- Mr. J. Ross. 2869. Do you think it would lessen the liability of nets to shrink in tanning if the twine were twice tanned before being made up? Certainly it would.
- 18 Mar., 1895. 2870. Would it be an advantage to the fishermen if netting could be imported so prepared? Yes, it would be.
2871. Did you ever consider the question of dividing the waters into portions and leasing them for fishing? No; I think it would be too much of a monopoly.
2872. Would you limit the number of fishermen to each fishery? No, I would not; let as many come as they like.
2873. Would you refuse a fisherman's license to aliens, Greeks, Italians, and others, until they become naturalised? I have not given that matter much attention.
2874. Would you license amateur fishermen? Yes, something should be done in the matter.
2875. Do you think they destroy many undersized fish? Certainly; I have seen them do so on several occasions, especially small bream.
2876. Would it not be better to issue the fisherman's license in the shape of a small metal token, or something that would be more durable than the present license? I think it would be a very good thing.
2877. Would you advocate the selling of cleaned fish in the market? Yes, I strongly advocate that.
2878. What do you think of boxes made of galvanised wire-netting supported on a strong iron frame; would the ventilation be more complete than in baskets or wooden boxes? The ventilation would be good, but the fish would be liable to catch the dust.
2879. Do you know where the oyster spat comes from;—does it come from the sea? I do not know.
2880. How do you account for the existence of natural oyster-beds, for instance, those natural oyster-beds in Berowra Creek? I cannot account for them.
2881. You know there are such things as natural oyster-beds? Yes.
2882. Well, can you account for the existence of natural oyster-beds in certain places in the river? I cannot answer the question.
2883. *President.*] Have you ever noticed shoals of fish passing to the north outside? No, I have not.

Mr. Peter Smith, Assistant Inspector of Fisheries, Hawkesbury River, sworn and examined:—

- Mr. P. Smith, 2884. *President.*] What is your name? Peter Smith.
- 18 Mar., 1895. 2885. You are an Assistant Inspector of Fisheries, stationed at the Hawkesbury River? Yes.
2886. How long have you occupied that position? About thirteen years.
2887. Have you had charge of the Hawkesbury River during all that time? Yes.
2888. How many licensed fishermen are there on the Hawkesbury? About forty-six licensed fishermen and nineteen boats. Sometimes the fishermen number as many as seventy odd, and boats in proportion.
2889. Do you find them a set of men with whom you can work well? There are a good many against me. Some do not like me because I prosecute them for being in closed waters.
2890. How many baskets of fish were sent from here during 1894? The number was 5,991 baskets.
2891. About what would be the value of the consignments sent from the Hawkesbury during 1894? I am unable to say.
2892. Have you had occasion to prosecute the fishermen? Yes; at various times, for fishing in closed waters, and taking oysters off Crown lands.
2893. What means have you for travelling about and doing your duty? Only a boat, and a heavy boat, too. At night-time I often take one of my boys with me to help me. I have a large district, and sometimes a good many miles to pull.
2894. What salary are you receiving now? £140 per annum.
2895. Is that the salary you received when you were appointed? No; I then got £150 per annum. After nearly fourteen years service I am actually getting less now than I did when first appointed.
2896. Do you know what caused that reduction? They called it retrenchment. I do not know the ins and outs of it.
2897. But are you not aware that Parliament directed there should be no reduction in salaries under £200 per annum? I have heard that is so.
2898. If that is so, the Fisheries Commissioners have ignored the direction of Parliament? They have.
2899. Do they provide you with a residence? No.
2900. Do they provide you with a boat? Yes; a Government boat, but she is large, heavy, and clumsy—too heavy for one man.
2901. I suppose after your thirteen years' experience here you have a pretty extensive knowledge of the capabilities of the Hawkesbury fisheries? Without a doubt; but my practical knowledge dates back many years before that.
2902. Where did you gain any experience before you were appointed? In New South Wales; in the deep-sea fisheries, the net fisheries, and also in the oyster fisheries, many years in each branch. My experience dates back before the loss of the "Dunbar."
2903. Was it ever contemplated to retrench you from the Service? I believe it was.
2904. On what grounds? I cannot say, excepting those of retrenchment.
2905. Do you know if all the assistant inspectors in the service of the Fisheries Commission are practical men? I have reason to believe they are not. Myself and Assistant Inspector Gordon are the only practical men in the whole Department.
2906. Have you made recommendations at times to the Fisheries Commission? Yes, I have.
2907. Have those recommendations at all times been carried out? No; I do not know that they were ever carried out with the exception of the last closing of this river.
2908. Have you ever had any assistant inspector of fisheries reporting on matters connected with the Hawkesbury River fisheries, which duties could have been performed by yourself? I believe there has on different occasions.
2909. Do you think the present Fisheries Act satisfactory? No; I do not think it is satisfactory.
2910. Do you think there is any room for improvement? My opinion is that the whole Act should be repealed and a new one introduced.
2911. What nets are mostly used in the Hawkesbury? Well, they nearly all use these garfish nets now. I believe they use them all the way up to Windsor where not a garfish is seen.
2912. Is the use of those nets detrimental to the interests of the fisheries? Very much so; they are very destructive nets.

2913. What other nets do they use? Meshing nets and the hauling net—that is, 2½ inches in the bunt, and 150 fathoms long; very few use anything but that. They have all got this garfish net; they have found out the law cannot touch them, and they use those nets. Mr. P. Smith.
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2914. They have found out there is no limit to the length of the wings? They have found out that the law is powerless to stop them from catching any kind of fish.

2915. Do you think undersized fish are caught by those means? I am quite certain for every day that goes over our heads thousands of little fish are destroyed by those garfish nets.

2916. What would you propose to remedy this state of affairs? I would propose you make limits in every river of importance. In such places as Brisbane Water, Gosford, or Tuggerah Lakes, I would never allow a garfish net to be used; I am now speaking from practical experience.

2917. Then you would close certain waters against the use of the garfish net? Certainly I would.

2918. I suppose that would be in the event of it being shown that garfish were not in marketable quantities in those waters? Yes; because garfish do not enter those waters in sufficient quantities to warrant the use of such destructive nets.

2919. Have you heard any fishermen complain of the hauling net not being long enough? It is quite long enough on this river. Two or three years ago I had orders from the Department to examine all nets on this river, and send in a report as to their length, size, mesh, depth, and all particulars. I found a great number of nets were not the length they were allowed to be; they were less than the length allowed by law.

2920. In regard to the mesh of the hauling net do you think that is satisfactory? I think 2½ inches would be a better mesh for the bunt; it would allow the small mullet, or any other small fish, to go through better. In former times they used nothing less than 2½ inches in the bunt.

2921-2. Have you found, with the present mesh of the bunt, that many young undersized fish get meshed and destroyed? Yes, they often get destroyed, particularly the small mullet.

2923. Would it be better to lessen the mesh of the bunt, or increase it? I would rather increase it to 2½ inches.

2924. Do the fishermen haul their nets so that the fish become stranded? They haul all the nets ashore, with the exception of the garfish net, and the meshing net.

2925. Do they, as a rule, leave the flue of the net in a certain depth of water? When I am about they comply with the laws, when I am away there is no knowing what they do.

2926. Do you think the fishermen desire to respect the law? Some of them do not care what fish they destroy.

2927. Is the meshing net brought into general use here? Yes; the meshing net is a very good net and one I can recommend, it will not destroy small fish.

2928. Should the mesh of that be altered? To give better facilities to the fishermen I would say, make the mesh a little smaller, say, 3½ inches, and allow a greater length of net.

2929. What length? 100 fathoms if they wanted it; if they wanted more I would have no objection.

2930. Are prawn nets used here? Oh, yes, lots of them.

2931. Do they destroy many young fish? Yes, a certain quantity; but not so many as the garfish nets.

2932. What would you think of a provision in an Act allowing fishermen to use whatever net they chose, up to a maximum length, say, of 150 fathoms, there being a further provision that they were to empty their nets in not less than 1 foot of water, and provided there was a stringent provision inserted punishing them for catching or sending to market undersized fish? I am afraid the landing in 1 foot of water would not work well; there are large flats that extend a stone's throw out, and they would not have 1 foot of water over them. I am afraid it would not be practicable in the Hawkesbury River.

2933. You think, then, all that is required for the Hawkesbury River fisheries, is that there should be an alteration in the bunt of the hauling net, increasing it to 2½ inches, and that the use of the garfish net should be discontinued altogether? Yes, I do.

2934. Do you see any objection to allowing a *bona fide* meshing net to be used in the closed waters, to catch the marketable fish that may be in those waters? It would be a great concession.

2935. Do you think that the use of such a net would interfere with the feeding or breeding grounds of the fish? No, I do not. I do not think it would do any harm.

2936. As to closures generally, have you been asked to report on the question of closing certain waters in the Hawkesbury? I was once, in 1891; I was asked to define the boundaries I would recommend for closure.

2937. Did you do so? I did; fish were very plentiful at that time. My answer was that, being guided by the Act, I could not recommend the closing of any portion of the Hawkesbury River at that time.

2938. Then, in your opinion, there was no possibility of the waters, or any portion of them, becoming exhausted? Certainly not; fish were more plentiful then than they have been for twenty years. How could I recommend the closure in the face of that?

2939. Were your recommendations adhered to? No, they were not.

2940. Were closures made in spite of your report? About two months after, closures, and very extensive closures, too, were made without any further reference to me.

2941. In regard to that provision of the Act which allows the informer half the fine for informing on a person found fishing in closed waters, do you believe in that? No; I should be satisfied if it was abolished; let the fine be given to the benevolent institutions.

2942. Do you believe in the wholesale confiscation of nets? That is another matter altogether. Supposing I catch them in closed waters, if I am not allowed to touch their nets what shall I touch?—the men would run away; what should I touch?

2943. But supposing power was given you to seize their nets until such time as you obtained their names and prosecuted them? Oh, yes, I should have no objection if they would always stand their ground; an inspector does not like to be made a fool of.

2944. Do you believe in seized nets becoming the property of the Crown, instead of being handed back to the fishermen? If they were illegal nets they would be no use to the fishermen.

2945. But could they not be made into legal nets of some kind? I do not think it would answer very well.

2946. But there may be circumstances exonerating the fishermen from an intentional breach of the law; would you in that case allow them to have their nets? Having regard to the welfare of the fisheries generally I am afraid it would not be advisable.

- Mr. P. Smith. 2947. So that, according to your opinion, in cases where nets were passed as being legal, and had been used for some time, the fishermen ignorantly using these nets should have them confiscated? Yes.
- 18 Mar., 1895. 2948. In other words, their tools of trade should be taken from them? Yes; I am afraid there is no help for it, although it seems very harsh.
2949. Can you suggest to the Commission anything which would be an improvement, and which would prevent the possibility of the fishermen using illegal nets? Well, they make them illegal by excessive tanning. There is no necessity to tan them so much. I believe, when they buy a new net, if they were to use a certain amount of tar with the tan they would prevent the net from shrinking.
2950. You think, then, if they used some other preparation to preserve the net, which had not that astringency about it that tan has, say tar, that would meet the case? Tar and tan mixed.
2951. Would it be an improvement to have the twine of which the net is made tanned once or twice before it is converted into a net? That would stop it a little; it would not shrink so much.
2952. Supposing a regulation was brought into force making it compulsory to have proper supervision in regard to the manufacture of nets, and that proper ingredients were used in the tanning, would that minimise the shrinkage? It would do a great deal of good.
2953. What tan would you recommend? The wattle and the mimosa bark.
2954. Do they use the bultow, or set lines, in the Hawkesbury? No.
2955. Are you of opinion that more supervision should be exercised over the amateur fishermen? Yes; I do not see why amateurs should be allowed to catch unlawful-sized fish any more than net fishermen. And then, again, when waters are closed against net fishing, why should they be open for line fishing?
2956. Do you know the habits of the fish that frequent the Hawkesbury? Pretty well.
2957. When do the black bream come into the river in shoals? My opinion is that the black bream breeds in the Hawkesbury.
2958. About what time in the year do they breed? I have seen them full-roed in the middle of January and during the whole of February.
2959. And at any other time? It is possible floods or some other causes may alter the matter. They do not always spawn at the same time.
2960. Is it likely they have two seasons in the year for spawning? I do not think so.
2961. Are you sure schools of bream do not enter the river from the sea? They go outside the Heads sometimes, but I do not think they come from the sea.
2962. You think they are not the migratory bream? Their habitat is up the river. In flood-time they are driven down in great shoals, so that shows where they come from.
2963. In reference to mullet, what mullet is sent to market—the local mullet? The local mullet—the large mullet.
2964. Where is its habitat? From here all the way up the river. I believe they can live in fresh water as well as in salt.
2965. Which species of mullet is it that goes to the sea, and returns as the sea mullet? The hard-gut species.
2966. Which is the sand mullet? I suppose what we call the tallagallan mullet.
2967. The sand mullet is not the sea mullet? No, certainly not; the tallagallan mullet is a fish that takes the hook very well, and he is the only mullet that does so; its principal resort is the heads of the creeks, near the brackish water.
2968. Which is the best quality fish of the mullet species? The flat-tail mullet, it is not so strong as the sea mullet.
2969. Can you tell us their habitat? Some of the creeks in the Hawkesbury River; they go to sea the same as the hard-gut mullet, you will find them mixed in among the hard-gut sometimes. I have often caught them in Watson's Bay.
2970. What size does the sea mullet attain in the Hawkesbury? A good large mullet. I have seen them here that large they would not mesh in a 5-inch mesh.
2971. What size does the flat-tail mullet attain to? I have seen flat-tails mesh in a 3-inch.
2972. Do you think the Hawkesbury is visited by any of the shoals of mullet on the coast that make their way north? The shoals of mullet very seldom come above Croppy Head; they go into Pittwater and Brisbane Water.
2973. What do you think they enter the mouths of the rivers for? To drop their spawn.
2974. Do you think they spawn at sea? No, they do not; I think the mullet know a good deal better than that.
2975. Have you ever noticed the mullet spawning at the entrance to the Hawkesbury? No; I cannot say I have. I have seen a shoal of mullet in Watson's Bay, they lie off rocky points; it is quite likely they were spawning.
2976. After the lapse of a reasonable time from the visit of the sea mullet to the Hawkesbury have you noticed any fry about, giving evidence of their having spawned here? The fry would be too small to notice for a long time to come. My belief is that when the mullet have done spawning they cease to go about in shoals, they go deep, and go up the river.
2977. So that actually those mullet that do come in to spawn, and spawn at the entrance to the Hawkesbury, eventually find their way to the higher reaches of the river? Very possibly; about May the fish will be very scarce down here, and you will find them away up at Wiseman's Ferry.
2978. What time of the year do the sea mullet visit this river? April is the great month for spawning, although some of them are later than April. I have known them to be as late as the latter end of May.
2979. Seeing that these fish enter the river for the purpose of spawning, would you recommend that protective measures should be taken to prevent fishermen catching them? I believe it would be a step in the right direction.
2980. Do you believe it would be a step in the right direction if the entrance to the Hawkesbury River were closed as far as Croppy Point? Yes, that would do; but then you would have to close Sydney Harbour, and Botany in some way.
2981. Then what you say would apply to other rivers? Yes.
2982. What do you think becomes of the fry of the sea mullet? Without doubt they take into the river, where they are spawned.
2983. So that the fry of the sea mullet spawning near Cowan Creek would eventually find its way up the main Hawkesbury? Without a doubt; the fry would never think of going out to sea; the water would be too strong for them.

2984. How many kinds of whiting have you in the Hawkesbury? There is the blue-nose whiting, known as the sand whiting—you get it on sea beaches—and the trumpeter whiting. Mr. P. Smith.
2985. Which species of the whiting is most prolific? The Hawkesbury does not produce a great many whiting; the bottom is not suitable. 18 Mar., 1895.
2986. Where do the blackfish spawn? In the harbours and rivers; they generally resort to a weedy bottom.
2987. Are they caught in any quantity in the Hawkesbury? Sometimes.
2988. Are there many soles or flounders caught in the Hawkesbury? Not a great many.
2989. As to the jewfish? Any quantity.
2990. Where do they spawn? In the river.
2991. In respect to the flat-tailed mullet;—do you consider that a species of herring? No.
2992. If the Commission had received evidence to the effect that it was a true herring, the evidence of the gentleman who gave it, you would think, would not have been the result of practical knowledge? I think not; I think the flat-tail mullet is a mullet and nothing else.
2993. Have you noticed any shoals of fish passing along the coast to the northward? Oh, yes; numbers of shoals.
2994. What were they? I cannot say.
2995. Have you ever noticed with the passage of a shoal of those fish an oily substance on the water? Oh, yes; I have seen shoals of pilchards.
2996. Have you caught any? Yes; I have caught them with a hook and line in Sydney Harbour; I have always caught them with a net in the Hawkesbury.
2997. Have you seen the fish known as the southern herring in the Hawkesbury River? Yes; I have seen them in great shoals in this river, and I have caught them too; they are locally known as silver bellies. Porto Bay is a great place for them in the winter-time.
2998. At what time of the year have you seen those shoals of the maray or pilchard? Generally in the winter months.
2999. Do you think they could be converted into a marketable commodity? I daresay they could.
3000. Do you think that by curing, canning, or smoking they could be brought into local consumption? Yes; I believe they would be a very nice fish. I have noticed the maray more plentiful in Sydney Harbour than in the Hawkesbury River.
3001. Are schnapper plentiful in the Hawkesbury? Cowan Creek is a branch of the Hawkesbury; they often go into that creek because the water is cleaner and saltier there; I believe they go in there to spawn; they go in very large shoals at times.
3002. Then you are of opinion the schnapper spawn in the inlets? Yes.
3003. Do the fry develop in the river, or do they seek the sea? In the inlets they are of a certain size; you will find plenty of young schnapper in Cowan and Pittwater.
3004. Do you know anything of the Woy Woy fisheries? Yes; I fished in Woy Woy many years ago.
3005. Are those breeding grounds? Yes; there is not a better breeding ground on the coast than Brisbane Water.
3006. From your knowledge of those fisheries would you be inclined to close them for the purpose of allowing the fish to breed? I would close them for ever against garfish nets. I think that if a lawful net of 2½ inch in the bunt were used no harm would be done.
3007. Would you be inclined to close Brisbane Water against the use of all nets, with the exception of the drift net, or meshing net? Yes, I would.
3008. Is that fishery noted for the production of ground fish? Yes, for whiting, bream, soles, and flounders. I would respectfully ask that the garfish net should not be allowed in Brisbane Water. I have seen eight and ten baskets of unlawful fish in one haul of a garfish net.
3009. Would you be inclined to favour a proposal limiting the number of fishermen in these waters, rather than have a large number of men here? I am afraid it would not work very well; it would involve hardship on some people who might be excluded.
3010. Supposing the waters in New South Wales were sufficiently extensive for all who desired to engage in fishing as a means of livelihood, would there be any hardship then? I think it would lead to hardship in some cases.
3011. Have you authority to receive money for the fishermen's licenses? No, I have not.
3012. Would it be better, for the purposes of identification, that you should be allowed to issue the licenses to the fishermen, and receive the fees? Yes; it would save the fishermen the trouble and expense of going to Sydney, and I would then know who had a license. At present it is generally a couple of months before I get a return from the office, before I know who has a license; my time is taken up chasing about to see who have licenses.
3013. Would it be better to issue a medal, something that might be attached to, or nailed in the boat, instead of having the fishermen's license on paper as at present? Yes, it would be better; the paper licenses get spoiled by the wet; they could nail a medal on the boat.
3014. Have you had any experience in connection with oyster culture? I was a great many years in the trade, but my experience dates a good many years back. I have seen a good deal of oyster culture here, what we call oyster culture, laying oysters down on suitable bottoms, and allowing them to grow.
3015. Do you think the industry has been carried on properly, and in a systematic manner? No, it has not.
3016. Are you of opinion that the men who have been trying to raise oysters have not been men of experience as a class? There has been no attempt made at oyster culture on any one lease that I know of on the Hawkesbury.
3017. I suppose the lessees have depended upon natural oyster deposits for their supplies? Yes; and from what they could take off other men's leases and Crown lands.
3018. Do you approve of the system at present in vogue of allowing a person to indiscriminately take up 100 yards, wherever he chooses to? No; I wrote against it years ago, but no notice was taken.
3019. Do you think that system is availed of for the purpose of cloaking depredations; in short, do you think some people are guilty of stealing from the beds of the larger lessees? Well, stealing now takes place from Crown lands, but stealing has also taken place from the leases. I consider that what is supposed to be oyster culture is the greatest farce the Colony has ever seen.
3020. Do you mean that the lessees have not gone into it in a practical and scientific manner? They do nothing towards their leases.
- 3021.

- Mr. P. Smith. 3021. Is the ground not suitable for oyster culture? Yes; in many cases they could make plenty of improvements, and grow hundreds of bags of oysters if they went to a little trouble. The lessees stand in their own light. They denude their beds, and it is impossible to make them pay.
- 18 Mar., 1895. 3022. Would you favour a system of leasing an arm of a river? Yes; I recommended that when I appeared before you as Chairman of the Select Committee of the House in 1889.
3023. Provided there were certain conditions attaching to every lease, making it compulsory on the part of the lessee to conduct his operations in the interest of the development of the oyster fisheries, would you believe in the lessee paying by results, or would you continue the system of paying at per 100 yards, as at present? I would not recommend either, not by results, and certainly not by the 100-yards system.
3024. What would you do? I would lease the creek for a good substantial lease—nothing less than fifteen years—because a lessee, if he is to make money, must have a substantial tenure. I would have the conditions very strict, and if he would not go in for oyster culture I would take the lease away from him. The rent should be paid in advance.
3025. How would you arrive at the rental to be paid? The creek could be put up to public competition, sealed tenders could be sent in, the Fisheries Department to be allowed to accept any tender.
3026. In cases where the ravages of the worm might have taken place, and thus prevented any results being obtained from the beds, would you favour an elastic provision allowing a lessee to forego the payment of his rental for a year or two? The worms are as bad now as ever they are likely to be. I think there is no need for that. I believe it would be an advantage to let a lessee have a creek, or an arm of a river for nothing for the first year, provided he keeps it closed from oyster-getters.
3027. From your knowledge of the oyster fisheries of the Hawkesbury what do you think the value of (say) the Berowra Creek oyster fishery would be to the State for one year? It is in a very low state at present, and I am afraid the Government would not receive its full value, it has been brought down so low from mismanagement.
3028. What would you feel inclined to offer for it yourself in its present condition? It would be cheap at £100 per year. Five or six years ago I heard a gentleman say he would not mind giving £500 or £600 per annum for the whole river.
3029. What was it originally leased for? £127 per year to Mr. Gibbins.
3030. Did he take many oysters off it? Yes; his annual shipments then would be near about 2,000 bags per year.
3031. Was that the time when a royalty on oysters was in force? Before a royalty came into force.
3032. About what price per bag did he receive for those oysters? Sometimes up to 30s. and £2 per bag. When he got the lease oysters were only fetching 5s. per bag.
3033. Used he to obtain his supplies from the foreshores? Yes, he did.
3034. Did he dredge? Yes; in Berowra Creek.
3035. Do you think it would be a fairer way of arriving at a satisfactory arrangement with the lessee, providing, of course, proper supervision were exercised over his oyster fishery, for the State to receive so much on every bag of marketable oysters taken from the lease? I am afraid it would not work. An oyster lessee must also be an oyster buyer. Sometimes, when there is a glut of oysters in Sydney, which often happens, he must be prepared, if he has capital, to buy up all he can and lay them down on his lease, and watch the market. Of course in that way it would be very difficult for the Government to participate in the profits.
3036. Would it not meet the case if special areas were set aside for the purpose of allowing the layings to be made, and exempted from the royalty? I do not think it would work.
3037. Have any other oysters been introduced here? New Zealand oysters.
3038. Did they thrive well? They fattened here. It is purely a business speculation. They do no harm. They might spawn and supply the foreshores with spat.
3039. How long does it take an oyster to develop in the Hawkesbury River from the spat stage to the marketable stage? Different times, according to the places the oysters are in. At Flat Rock it would take two or three years to grow to a marketable size, whereas at the head of Mooney Creek an oyster would grow to a large size in twelve months.
3040. During the time you have been connected with the Fisheries Department how often have the Fisheries Commissioners, or any of that body, visited the Hawkesbury? The only Commissioner I remember visiting the place was Mr. Oliver. That was some years ago.
3041. Has any one, or all of the present Fisheries Commission, made an official inspection of the Hawkesbury River fisheries while you have been here? No; I have never seen them.
3042. In regard to crayfish, are there any grounds about here where they could be caught in quantities? Crayfish used to be caught near Cape Three Points. They used to be very plentiful in Broken Bay.
3043. Do you know when they spawn? About October or November.
3044. How long are they in roe? I suppose about a month.
3045. Do you believe there should be a provision prohibiting the taking of female crayfish when full-roed? Yes; they ought not to be caught in that stage.
3046. Are you of opinion that the industry of smoking, curing, and canning fish could be carried on profitably on the Hawkesbury River, providing the supplies of fish were sufficient for the purpose? Yes; I do not see why it could not be.

BRISBANE WATER FISHERIES.

SATURDAY, 23 MARCH, 1895.

[The Commission met at the "Royal Hotel," Gosford, at 11.10 a.m.]

Present:—

FRANK FARNELL, ESQ., M.P., PRESIDENT.

L. G. THOMPSON, ESQ., J.P.

Mr. Simon Luccani, fisherman, Woy Woy, Brisbane Water, sworn and examined:—

3047. *President.*] Your name is Simon Luccani, you are a fisherman, and you live at Woy Woy? Yes.
3048. How long have you been a fisherman? Close upon eleven years; since I came here from New Zealand.
3049. Where have you fished? In Lake Macquarie and Brisbane Water. I went to Victoria, and returned here six years ago; since then I have been fishing.
3050. What net do you use? A 4-inch meshing net.
3051. Is that net long enough for you to catch fish with? No; I made it deeper.
3052. Why did you make it deeper? So that I could catch the fish in the channels.
3053. What length of net would you like? I would be satisfied with a net of 100 fathoms.
3054. Have you used a hauling net? Yes; I used one eight years ago.
3055. Could you make a living with the meshing net if it were double the present length? Yes, I could; I do not go for small fish.
3056. Do you think Brisbane Water and Woy Woy are breeding grounds? They are; fish go in and out there.
3057. Do many hook-and-line men, amateur fishermen, come down to Woy Woy? Yes; they come in hundreds; sometimes 600 and 700 come. They catch a great number of fish; they take the small fish.
3058. Is that the only complaint you have to make about them? Yes; I want a chance to make a living, to keep my family.
3059. You want a longer net? Yes.
3060. Have you ever used a sunk net? No; I have not.
3061. You cannot fish now in Brisbane Water? Well, I suppose I am not to let my family starve?
3062. Do you sell your fish locally about Gosford? A little. I cannot sell much now; sometimes I do not catch any fish for a couple of weeks at a stretch.
3063. What quantity of fish do you catch in the week? Oh, if I could catch a basket of fish in a week I would be a lucky man.

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Mr. William Adolphus Hannon, fisherman, Blackwall, Brisbane Water, sworn and examined:—

3064. *President.*] Your name is William Adolphus Hannon? Yes.
3065. Where do you reside? Blackwall.
3066. How long have you resided there? Close upon thirty years.
3067. Have you been engaged in fishing operations? Yes; off and on pretty well the whole of that time.
3068. Have you fished anywhere else beside Brisbane Water? Principally in Brisbane Water; but I have also fished in the Clyde River.
3069. Have you a tolerably good knowledge of the habits of the fish? Yes.
3070. At what times in the year have you noticed fish frequenting this place in greatest numbers? About this time of the year.
3071. What fish do you notice frequenting these waters? Black bream, whiting, flathead, and sea mullet. The sea mullet have been in for the last six weeks. I saw schools of sea mullet in Brisbane Water six weeks ago.
3072. What nets do you use? From 1½ inch to 3½ inches; 4 inches for a meshing net.
3073. You use a hauling net, a garfish net, and a meshing net? Yes.
3074. In regard to the hauling net, is it a sufficient length for you at the present time? I think it is a fair length.
3075. Do you ask for any extension of that net? I think it is a fair length.
3076. Are you satisfied with the mesh? I do not grumble with it myself, but there are a good many who do.
3077. Do you haul your net ashore, and strand your fish? Haul ashore.
3078. You never empty your net in the water? No.
3079. What do you do when the young fish become stranded? Turn out the small fish from the bunt of the net.
3080. Do you ever find any young fish getting meshed in the bunt? No.
3081. Any young schnapper? No.
3082. So that a mesh of 2½ inches is sufficient, you think, to prevent the destruction of young fish? I do. I do not think there could be a fairer mesh.
3083. Have you ever had your nets seized? Never.
3084. Do you think it is a good provision to have in the Act, to allow of the confiscation of the nets of a fisherman—tools of trade—for the first offence? No, it is not; not for the first offence.
3085. Do you think it is a good provision to allow the inspector or the informer half the fine—do you think that is likely to lead to persecution? I do not doubt it would.
3086. Are you satisfied with the mesh of the garfish net? Yes; quite.
3087. Are you satisfied with the length of it? Yes; I am.
3088. The meshing net;—are you satisfied with the mesh of that? I think that it ought to be reduced to 3½ inches; 4 inches is too large.
3089. Does that mesh of 4 inches allow a great number of marketable fish to escape? Yes; splendid fish. A mullet 18 inches long will go through the 4-inch mesh.
3090. Is the length of the net sufficient? Yes; I think it is quite enough for these waters.

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3091.

- Mr. W. A. Hannon.
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3091. What would you think of a provision in the Act, allowing nets to be used in Brisbane Water, of a maximum length (say) 600 yards, with any mesh you like, as long as there was a provision to prevent the possibility of undersized fish being sent to market; and also a further provision making it compulsory on the part of the fishermen to empty their nets in not less than 1 foot of water? I think that would be a very just provision. If fish are not emptied into that depth of water a great many perish. That is a thing I always do in fishing. I always turn the small fish into the water—at the very least, a foot of water.
3092. Is a great portion of Brisbane Water closed at the present time? Pretty well all the free parts that ought to be closed are open.
3093. Which parts are those? The main entrance into the waters here are open, from below Webb's Reef to the bar. There are boats there fishing continuously, netting, and they prevent the ingress of fish to Brisbane Water.
3094. Are you of opinion that the closures at present existing are unjustifiable? Yes, altogether. I think the entrance to Brisbane Water ought to be closed, or the whole of Brisbane Water should be open to net fishing.
3095. What would you think of a provision which would allow of a meshing net being used in closed waters, so that the marketable fish might be caught;—would that be any concession to the fishermen? I think the local people ought to be allowed to fish with the meshing net for their own consumption.
3096. Do you think that the breeding and feeding grounds would be disturbed by the use of a meshing net? No, not in the slightest; and good fish would be caught.
3097. Is it a fact that a great number of amateur fishermen—line fishermen—visit Brisbane Water? A great number.
3098. Do they destroy many young fish? I do not think so.
3099. Have you ever noticed that there are quantities of red bream destroyed by the amateur fishermen? In the Broadwater at the present time there is a tremendous lot of red bream; they are very small, about 2 inches long.
3100. Are they caught by the amateurs with a line? Yes; often.
3101. Would it be a good thing to provide for the punishment of amateur fishermen who destroy undersized fish? Yes. I think a provision compelling them to put them back into the water, would be a step in the right direction.
3102. Where do you think those bream have come from;—were they bred locally? Bred locally, I think.
3103. You think the schnapper have spawned in Brisbane Water, and they are the result of the spawning? Yes.
3104. Are there any schnapper in Brisbane Water? Oh, yes; a great number at the present time.
3105. Do you think they enter these waters for the purpose of spawning? Yes, I do.
3106. In regard to black bream, where do you think they spawn? In Brisbane Water. They go up the creeks and spawn; as soon as there is a fresh they come down again, and go out to sea after a time.
3107. And the mullet? Yes; they spawn in Brisbane Water and up the creeks.
3108. Are you of opinion that the supply of fish in Brisbane Water is maintained not alone by local production but by supplies from the sea? By supplies from the sea; there is not the slightest doubt about it.
3109. Do you catch any soles or flounders here? Yes. They have been pretty plentiful lately.
3110. Are the grounds in Brisbane Water good breeding-grounds for the sole? I do not think they could be beaten all along those mud flats.
3111. Have you any idea when the black bream or the mullet spawn in Brisbane Water? I cannot say exactly.
3112. Did you say that at this season of the year they are making their appearance in great numbers? Yes; and for that very reason I should say this is their spawning season. Besides, when you open them, you see very large roes in the fish.
3113. In regard to sea mullet, have you ever noticed in the daytime that their stomachs would be full of mud, and that at night the mud would not be there? Yes, I have.
3114. Can you account for that in any way? No; without it is that they frequent the mud-flats in the daytime, and go to sea again at night. I think they work in and out with the tide.
3115. Can you account for the appearance of the mud in their stomachs in the daytime, and its alleged non-appearance at night? No; I cannot.
3116. But you say it is a fact? It is.
3117. What species of whiting are caught in Brisbane Water? The trumpeter whiting, and the blue-nose or sand whiting.
3118. Are they here in any quantity? They were everywhere a few years ago.
3119. Are the grounds here good breeding grounds for whiting? Very good.
3120. How many fishermen are there on Brisbane Water? About a dozen altogether, net fishermen, and a dozen boats.
3121. Do any Sydney fishermen come down here? Yes.
3122. Who are they? The Smith's, from Watson's Bay, they have gone from here now. The Smith's from Pittwater are here, two boats of them. Chamberlain is here, and others come for a week or two, and go away again.
3123. How many men are in each boat? Four, generally.
3124. Do you catch the different classes of fish you have mentioned? Yes.
3125. What is your average catch per week? About six baskets per week.
3126. Is the smallness of your catch owing to the limited extent of water you have to fish in? I think the principal reason is the manner in which the fish are blocked at the entrance from coming in here, by those waters being left open to net fishing.
3127. Where do you send your fish? To Sydney. I used to consign all to Woolloomooloo; but now I generally send to Redfern.
3128. To Mr. Hudson's market? Yes.
3129. You have had experience in sending fish to Woolloomooloo Market? Yes.
3130. Have you ever had to complain of loss of fish in transit? I have had fish lost a good many times. I put up with the loss, because I thought the least said the soonest mended.

Mr. W. A.
Hannon.

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3131. Did you ever try to ascertain where the theft took place? No.
3132. It might have taken place between the station and the market, or between the station you sent from, and the station to which your fish was consigned? Yes; it might.
3133. Did you send fish to an agent in Woolloomooloo Market? Yes; for several years.
3134. Were your returns always of a satisfactory character? Pretty fair.
3135. You were satisfied with the prices you obtained for your fish? I had confidence in the agent I employed.
3136. Did you notice the prices paid for fish at the time you sent your catch to market? Yes.
3137. Did it ever strike you that if the fishermen received one half of the amount paid by the public to the dealers, it would pay them very well? Yes, it did; it would pay them well.
3138. You have a knowledge of the Woolloomooloo Market, and the manner in which the fish is displayed and distributed there? Yes.
3139. Do you think the fish is shown to the best advantage? I do not like the style of throwing the fish on the floor in heaps.
3140. Are the fish liable to be trodden upon, and spat upon? They very often are; it is impossible to walk about there; the dealers and others do tread upon them.
3141. Would you suggest that raised tables be used upon which to display the fish? Yes; raised tables would be a great improvement upon the present system.
3142. You send now to the Redfern Market? Yes; but I have not fished for the last three months.
3143. Were your dealings with the Redfern Market more satisfactory than in the case of the Woolloomooloo Market? I cannot say so; there was not much difference.
3144. Do you think the Woolloomooloo Market is sufficiently central for the conduct of the fish business? It is rather out of the way now; it was a central place when fish used to be sent by boat.
3145. Do you think that a market in close proximity to the railway station would be more convenient for the fishermen and the general public? Oh, yes; very much more so.
3146. Would it prevent extra handling, and so forth? Yes; of course it would.
3147. Have you any complaint to make regarding the freight charges made by the Railway Department? No; the charge is quite reasonable.
3148. Have you ever lost any returned empties? Very seldom.
3149. What station do you send your fish from? Woy Woy.
3150. Have your fish always arrived at the market in prime condition? Yes; I think so.
3151. If the Railway Commissioners were to place a refrigerating car on the railway would it be patronised by the fishermen? Yes; I am sure it would.
3152. Would it assist in further developing the fishing industry if more than one sale a day was held at the markets? Yes; it would be a good thing.
3153. Do you know of any occasion when the Fisheries Commission, or any member of that Board, have visited Brisbane Water officially? No. I think Dr. Cox came here about four months ago.
3154. What did Dr. Cox come for? I cannot say.
3155. How long did he remain here? I think he stayed one night only.
3156. You do not know the actual object of his visit? No. I did hear some of the Commissioners were down with the Newtons.
3157. What did they do on that occasion? I heard they caught some party fishing in closed waters.
3158. In regard to the administration of the Act and the control of the fisheries, have you given the subject any attention;—can you suggest any improvement in the present condition of things? Well, the Fisheries Commissioners cannot take much interest in the industry if they are not paid for doing so.
3159. Do you think that in order to ensure a proper interest being taken in the fishing industry, whoever is charged with the administration and control should be paid? I do; and well paid, too.
3160. Would it require four or five men to do that? No; I think one man, having a good practical knowledge and an acquaintance with the fisheries of the Colony, would be able to perform the duty very well.
3161. Are you of opinion that such a man should be paid? He should be well paid, undoubtedly.
3162. And, as an extra safeguard, in the interests of the public and the fishermen, would it be a good idea to establish local boards of advice—representative fishermen to have seats on such boards—in order to advise the person charged with the administration of the Act and the control of the fisheries? Yes; it would be a good thing.
3163. Do you think that owing to the different circumstances and conditions attaching to the various fisheries of the Colony, it would be a good thing to have gentlemen on boards of advice who would have a local knowledge of the several fisheries? Yes; I do indeed.
3164. Are any set lines used in Brisbane Water? Yes; there are a few.
3165. Do they cause any inconvenience to the fishermen? I do not think so; I have never heard of any complaint about them.
3166. Do you think amateur fishermen should be required to take out a license, with just a nominal fee? The railway gets a good revenue now from them. I have not given that matter consideration.
3167. What do you think of the idea of limiting the number of fishermen on a fishing ground? It would make it better for the fishermen—a good deal better.
3168. You were saying shoals of fish enter Brisbane Water at different periods of the year? Yes.
3169. Have you ever seen shoals of fish passing along the coast at different times, going north? Yes; I have.
3170. What were they? Tailer and mullet mostly.
3171. Have you ever seen any species of herring? Yes; any number of them; great shoals of them.
3172. Could they be easily captured? Yes; with proper appliances—by the use of drift nets.
3173. Have you had any experience in trawling? No.
3174. Do you know anything of the bottoms off our coasts; would they be suitable for trawling? Well, I have been out schnapper fishing often, and from what I could ascertain the bottoms are very good. A little way out they are quite good enough for trawling over.
3175. Have you ever done any well-boat fishing? I never used a well-boat myself.
3176. Do you know of the existence of any crayfish fisheries near Brisbane Water? Yes.
3177. Could they be developed? I think so.
3178. Is anything done with them? I do not think there is any lobster fishing now on the old grounds. Next month will be the time for lobster fishing outside the Bar.

- Mr. W. A. Hannon.
23 Mar., 1895.
3179. Would you favour a close season for crayfish? Yes.
3180. That would be during the time they are in the coral state? Exactly so.
3181. Do you know anything about oysters, or oyster culture? Yes; a little.
3182. Are there any oyster leases in Brisbane Water? Yes; pretty well all leases now.
3183. Have you a lease yourself? No.
3184. How do the oysters seem to thrive here? Not very well.
3185. Do they develop quickly from the time they are laid down in the spat stage? They take a long time; I laid a lot down for Mr. Browne; they did no good for two years; they took about three years before they became of a marketable size.
3186. Have you a knowledge of the system under which the leases are granted at the present time? Yes.
3187. Do you think that system could be improved upon, by (say) leasing an arm or a portion of a river to one man for oyster culture? I think that would be a very good idea.
3188. Would you favour the proposal that instead of paying £1 per 100 yards, as at present, a person should pay by results, so much as a royalty on every bag raised? It would be a very good idea, provided you knew exactly the results that were obtained.
3189. Of course I mean that proper and stringent supervision should be exercised by the Department, and that there should be certain conditions attached to the leasing of these areas? Yes.
3190. Do you think that such a system as that would be any improvement? It would most undoubtedly. It would be a splendid idea if you could get the proper returns of oysters sent away. They are sold in sugar-bags down here. Hundreds of those bags are sent away weekly. They are sold at 5s. per bag to the gentlemen who come here fishing.
3191. Have you noticed the disease in the oysters in Brisbane Water? Some years ago a hole was bored into the oyster. This was done by what was called the borer. I have not seen any of it lately.
3192. You have no worm disease now? None whatever.
3193. Has oyster culture been carried on here, or have they simply depended upon the natural deposits of oysters? Pretty well upon the natural deposits.
3194. In regard to the waters at present open for net fishing, are they sufficient for you? I think the entrance should be closed, and the Broadwater opened. That would allow of the free ingress and egress of the fish, and it would give the Gosford people an opportunity of procuring fish.
3195. *Mr. Thompson.*] Which, in your opinion, is most destructive to young fish, a net of a large or a small mesh? The larger mesh is the most destructive. The fish do not get gilled in the small mesh.
3196. If amateurs were compelled to use nothing under a moderate sized hook, would not that minimise the capture of undersized fish by the line? Yes, it would to a very great extent.
3197. Why do you send your fish to Redfern instead of to Woolloomooloo Market—why did you make the change? Redfern is the most convenient, inasmuch as it saves me the cartage of the fish to the Woolloomooloo Market, and it also saves the handling.
3198. How long are crayfish in the coral and berried states respectively? I can hardly tell you.
3199. Would you refuse a license to aliens until naturalised? I would.
3200. Do you find much trouble in preserving the fisherman's license you get now from destruction, and spoliation? Yes; it is not durable; it would be better to change it.
3201. If instead of this paper license, the department were to provide you with a medal, or a token—something you could attach to your watch-chain—would that be better? Yes; that would be a grand thing.
3202. And, I suppose, your remark would apply also to the boat license? Yes; it would be a capital idea.
3203. Do you think the inspector should be charged with the duty of issuing licenses, instead of confining it to the Clerk of Petty Sessions? I think the inspector is the most convenient.
3204. Do you find the transmission of your fish to market in baskets unsatisfactory? Yes.
3205. Would not boxes formed on an iron-frame, and constructed of galvanised wire-netting give more air, and be otherwise preferable to the ordinary fish basket? Oh, yes, of course they would. A great improvement could be made in our present baskets.
3206. Where do the sea mullet spawn? I think they spawn in Brisbane Water, as well as at sea. I am confident they come in here to spawn.
3207. Do the black bream spawn once or twice in the year? Twice a year.
3208. In what months? I cannot give the months. I fancy they spawn twice a year, owing to the presence of small fry at different periods.
3209. *President.*] In regard to the supervision supposed to be exercised over Brisbane Water have you an inspector here? No.
3210. Had you one? Yes.
3211. Who was it? The last was Mr. Cain.
3212. How long ago would that be? I think he died seven or eight months ago. His son was afterwards employed by the Government.
3213. Who recommended the closures that have been made in Brisbane Water? The Newtons, I think.
3214. Who are the Newtons? George Newton, Harry, and Jack.
3215. Where do they hail from? Watson's Bay.
3216. What authority had they for recommending the closures? No authority; none that I know of.
3217. Are any of them inspectors? No.
3218. But do they take the credit to themselves for having obtained those closures? I have heard the other fishermen say they did boast of it, and they also said that they could do what they liked in getting the river opened or closed. That is only hearsay.
3219. Have you, in the evidence you have given to-day before this Commission, voiced the opinions of the other fishermen? I think so—at any rate, the majority of them.
3220. Have you any other grievances you would care to lay before this Commission? No.

William Charles Browne, Esq., B.A., St. Hubert's Isle, Brisbane Water, sworn and examined:—

- W. C. Browne, Esq.
23 Mar., 1895.
3221. *President.*] Your name is William Charles Browne, and you at one time represented the Electorate of Patrick Plains in the Legislative Assembly? Yes; for a period of nine years.
3222. Where do you reside now? At St. Hubert's Isle, Brisbane Water. I have lived there for about nine years.

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3223. Have you, during your residence there, had good opportunities of watching the capabilities of Brisbane Water for maintaining its fish supply;—have you watched the habits of the fish at all? I cannot say I have particularly. I notice there is a great scarcity of fish within the last twelve months—a very great scarcity.

3224. How do you account for that? Well, I attribute it to the fact that the entrance to Brisbane Water, from the Rip to the Bar, has been opened for net fishing, and this has naturally prevented the fish from entering Brisbane Water in quantities. As soon as they begin to enter they get caught; the place has been dredged repeatedly. The day before yesterday was the first time we caught anything like a fair number of fish. It was a very stormy day, and we got some good fish, flathead, squire, black bream, and red bream.

3225. Then you think the closure of Brisbane Water is not a proper one, inasmuch as the fish are prevented from having free ingress and egress at the Bar? Exactly; I think it is impolitic to close one part and leave the rest of it open.

3226. Would it be better if the portion you have mentioned were closed, and certain other portions of Brisbane Water opened? I think you should either open the lot or close it altogether.

3227. Then you would open the Broadwater for net fishing, provided the entrance was closed? I would not open the northern parts of Brisbane Water at all. They are great breeding grounds for the fish.

3228. Do many amateur line fishermen come to Brisbane Water? A great many; the traffic at Woy Woy is enormous. It is no uncommon thing to see from 100 to 150 people on that platform on a Sunday night; the traffic has grown tremendously these last twelve months. There is a great traffic here on Saturday and Sunday, and we have not got the same facilities in the way of cheap fares on the railway as they have at the Hawkesbury River.

3229. What classes of fish frequent Brisbane Water? We have flathead, black and red bream, the silver bream, whiting, flounders, blackfish, mullet, and, of course, at this time of the year, the sea mullet.

3230. Have you noticed any sea mullet coming in at the entrance? I have not seen them yet. The first lot of sea mullet I have seen this year was in the Sydney Market a week ago. They were caught up in the Parramatta River by Newton, so I was told. There have been large quantities of fish in Brisbane Water lately—mullet and black bream. You can hear them making a noise at night. At night you can see the phosphorous all over the flats.

3231. What do you think causes the mullet and black bream to enter Brisbane Water? The feed, and they come in to breed; the black bream come in for the nippers. I am of opinion that the fish spawn up in the estuaries. We have all the different kinds of fish here; tailer come in schools at times; there was a large school of tailer here about a month ago. I saw a large school of fish in Brisbane Water this morning; I was looking out of the train and I saw them making up.

3232. In regard to oyster culture, have you held any leases in Brisbane Water? Yes, I have.

3233. How did you succeed with them? Not very well; there were too many thieves about; we gave it up, it was unprofitable; there was no proper supervision there; we got no protection from the police, or from the inspectors, or anybody else; we might get a casual visit from an inspector once in two months, but that was no good. Those amateur fishermen used to supply themselves wholesale, and some of the neighbours, too.

3234. Do you agree with the system under which the beds are leased? If we had proper supervision it would be all right; an enormous amount of spat settles on the mangrove pegs, especially on the island.

3235. Do you believe in the indiscriminate manner in which leases are taken up? I think the way they are taken up is a very improper one.

3236. Would you favour the adoption of a system which would allow of the leasing of an arm, or a portion of a river, to one man, and instead of that man being compelled to pay £1 for 100 yards, require him to pay according to results, a royalty on every bag raised? I think it would be a very good system indeed; a man would have some encouragement then; he would have a certainty, and he would not be robbed if proper precautions were exercised. For oyster culture I know no place better than Brisbane Water.

3237. Do oysters develop quickly there? They do.

3238. How long do they take to develop from the spat stage? About three years.

3239. Is the oyster of good flavour and quality? Splendid; none like them, especially the whelk. In the case of the whelk-oyster the whelk travels about, and the oyster gets more food, and is very fat.

3240. Have you noticed any evidences of disease in the oysters of late? We have no diseases down here that I am aware of. Parts of the island are sandy on the shores, the oysters never do on the sand; if you let them go out too far in the mud they die. At one time I was led to understand the mud oyster was plentiful here, but I have never seen them myself.

3241. Are we to come to the conclusion from the evidence you have given, that the grounds in Brisbane Water are suitable for oyster culture, and the further development of the oyster fisheries? Yes, certainly. I am told there is one part of Brisbane Water, near Woy Woy, where there is a stream of fresh water coming into the Brisbane, and the oysters develop in a wonderful manner.

3242. Now regarding the administration and control of the fisheries of the Colony have you watched the manner in which the present Commissioners have carried out their duties? I have indeed.

3243. Have they paid that attention and manifested that interest in the development of the fisheries that might have been expected of them, during the time they have had charge of the fisheries of the Colony? I do not think so.

3244. Have the fisheries been developed to that extent the public expected they would be? Certainly not; that is evident from the small supply of fish we have. In the general opinion of the public they have not given that satisfaction it was expected they would; that is my opinion, and it is the general opinion, too.

3245. Do you know whether any one or all of the Fisheries Commissioners have visited Brisbane Water officially? I have never heard of any of them coming.

3246. Have you thought out the matter of how to improve the present system of control? I think it would be better under some executive head; it should be under executive control.

3247. Do you mean by that that there should be one man in charge who should be responsible for the administration and control of the fisheries? Yes, I do; it is a very important industry, and one man should have charge of it, and should be responsible; the fishing industry does not receive the recognition

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it deserves. From the experience I have had I must say I have found the officers of the Department efficient and ready, but their work seemed to be restricted by the Fisheries Commissioners; they seemed to be checkmated by the Fisheries Commissioners themselves.

3248. *Mr. Thompson.*] Would you license amateur fishermen? I think they should be licensed just the same as the people that have to get a living from it.

3249. Would you refuse a license to aliens until naturalised? Most unquestionably I would. I know that those people some time ago did more injury to the fishing industry in Brisbane Water than the whole of the other fishermen put together. They leave thousands of small fry on the beach, and they never attempt to throw young fish back into the water. I would not allow aliens to have a license. I think they are a most objectionable class of people. They have no interest in the industry. They want to make as much at it as possible, and then clear out from the country. They are most objectionable.

3250. I suppose your opinion is that Brisbane Water is properly a breeding-ground, and that being so, it ought not to be open to net fishing? I consider the northern parts of Brisbane Water to be breeding grounds for fish.

Mr. Frederick Henry Chapman, Kincumber, sworn and examined:—

Mr. F. H. Chapman.
23 Mar., 1895.

3251. *President.*] You are a resident of Kincumber;—how long have you lived in the district? Five years.

3252. During your residence in this district have you had a good opportunity of noticing the capabilities of Brisbane Water, so far as its fish supply is concerned? Yes; I have.

3253. Do you notice any decrease in the supply of fish at the present time, compared to what it was five years ago? Yes; a very material decrease.

3254. To what can the diminution be attributed? To the unlimited net fishing that has been allowed. I see no other cause for it. The fish are not allowed to come into these waters. They are caught before they arrive here.

3255. You mean by that there must be something prohibiting their ingress to Brisbane Water? Undoubtedly.

3256. Is that owing to the fact that the entrance is opened to net fishing? Undoubtedly it is.

3257. Do you suggest that the entrance should be closed in order to permit of the free ingress and egress of the fish? Certainly I do.

3258. Would you, providing that the entrance were closed, allow the Broadwater to be opened to net fishing, if the head waters were closed? I am dead against nets being used in these waters at all.

3259. Do many amateur fishermen visit Brisbane Water? Not so many as I would like to see.

3260. Do you think the waters ought to be reserved for amateur line fishing? Yes, I do; it would benefit all of us if the waters were only opened to line fishing—there is plenty of room outside for net fishing.

3261. Are you of opinion that amateur fishermen should be compelled to pay a nominal sum as a license, so that the fee might cover the cost of supervision? I would not object to that.

3262. Do you think there should be some stringent provision for preventing the destruction of undersized fish by amateur line fishermen? I do.

3263. Would that be met by prohibiting the use only of a certain sized hook; would that minimise the destruction of young fish? That is a question; it depends upon the class of fish.

3264. Would you be in favour of a provision making it compulsory on amateur line fishermen to cast undersized fish back into the waters from which they are taken? Yes; I am in favour of such a provision.

3265. And you think it would not matter how stringent a provision was made to deal with this difficulty the amateur line fishermen would be prepared to respect such a provision? I believe so; any honorable sportsman would do so.

3266. Do you know whether there is any inspector here for supervising the fisheries? I do not think there is.

3267. Does that savour of neglect? Yes; but I think it is owing to want of means to place an inspector here.

3268. Does it not seem to you to be an anomaly that waters should be closed against net fishing, and that no official should be here to see that breaches of the law do not take place? Yes.

3269. Do you know anything about the constituted authority that administers the Act—I refer to the Fisheries Commission? I have read their reports, but they are the same old things over and over again. I have often been going to write to them, but it was the same old thing—it was no good.

3270. Do you know of any occasion when the Fisheries Commissioners, or any member of that body, have visited Brisbane Water officially? No, I do not.

3271. Do you know whether the Fisheries Commission have ever been refused any money for carrying out the proper supervision of our fisheries? I am under the impression they have complained of not having sufficient money to carry out their duties properly.

3272. Would you not naturally expect that the Commission, being charged with the control of the fisheries of the Colony, would make themselves acquainted, at stated occasions, with the local circumstances and conditions of the several fisheries? Yes, I would.

3273. Are you of opinion that anyone having authority vested in him to administer a Fisheries Act should have a practical knowledge of the whole of the fisheries in New South Wales? Yes, I am.

3274. Would it be a good idea in connection with any fresh authority that might be established that local boards of advice should be formed, fishermen to have representation on those boards? Yes; the fishermen want fair play. It would be a good idea. I take a great interest in the fishing industry. I would be glad to give them any assistance.

3275. *Mr. Thompson.*] Do you consider Kincumber a special breeding-ground? It is a breeding-ground.

3276. Do you know the times when the different classes of fish spawn? Yes, I have known them go there to spawn, but they have been driven out again by netting. The kingfish, in particular, have been driven away.

3277. You do not know the times of spawning of the different fish? I know generally when we look for them to come in.

Mr,

Mr. Peter Petersen, fisherman, East Gosford, sworn and examined:—

3278. *President.*] Your name is Peter Petersen, and you are a resident of East Gosford? Yes.
3279. How long have you resided there? Two years and a half.
3280. Have you during that time been engaged in fishing operations? About six months with the hauling net, and the remainder of the time with the meshing net. There were three of us when we were using the hauling net, but for the last two years I have worked by myself.
3281. Why did you discontinue using the hauling net? Because I could not make a living with it.
3282. Was that because you did not catch a sufficient quantity of fish? Yes; and there were a lot of boats in, and they cleaned the place out.
3283. To whom did the boats belong? They were local men.
3284. Were there any boats from Sydney? Yes.
3285. Who were the owners of those boats? The Newtons and the Smiths from Watson's Bay, and several more.
3286. Do you think they deprived you of the means of obtaining a legitimate livelihood in consequence of their coming to these grounds and working them? Yes.
3287. Was the hauling net long enough for you? Yes.
3288. Do you want any greater length of hauling net than 150 fathoms? Not here.
3289. Were you satisfied with the mesh of the hauling net? Yes.
3290. Did you haul your net ashore? No; I generally landed the fish in a foot of water.
3291. Did you find when you did that, there were several young fish of the bream variety meshed in your bunt? Yes; but there were not so many destroyed by the hauling net as by the garfish net now used.
3292. In regard to the hauling net, can you suggest any means by which the destruction of the small fish could be prevented before being caught by the gills? No; except to stop the use of garfish bunts.
3293. Do the fishermen generally empty the garfish net in a foot of water? Yes.
3294. You say you have not used a garfish net but a meshing net, in addition to the hauling net? Yes.
3295. What length? About 60 fathoms, and a 4-inch mesh.
3296. Are you satisfied with the length and mesh of that net? No; I think for a man to make a living that it requires to have 80 or 90 fathoms. That is enough for one man.
3297. And what about the mesh? A 4-inch mesh to catch the mullet.
3298. But is it not a fact that a lot of marketable fish go through the mesh as it is? Oh, yes.
3299. Would a full-grown mullet go through the meshing net? Not after it has been tanned once or twice.
3300. Is it not a fact that many fish a couple of pounds in weight go through the 4-inch mesh? Oh, yes.
3301. Would you be inclined to ask that a smaller mesh be given you;—would you like it reduced (say) by half an inch or an inch? Then a mullet would not mesh in it, and it pays me best to follow the mullet up, and let other fish alone. The right size in a meshing net for catching mullet is 4 inches.
3302. The 4-inch mesh is specially adapted for catching mullet? Yes.
3303. For catching other fish do you advocate a reduction? No.
3304. Were there more fish in these waters two and a half years ago than at the present time? Yes.
3305. How do you account for the decrease? It is owing to the use of the hauling nets. It is not only what they catch, they destroy a lot of small fish.
3306. Do you think the entrance to Brisbane Water being opened to net fishing has anything to do with the diminution of the supply? No.
3307. Why? I think the fish caught there are local, and do not go past certain points.
3308. You said something about fish travelling with the tide? That is mullet and whiting.
3309. Do black bream travel with the tide? Sometimes.
3310. Is it not quite possible they would frequent the shoals part of the way up the channel? Yes.
3311. How do you think Brisbane Water maintains its supply of fish? From the sea. A lot of fish breed here, too. The supplies of mullet come from the sea.
3312. Do you consider the grounds in Brisbane Water are breeding, as well as feeding grounds? Yes.
3313. Would you advocate the closure of certain waters for breeding purposes? I would advocate closing against the hauling net, and the use of the meshing net.
3314. What do you think of a proposal to allow fishermen to use whatever net they like, and that they be compelled to empty the net in at least 1 foot of water, and further that there should be a stringent provision in order to prevent the sending to market of undersized fish;—would that work satisfactorily? I think the small fish would still be destroyed.
3315. Would it be more beneficial to the fisheries to have a mesh by which small bream and other compressed fish are caught by the gills and killed, or to have a mesh which would prevent the capture of that class of fish, and would only bring into the foot of water the round fish? A mesh that would save the small fish would be best.
3316. Would you ask that power be given you to use the meshing net in closed waters, so that you could catch marketable fish? Yes, at this time last year shoals of mullet visited these waters, and we were prevented from catching them on account of the waters being closed to net fishing, rain came on and immediately afterwards those mullet which should have been brought into consumption went to sea, and we lost them.
3317. Do you think mullet come in here to spawn;—have you ever seen any of the young fry? Yes, millions of them.
3318. Do you think the black bream come in here to spawn? Yes, they do; there are black bream here, what they call natives; they never go outside, and others come in from the sea.
3319. Can you tell the difference between a sea black bream, and a native? Yes.
3320. What is the difference? The natives are a dark colour; the sea black bream are more shiny in colour.
3321. Have you seen many young black bream caught showing evidence of their having bred in Brisbane Water? I have.
3322. Do you think whiting spawn here? I can hardly say.
3323. How do you dispose of your fish? I sell them locally.
3324. What is your average catch per week? Two baskets a week.
3325. Where do you catch them? Down below the reef.
3326. There are no open waters above the reef? No.

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- Mr. P. Petersen. 3327. And you now ask that you be allowed to fish with a meshing net in the waters above the reef? Yes.
- 23 Mar., 1895. 3328. Have you ever noticed any aliens fishing here? Yes.
3329. Do they do any damage with their nets? Yes; they have very deep nets; they go right out into the Broadwater and scrape the bottoms; they do a lot of damage to the feeding grounds.
3330. Do you know whether many amateur line fishermen come to Brisbane Water? A great many come to Woy Woy.
3331. Do they obtain fair catches. Yes.
3332. It is alleged against them that they destroy many young fish;—what is your opinion? They catch a lot of young fish, but nothing to compare with the hauling nets.
3333. Would you license amateur line fishermen? They have to pay to travel by railway.
3334. Do you think the State gets a sufficient return from them in the shape of the fares they pay for travelling by rail? Yes.
3335. Have you seen any inspectors of fisheries about here lately? I have seen one in Gosford.
3336. Is he an inspector stationed here? No; only just a visiting inspector.
3337. So it is quite likely some of the fishermen could have an opportunity of hauling in closed waters, if they liked to do so? A lot of people make it their business to look after the fishermen.
3338. Have you ever seen or heard of any members of the Fisheries Commission coming here? No.
3339. Do you know anything about the oyster fisheries? No.
3340. Do you know anything about well-boat fishing? Not on this coast, but it has been a great success on the Swedish coast; I have had experience there; they have the well at the stern end of the boat, not in the centre; that is for the lake fishing; they do not use well-boats for outside fishing.
3341. Do you know anything about trawling? I have had no experience of it here; but it has been a great success in other waters.
3342. Do you know anything of our crayfish fisheries? Not much.
3343. Are you in favour of limiting the number of fishermen to a particular ground? No; if they pay their license they all ought to have the same show.
3344. Do you think there should be more water thrown open to net fishing than there is at present? I am against the use of hauling nets altogether, and there is sufficient water opened already for them.
3345. Do you believe in an inspector seizing a fisherman's net, and that net being confiscated for the first offence? No, I do not.
3346. Do you think a fine would meet the case? Yes.
3347. Are you satisfied with the way in which the present Fisheries Commission administer the Act, and control the fisheries generally, or do you think any improvement could be effected? I think the persons charged with the administration of the Fisheries Act should have a practical acquaintance with the fisheries of the Colony, and also pay periodical visits to the different fishing grounds.
3348. Do you think the administrative authority ought to be more in touch with the fishermen? Yes, I do.

TUGGERAH LAKES' FISHERIES.

MONDAY, 25 MARCH, 1895.

[The Commission met at the "Royal Hotel," Wyong, at 9:30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Charles Kavlie, fisherman, Wyong, sworn and examined:—

- Mr. C. Kavlie. 3349. *President.*] Your name is Charles Kavlie, you are a fisherman, and you reside at Wyong? Yes.
- 25 Mar., 1895. 3350. Are you acquainted with the Tuggerah Lakes' fisheries? Yes: I have been fishing in these waters for nearly ten years.
3351. Have you fished anywhere else? In Lake Macquarie. I was there about seven years.
3352. Have you anyone else fishing with you at the present time? No.
3353. What net do you use? A meshing net.
3354. Do you use a hauling net? No.
3355. Why not? On account of the blubber, and it did not pay very well.
3356. Is the length of the hauling net sufficient? I would like to speak about that. The length of the hauling net is 300 fathoms. I think it is wrong to compel a man to use any set length. There are places in these lakes where half of that would be suitable, and other places where double the length is wanted.
3357. As to the mesh of the hauling net—are you satisfied with the mesh of the wings? Yes.
3358. Are you satisfied with the mesh of the bunt? No; I believe in having a smaller mesh in the bunt of the net than is at present allowed.
3359. Have you ever noticed any young fish meshed in the bunt of that net? A few, not many, a few of all sorts, bream, mullet, whiting, but most of them escape through the wings.
3360. Do you think a smaller mesh would be less destructive than the mesh at present used in the hauling net? I think not. The blubber kills small fish; they have been pretty plentiful in the lakes of late years.
3361. Supposing there were no blubber, which net would you consider most destructive to young fish, that with a small mesh or that with a mesh like the bunt of the hauling net? A 2¼-inch is the legal mesh, and lots of small fish are meshed in that and destroyed. If it were smaller that destruction would not take place.
3362. Then you think the destruction with a smaller net would be less than with a 2¼-inch mesh? Most undoubtedly.
3363. What size do you buy your nets—what allowance do you make for shrinkage? We always buy 2½-inch for a 2¼-inch.
3364. Do you make the same allowance in respect to every net you purchase? No, only the garfish net and the hauling net.

3365. Have you ever had any of your nets seized? Yes.
3366. Was that for fishing in closed waters, or were they of an illegal mesh? For neither one thing nor the other; my nets were unlawfully seized. Mr. C. Kavlie.
3367. Do you think the inspector was not justified in taking your net? The inspector wanted to take the net away from me without measuring it; this I would not allow, and I was prosecuted for obstruction. 25 Mar., 1895.
3368. Were you fined? Yes.
3369. Had you any evidence to prove you asked the inspector to measure your net? Yes, I had; but I think the inspector had bribed the men not to attend at the Police Court.
3370. Who was the inspector? Chudleigh Gorrick.
3371. Was he a permanent inspector? No; an honorary inspector.
3372. An honorary inspector? Yes; he said the week before he caught us, "I only want four or five boats this week to get my name up, and then I will be satisfied." I heard him say that.
3373. Was your net confiscated? No; I did not let him take the net; I was fined; it cost me £12 10s.; but I did not pay the amount, I went to Maitland Gaol for one month. In addition to the £12 10s. it cost me £10 10s. for a lawyer.
3374. Why did you not pay the fine? I had no money, and I had not earned that amount in twelve months.
3375. Did you use that net afterwards? No; I did not. There were six of us working together, I was working on a share.
3376. Did the other members of the party use it? Yes.
3377. Were you or any other member of your party prosecuted for using this net which was supposed to be of an illegal mesh? We were not prosecuted for using the net illegally, but for obstruction.
3378. So that the net has been used since by those who were working with you? Yes, it has, and it has not been seized.
3379. Do you contend now, as you did at first, that your net is of legal mesh and length? Yes.
3380. Do you consider yourself to have been unjustly dealt with through the action of Honorary Inspector Gorrick? I do.
3381. Do you believe that when once a net has been passed as legal fishermen should be allowed to use it until it is worn out? Yes; otherwise it would not pay a man to buy a net.
3382. Do you think a fisherman's net should be confiscated for offences under the Act? No; that is the greatest wrong of the whole lot.
3383. Do you think it would be better to impose a fine, or sentence a man to imprisonment—say, for not exceeding seven days—rather than take his tools of trade away from him? I do not hold with taking away a man's tools of trade. As it is we are only working for a bare loaf of bread; give us an opportunity to make a living, and we will have no grievances.
3384. What is the value of a hauling net generally? On an average you can get a fair hauling net with ropes and everything for about £30 to £35.
3385. Do you haul your net ashore so that the fish are stranded, or do you empty it in a certain depth of water? I empty in a certain depth of water.
3386. Do you carry both lines on to the shore, your lead line and top line being out of the water, and allow the flue of the net to remain in about a foot of water? The hauling net we always land on shore when we can, and when we cannot do so on account of the weeds we use what we call a back net.
3387. Have you any complaint to make about the length of the meshing net? Yes.
3388. What would you like it to be? Quite as long as a hauling net, provided it is a big mesh, then no small fish would be destroyed.
3389. What mesh would you like? From 3½ inches upwards.
3390. Are you of opinion that at the present time a lot of marketable fish escape in consequence of the 4-inch mesh being too large? Yes, a good lot of marketable fish escape through the mesh, like the whiting, and the tallygalan mullet.
3391. I suppose you would like the net to be of any length up to a limit of, say, 300 fathoms, and the mesh not less than 3½ inches;—would that enable you to earn a better livelihood? Yes, that would give us a better chance.
3392. Are you satisfied with the length and mesh of the garfish net? We could manage with it twice as long; we want a longer net to reach the fish in the deeper water, as they are scattered about a good deal.
3393. Are you satisfied with the meshes, 1½ inch in the bunt and 2 inches in the wings, of the garfish net? When that net is new it is rather big for us, rather large, and it takes several tannings to reduce it to a legal mesh.
3394. What tan do you use? For the meshing net oak bark and wattle, for the other nets ironbark.
3395. Why do you use different tanning material for the different nets? The meshing net requires to be kept soft; fish would not strike a hard net so well as a soft net; they mesh better in a soft net, and this is brought about by the use of oak or wattle bark when tanning; ironbark tanning preserves the hauling nets from destruction by the blubber.
3396. What length of garfish net would you like; would 150 fathoms be satisfactory to you? My opinion is that it would be better to have 150 fathoms, but I do not care about the fixed length.
3397. Do you think it would be a good provision to make to allow a man to use a net of whatever dimensions he liked, providing it was not longer than (say) 300 fathoms, and that he was compelled to empty that net in not less than 1 foot of water, and further, that he should be punished for sending undersized fish to market? That would be better than the present law, but I am not in favour of fixing any lengths for nets. I would punish fishermen who wilfully destroy small fish.
3398. Do you believe in allowing inspectors one-half the fine in connection with prosecutions? No, I do not; if a man cannot do his duty without being bribed like that he ought not to hold the position.
3399. Judging from your answer, are we to suppose you think that provision acts as an inducement to inspectors to persecute the fishermen? Yes, I do; I even believe they have their marks, for directly a man makes a little money the inspectors come down on him like a hawk.
3400. Where do you send your fish? To the Woolloomooloo Market.
3401. What is your average catch per week? From two to three baskets, that is by myself.
3402. What kinds of fish do you catch? Chiefly flathead and mullet,
3403. Do you consign to an agent? Yes.

Mr. C. Kavlie. 3404. Are you satisfied with your returns? No, we get very poor prices.

25 Mar., 1895. 3405. Would you be satisfied if you obtained one-half of what the public pay for fish? Yes, I am sure we would. We get 2s. or 3s. per basket, and people in Sydney have told me they could not get fish for love or money. I believe the dealers form a ring and bid so much for the fish and no more.

3406. Are you of opinion that it is possible for the agents to join with the dealers in order to derive benefit for themselves, which properly should be divided between the fishermen and the agents? It could be done.

3407. Have you a knowledge of the Woolloomooloo Market? Yes.

3408. Are you satisfied with the way fish is displayed there? No, it is a most filthy way; I worked there for three or four months laying out fish, so I know a little about it.

3409. Would raised tables be better? Far better; it would be a lot cleaner, the fish would not be trodden upon, and they would not be stolen. I have seen men standing round a heap of fish on that floor, and I have seen others kicking them behind them with their heels, and someone at the back of them picking the fish up; that is how some of the fish go in that market.

3410. Have you ever lost fish in transit between Wyong and the market? Yes; I had two and a half baskets one morning, and I lost half a basket, and fish fetched good money that morning, too.

3411. Where does the pilfering take place, on the railway line, or between the railway station and the market? I think there is a little picking all along.

3412. Do you send your fish to catch the early sale? Yes.

3413. Do you think it would be a good thing to have more than one sale in the day at the market? Yes, if you can get trains to suit; it would pay at places that have proper train convenience.

3414. Do you think the Woolloomooloo Market is centrally situated, or would you advocate the erection of a market on a more central site? I think it is out of the way.

3415. What in your opinion would form a good central site? Near or at the railway station would be a good place; there would be less handling.

3416. Do you know the waters of Tuggerah Lakes very well? Yes, I do.

3417. Do you think all the closures in the lakes are necessary? Well; I have heard the opinions of most of the fishermen, and they say that the closure at the entrance should be narrowed down to one quarter of a mile instead of half a mile. We are as anxious to protect the fish as anyone. I think there should be no closures at all except at the entrance, and the closure of the flat in the middle lake should be done away with. The lakes are naturally closed by weeds; it is impossible to haul a net on half of this lake.

3418. Would you favour the use of the meshing net in closed waters? A meshing net should be used anywhere; it destroys no small fish.

3419. You have been here for a number of years; have you ever known of any of the Fisheries Commissioners making official visits to the lakes? Dr. Cox was here once or twice; I saw him on the creek coming from Mr. Allison's place, he was examining the creek to see if he could find any cobra.

3420. Did he go any further on that occasion? I cannot say.

3421. Whose boat was he in, the boat belonging to the Department of Fisheries? He was in Mr. Allison's boat; Mr. Allison was with him.

3422. Was one of the inspectors of fisheries with them? No.

3423. Do you know of any other occasion when Dr. Cox or any other members of the Fisheries Commissioners have visited this place? No.

3424. Would you have been likely to hear of their visit had they been here officially? Yes.

3425. In regard to the supervision of the Tuggerah Lakes, is there an inspector stationed here? No.

3426. Do you have visits from inspectors? Occasionally; since Mr. Aldrich left Tuggerah not many have come down here.

3427. Was Mr. Aldrich a permanent inspector here? Yes, once.

3428. Do you ever have a visit from Mr. Smithers? Yes; sometimes he crawls through the bush on his hands and knees.

3429. Have you ever known him to disguise himself to catch fishermen? On one occasion he went to Mr. Smith, at Wyong Bay; he keeps a boarding house there. Mr. Smithers went there and said he was a gentleman from Sydney come down for the good of his health; he asked for the loan of a boat, and got it; if Mr. Smith had known who he was he would not have lent him the boat. He got out at Tuggerah platform, and went to Smith's place, so that the fishermen at Wyong would not know he was coming.

3430. Have you ever known him to wear a false beard or anything of that description? No; I have not.

3431. Are you satisfied with the way in which the fisheries of the Colony are administered and controlled? No; I am not. I have known of 100 fishermen breaking the law within the last ten years, and they are breaking it to-day; they are compelled to do so to make a living, or they would starve. The Fisheries Commissioners have known of this all along, but have done nothing to improve matters.

3432. If the fishermen were represented in connection with the authority charged with the administration of the Act would it be better for them? It would be a good thing, the fishermen should be represented on a board.

3433. Do you believe in placing any limit on the number of fishermen that should haul on (say) Tuggerah Lakes? No.

3434. Have you ever done any well-boat fishing? No.

3435. Any trawling? No.

3436. Do you know anything about oyster fishing? No; my fishing experience has been confined to net-fishing.

3437. Have you done any fish curing or smoking for market? No.

3438. Have you engaged in crayfish fishing? No.

3439. Have you done any prawn fishing? A little.

3440. Are there many prawns in the lakes? A good few, but they are not large enough; we sent away half a basket full a few weeks ago, but they were too small.

3441. *Mr. Thompson.*] Do you not find the present form of license inconvenient to keep by you;—is it not liable to get destroyed by water? Yes; we are supposed to carry the license in the boat, but not one man on the lake does it; they would get destroyed in a day. It would be a good thing to have little brass tickets with a number on them; that would be quite sufficient.

3442. Do you think that aliens should be naturalised before becoming licensed fishermen? I believe a man ought to be a certain number of years in the Colony before he can claim naturalisation papers. Mr. C. Kavlie.
25 Mar., 1895.
3443. Would you license amateur fishermen—line fishermen—would you make them pay a nominal sum? I think they could well afford to pay a nominal sum.
3444. Do you think the present fisherman's license fee too high? Yes; sometimes the men do not earn enough money to pay for it. I have not earned more than my tucker since Christmas, and yet I am now being pressed to take out a license.
3445. Then you have not your license even yet? No; and I see no prospects of getting one, and yet I am obliged to fish to live. The license fee is demanded at the most inconvenient time of the year.
3446. What time of the year would be best for the Government to claim the license fee? Quarterly. We would like to have the fees reduced to 5s. for the men, and 10s. for the boat.
3447. Have you any trouble in trucking your fish at the Wyong Railway Station? No; we pay a man to do the work and he does it.
3448. Would it be preferable to send fish in boxes instead of baskets? Yes; I should think boxes of galvanised wire netting would be a great improvement, especially if they were locked.
3449. Do you believe in sending fish gutted to market? We would willingly do so if we could make enough out of it to pay for the extra labour.
3450. Would it be an advantage to the fisherman if he were permitted to sell his own fish at the market? It would be an advantage if it could be done.
3451. Would it be a good plan to have the twine tanned once or twice before it is made up into netting? It would be great; the tan does not get into the nets properly when the net is made up.

Mr. Jeremiah Cremen, fisherman, Wyong, sworn and examined:—

3452. *President.*] What is your name? Jeremiah Cremen.
3453. Where do you reside? Wyong; I have lived here about eight years. Mr.
J. Cremen.
25 Mar., 1895.
3454. Are you a licensed fisherman? I have not renewed my license since the new year. I have three boats working on the lake now.
3455. How many men have you? Eight working with me now.
3456. In the evidence you are about to give before the Commission do you voice the opinions of any other fishermen? I represent a number of fishermen on the lakes—the men who reside at Wyong and fish on the lakes.
3457. Do you think there should be any reduction in the fees for fishermen's and boat licenses? Yes. At the present time, if the inspectors are strict enough, as soon as you get two men in the boat they will make you pay the license.
3458. Do you mean by that, that a boat proprietor has to pay the license for the two men he takes on? Yes.
3459. What would you suggest as reasonable for the licenses for fishermen and the boat? I would suggest that the boat should be registered, and that that should continue until she is destroyed; the fishing license should be annual, and one-half the price charged at the present time.
3460. Do you think there could be an improvement made in the issue of fishermen's licenses in order to make them more durable—that is, instead of having the license on a piece of paper, would it be better to issue it in the form of a small metal plate? Yes; I think it would be better. At the present we have to carry the license in the boat, and when it gets wet it becomes destroyed, and if we have not got it with us we are liable to prosecution.
3461. How many fishermen are there on the Tuggerah Lakes—I mean, how many do business with Wyong? There are about thirty-five fishermen in Wyong.
3462. What do you think of the idea of limiting the number of fishermen on each fishing ground; would that be just; would it be an improvement; for instance, supposing these lakes to be only capable of maintaining fifty fishermen, do you think 100 fishermen should be allowed here? I would limit the number of boats in any waters.
3463. Do the fishermen complain of having insufficient waters opened to them for net fishing? Well, in regard to this lake there is a lot of it you cannot work with a hauling net; there are 210 chains along the foreshores at the entrance closed, and with this quantity closed it is closing up two of the best hauls we have in the lake.
3464. Do you think that closure should be narrowed down? Yes; I think so.
3465. What would be a reasonable closure to make there? I think $\frac{1}{2}$ mile on each side of the bank of the channel would be quite sufficient.
3466. For what distance out into the lake? The flat runs, I suppose, three-quarters of a mile out, and you would have to go clear of that, to go about a mile out.
3467. Do you think a closure such as that would offer every facility for the fish to make their entrance to the lake? I think so. Fish coming up the channel do not strike to the right or the left; they go straight on.
3468. So that you favour the closure of the entrance to the Tuggerah Lakes? Yes.
3469. Is a great portion of the lakes closed naturally? Yes.
3470. By what? Growing weeds and ridgy bottom.
3471. What proportion is naturally closed like that—one-third or one-half? About half of the lakes is naturally closed.
3472. Then you do not think there is any necessity for further closures in the lakes beyond the one at the entrance? Quite so; the one at the entrance is sufficient.
3473. What kinds of fish do you catch here? Black bream, blackfish, mullet, garfish, flathead, jewfish, whiting, soles, flounders, and red bream.
3474. Do many shoals of fish enter the lakes from the sea? Yes.
3475. What are they? Black bream come in in shoals; also sea mullet, blackfish, and jewfish.
3476. Do you consider the Tuggerah Lakes a breeding as well as a feeding ground? It is a breeding ground to a certain extent, but our supply comes from the sea.
3477. Why do the fish come in here in shoals—to spawn? Yes, to spawn.
3478. Have you ever noticed any evidences of their having spawned here? Yes, you will see the fish come in here full of roe, and if you catch them some time after they are quite soft, showing they have discharged their ova.
- 3479.

- Mr. J. Cremen.
25 Mar., 1895.
3479. So there is local production in the lakes, as well as supplies from the ocean? Yes, that is so.
3480. Can you say when black bream first make their appearance in shoals in the Tuggerah Lakes? In April and May.
3481. When do the sea mullet make their appearance? We seldom get the sea mullet here, we get the hardgut mullet—the sea mullet is a large mullet, the hardgut mullet is a smaller size. The hardgut mullet has been travelling since Christmas, the others do not travel until March and April.
3482. Is not the hardgut mullet simply the same as the sea mullet but in a different stage of growth? The same fish but in a different stage of growth.
3483. Have you ever seen any shoals of fish on the coast passing northward? Yes, I have seen mullet and garfish.
3484. Have you seen any species of herring? I think not; I have heard of them being on the coast.
3485. Do you catch a local herring here? Yes.
3486. Is that herring of any marketable value? We never sell them except as bait to line fishermen.
3487. What is the average number of baskets of fish you send to market in a week? About thirty baskets per week.
3488. How is the fish conveyed from the lakes to the railway station? By steamer and cart.
3489. Is the lake deep enough for a steam-launch? Yes, but the launch cannot get from Wyong Creek to the lake; there is a bar there which requires removing.
3490. If that bar were removed and the launch placed on the lake, would it facilitate the operations of the fishermen by picking up the baskets of fish at different places on the lakes? Yes, very materially.
3491. Would it be a costly undertaking to make a channel from the creek to the lake in order to allow of the steam launch going through? No; if it were done properly the channel would keep itself open.
3492. The fish is taken by the steamer from the fishing boat, then from the launch to the railway station, and consigned to what market? Some to Woolloomooloo and some to Redfern.
3493. What would you value the thirty baskets at; I mean your weekly catch? About £20.
3494. Do you entrust them to an agent to sell for you? Yes.
3495. Are you satisfied with the returns you get? No, I am not.
3496. If you received half the money the public have to pay for fish would you be satisfied? Yes, rather, I should think so.
3497. Would the adoption of a system that would bring you into closer communication with the public be an advantage to you? I think so.
3498. Do you think you would be able to get fair prices for your fish, and would the public be able to get fish cheaper than at present? Yes, I am sure of it.
3499. You send fish to Woolloomooloo Market;—are you satisfied with the manner in which the fish are displayed and sold there? No, I am not.
3500. Do you think it would be better to adopt some other method of displaying;—do you favour the system of throwing them on the floor in heaps? It would be better to have some other method of showing the fish; they are liable to be trodden on, and spat upon, while they are lying on the floor; I have seen them so treated.
3501. Have you ever had any fish stolen in transit? I have received advices saying my baskets were not full, although I had filled them on the lake.
3502. Would it be possible for the agents and the dealers to form a ring for the purpose of purchasing fish at their own prices? Yes, certainly it would be possible.
3503. Do you think there should be more than one sale a day at the market? Yes; it would be a very good thing to have at least two sales in the day.
3504. Do you send your fish in good condition from here? Yes.
3505. Have any of your fish arrived in bad condition? Well, it has been reported that they arrived in bad condition, but I do not believe it.
3506. Supposing the Railway Commissioners placed a refrigerating car at the disposal of the fishermen, would they avail themselves of it? Certainly, during the summer months.
3507. Are you satisfied with the rates charged for the carriage of fish by rail? They are very fair.
3508. Do you get your returned empties carried free? Yes.
3509. Have you lost any returned empties? They go astray at times, but they eventually turn up.
3510. What nets do you use? A hauling net, a meshing net, and a garfish net.
3511. Are you satisfied with the length of the hauling net? 300 fathoms—I am not.
3512. What would you propose should be the length? Well, for these lakes and others like them, I think 500 fathoms of net would be little enough.
3513. Are you satisfied with the mesh of the hauling net? The size of the mesh for the hauling net is $2\frac{1}{4}$ inches in the bunt, and 3 inches in the wings. You cannot buy $2\frac{3}{4}$ inches in the small mesh, and if you buy $2\frac{1}{4}$ inches and tan it, it shrinks, until it becomes too small, and the net is illegal.
3514. What do you tan your nets with? Wattle bark, ironbark, and swamp oak; we tan with the wattle and swamp oak, when the net is tanned and cured we apply the ironbark to harden it.
3515. Are you satisfied with the length of the meshing net—60 fathoms? No, we would like it much longer.
3516. Are you satisfied with the mesh of that net? No; we would like from $3\frac{1}{2}$ inches up.
3517. Is it a fact that numbers of marketable fish escape through that mesh—4 inches—at the present time? Yes; the $3\frac{1}{2}$ inches would catch them.
3518. As to the garfish net? The length of the garfish net at the present time is 90 fathoms, we think it should be lengthened.
3519. What would be a fair thing? 150 fathoms.
3520. Do you require any alteration in the mesh of that net? Fifty fathoms of $1\frac{1}{2}$ inch and two wings of 50 fathoms of 2 inches.
3521. You do not ask for any reduction in the mesh of the garfish net? No, I think it is small enough.
3522. Do you haul your nets right on the shore? No, we land against a back net.
3523. Does that give facilities for the young fish to escape? Yes, it lets the young fish get away.
3524. What depth of water do you land in? About 18 inches of water.
3525. Have you ever seen many young fish meshed in the $2\frac{1}{4}$ -inch bunt? No; you will get a few little mullet and black bream catch their heads in it.

Mr.
J. Oremen.
25 Mar., 1895.

3526. What do you think of a provision which would allow the use of nets of any dimensions so long as they were emptied in not less than 1 foot of water, and provided that fishermen should be punished for sending undersized fish to market;—would that be a good provision? It would; the fishermen ought to protect the young fish for their own interest.

3527. And do you think that is generally done on the Tuggerah Lakes? To a certain extent it is.

3528. Do you think any harm could result from the use of the meshing net in closed waters? I see no harm in it, providing it is not used at the lakes entrance. I would keep that entrance permanently closed to net fishing.

3529. Do you think that by the use of the meshing net in closed waters, other than those you have just mentioned, many marketable fish could be captured and brought into consumption? Yes.

3530. Do you believe in that provision in the Act which allows of a man's net being confiscated? No; I do not think that a man's tools of trade should be taken from him—not for the first offence at any rate.

3531. Have you ever had any nets seized? No.

3532. Have you known of others who have had nets taken from them? Yes.

3533. And have they, owing to the operation of the Act, been deprived of their means of obtaining a livelihood? Yes, for the time being.

3534. What would be the cost of an ordinary hauling net of 150 fathoms? Thirty pounds—that is, for the net itself.

3535. Do you think it would be better to fine a fisherman heavily or imprison him for a period of (say) seven days, rather than take away his tools of trade? I think it would be better to fine him than take away his tools of trade.

3536. Would you also allow him time to pay the fine and give him his tools of trade back? Yes.

3537. Do you believe in having these prosecutions decided as soon as possible after action is taken? Yes, I do.

3538. Do you believe in the continuance of that provision which allows an informer to receive one moiety of the fine? No; he should not receive anything; it leads to persecution. If an inspector sees me entering closed waters he should stop me, and not wait until I break the law.

3539. Are the boundaries of closed waters defined by stakes? They always were up to the present time.

3540. Have the Tuggerah Lakes been left without supervision for any time by the Fisheries Department? Yes; we have had no inspector at Tuggerah Lakes this good while.

3541. Has Mr. Smithers visited this place? Yes, lately.

3542. Has he visited the lakes on other occasions? Yes.

3543. Has he been the means of originating prosecutions against fishermen? Yes, he has.

3544. What mode of procedure did he adopt to catch the fishermen? I was caught once in Big Bay, on the western side of the lake. I was in my camp. I got up and we shot our net. We never knew there was any inspector about until I saw Mr. Grant and Mr. Hesper coming out of the bush. I went up and asked them if they were inspectors. They said they were. I asked them if I could have my fish when I landed my net, and they said I could. Mr. Smithers and Mr. Aldrich were round the lake at the same time and caught a man named Johnson. We landed our net, and put the fish in the boat. I told Mr. Smithers I would pick my net up and wash it and fetch it home for him. He said I could do this for my own benefit. If I had left my net to the mercy of the inspectors they might not have washed it. They would have fetched it home dirty and muddy, and it would have been rotten when I wanted to use it. I was using a net of illegal length. I was summoned, and seven others who were with me. We had to appear at Gosford. We were each fined £2 and costs of court.

3545. Have you known of cases where inspectors have seized nets and neglected to wash them? Yes; I could mention the case of Mr. Gascoigne, whose net was taken away by the inspector, and owing to its not having been washed it became rotten.

3546. Did you ever know or hear of Mr. Smithers disguising his appearance in order to catch fishermen? No, I have not; he comes out in the night and sneaks behind you.

3547. Have you ever heard of his wearing a false beard? No.

3548. Have any of the Fisheries Commissioners inspected these lakes officially? Not to my knowledge.

3549. Did you ever hear of Dr. Cox visiting Tuggerah officially? He has been on the lake with Mr. Allison, and he has been out with Mr. Allison.

3550. Did any inspector accompany him? Not that I know of.

3551. Is he the only member of the Fisheries Commission you know of who has visited the lakes? Yes.

3552. Do you think if the Commissioners had periodically visited the lakes, and had made themselves acquainted with the conditions and circumstances under which the fishermen have to work, some improvement in the way of legislative reform might have been brought about? Yes, if they had come to the lakes the fishermen would have been able to explain their grievances, but they never came; we could not see them, and therefore we were unable to explain what we wanted.

3553. Are you of opinion then that the Fisheries Commissioners could not arrive at satisfactory conclusions respecting matters connected with the fishing industry here without having a local knowledge of the Tuggerah Lakes? No; what they knew nothing about they could not alter.

3554. Have you ever petitioned the Commissioners to obtain redress of your grievances? The only way we have ever approached them is by going to the Colonial Secretary as a deputation.

3555. As a matter of fact then during the many years you have been complaining have you ever received any redress? No.

3556. Do you think, having watched the actions of the members of the Fisheries Commission, that they are the best body to have control of our fisheries, and to administer the Act? No, I do not; the present Commission, to my knowledge, has been of no benefit to the fishermen at all.

3557. Have they not taken that interest in the fisherman and in the fisheries that might have been expected from them? No, they have not.

3558. Can you suggest any improvement in regard to the administration of the Act, and the control of our fisheries? Abolish the present Commission altogether. They are no good. I would have one Commissioner to control, and a local board to advise. I think that would be a very good plan. The fishermen should have representation on the local boards.

3559. Have you had any experience of deep-sea fishing? Not in this Colony. I have done deep-sea fishing at home on the Irish coast.

3560. Have you done any trawling? Yes.

Mr.
J. Crement.
25 Mar., 1895.

3561. Do you think it would be possible to carry on trawling operations on the coast of New South Wales, providing we find suitable bottoms? I think if the coast were properly surveyed and bottoms found it would assist in further developing the fisheries of this Colony.
3562. In what depth of water did you trawl? The banks range from 20 to 50 fathoms in depth.
3563. Have you studied the question of well-boat fishing? Yes; you cannot carry on deep-sea fishing in this warm climate without using a well-beat. Fish would keep very well in the wells in the boats.
3564. Have you been engaged in the capture of crayfish? No.
3565. Have you had any experience in connection with the oyster fisheries? Not in the Colony; I had experience at home, in Queenstown.
3566. Were they natural beds or artificial beds? Natural and artificial.
3567. Did you know of the existence of any disease there among the oysters? Yes.
3568. What was the nature of the disease? As far as I know, a slime came on the water, and the oysters seemed to die; we also found a worm in the oysters at the time, and it killed them.
3569. Did you ever notice any mud in the oysters? Yes, I did.
3570. Have you ever noticed any indications here of deposits of oysters in the deep sea? Yes; I have seen oyster-shells and oysters on the beach outside at the entrance.
3571. How do you account for the deposit of oysters on the foreshores of Tuggerah Lakes; are they from a natural deposit in the lake, or did they come from spawn thrown up from the sea? At times you can go to the entrance and you will not find one oyster there; and if you go again, it may be in a few months, you will find oysters there, as at the present time.
3572. Do you at all times see oysters right on the surf-beaten rocks at the entrance to the lakes? Yes.
3573. *Mr. Thompson.*] Would you advocate the gutting of fish before sending to market? Yes; especially in the summer months, and particularly if there were no refrigerating cars on.
3574. Do you think the Woolloomooloo Market is in the proper position for the sale of fish? Yes; for the fish that arrive in Sydney by sea; but not for the fish that is sent by rail, which forms the great bulk of the supply.
3575. Can you suggest any better site for the market? I should say at or near the Redfern railway station, in order to avoid handling.
3576. Would you allow fishermen to sell their own fish in the markets? Yes; I thoroughly approve of that system, and if it can be carried out, it will get rid of one of the greatest bugbears we have at the present time, namely, the middleman. The middleman ought to be done away with, and then the fishermen would get better prices, and the public would get cheaper fish.
3577. I suppose for that purpose you would like to see the market open all day, instead of having only one sale in the early morning? Exactly, that is what we want, and what ought to be.
3578. Would you make amateur fishermen pay a license fee, say, a nominal sum? Yes, I would; they destroy a lot of undersized fish.
3579. Should they be restricted to the capture of fish of a legal size? Yes.
3580. Do you think that could be done by requiring the amateur line fishermen to use nothing below a certain size of hook? It would minimise the destruction of fish.
3581. Would you refuse licenses to aliens until they became naturalised? Yes.
3582. Do you think the present style of baskets used for sending fish to market could be improved upon? Yes; the baskets should be flatter, and then the fish would have more room. At the present time, the basket is round and high, and the fish are heaped in one on top of another,—the consequence is that the fish at the bottom of each basket get crushed, and they are not fit for food.
3583. Do you think boxes made of galvanised wire-netting would be an improvement, especially if they were locked? Yes, it would; the fish would not be crushed, and they would have plenty of air.
3584. Which in your opinion is the most destructive to fish, a small-meshed net or a large mesh? The fish that mesh in a big mesh, 2½ in., will die; very few fish get meshed in the smaller net, the garfish net, if you land in deep water and turn those fish out that are not hurt.
3585. What proportion of net do you place on a given length of line? I hang the bunt on the half, and the wings on the third.

Mr. Nicolas Boyaze, fisherman, Tuggerah Lakes, sworn and examined:—

Mr.
N. Boyaze.
25 Mar., 1895.

3586. *President.*] Your name is Nicolas Boyaze, and you are a licensed fisherman; how long have you resided here? Seven years.
3587. How many boats have you? Three at present—I had five.
3588. How many men are working with you? Six men.
3589. Have you fished the Tuggerah Lakes only? Yes, only the lakes.
3590. How many baskets of fish do you catch in a week on an average? About ten baskets per week now; fish were very plentiful before Christmas; I used to catch over thirty baskets a week then.
3591. Are your fish brought from the mouth of Wyong Creek by steamer to Wyong? Yes.
3592. For which you pay 6d. per basket? Yes.
3593. Would it be a convenience to you and the other fishermen if the mouth of Wyong Creek were opened, and a channel made, so that a steam launch could visit the different hauling grounds and pick up the fish? It would be a great advantage.
3594. Do you send your fish to Sydney? Yes.
3595. To the Woolloomooloo Market? Sometimes to Woolloomooloo and sometimes to Redfern.
3596. From which markets have you received the best returns? They are about the same.
3597. Do you consign to an agent? When I send to Redfern I send to an agent; when I send to Woolloomooloo I consign to a private man who puts the fish where they will sell first.
3598. Are you satisfied with the returns you get for the sale of your fish? No.
3599. Do you think you ought to get a bigger price considering what the public have to pay? Yes, I do.
3600. Supposing you received half of what the public have to pay for fish, would you be satisfied? Oh, yes, I would.
3601. Do you think it would be any advantage to the fishermen or to the general public if they could be brought into closer communication with one another? Yes.

Mr.
N. Boyaze.
25 Mar., 1895.

3602. Do you approve of the manner in which fish are sold in the Woolloomooloo Market? No; I am against the way they have of disposing of fish at the Woolloomooloo Market. Fish ought not to be thrown on the floor as they are there.
3603. Would it be better to exhibit them on raised tables? Yes.
3604. Can you suggest a more central site for a fish-market than Woolloomooloo? Yes; we should have one central market near the railway station; that would save the handling of fish, and there should be more than one market for the sale of fish.
3605. Should there be more than one sale a day? It would be better to have two sales a day—morning and evening.
3606. Are you satisfied with the rate charged for the carriage of fish on the railways? I am satisfied; we can send a basket of fish from here to Sydney for 7½d., that is, anything over three comes to 7½d.
3607. If the Railway Commissioners were disposed to place a refrigerating car on the line for the convenience of the fishermen; and the markets were opened all day for the sale of fish, would that be beneficial to you? Yes, during the summer months especially.
3608. Have you ever lost any fish in transit? Not often on the railway; but I have lost a deal of fish between Darling Harbour and the market in Woolloomooloo.
3609. What is your opinion regarding the licenses issued to fishermen and fishing boats? My opinion is that the boats should be licensed, but that the men employed by the owner of the boats should not be licensed.
3610. What nets do you use? Hauling nets, meshing nets, and the garfish net.
3611. As to the hauling net;—is that sufficiently long for you now? 300 yards are not sufficient for these lakes.
3612. I suppose you were glad to have the provisions of the Amending Bill, giving you 600 yards instead of 300 yards, extended here? Yes.
3613. Was it difficult for you to get a living with the 300 yards? Yes; we had to break the law every day.
3614. Are you satisfied with the mesh of the hauling net, or would you like it smaller? I am satisfied with it just as it is.
3615. Have you, when hauling, found that young fish, more particularly the bream species, have become meshed in the 2½-in. bunt? Not in this lake so much; I have landed my fish from the water.
3616. You never haul your nets to the shore, and strand the fish? No, we do not.
3617. Are you satisfied with the length of the meshing net? It would do no harm to extend it.
3618. You use a garfish net—are you satisfied with the length and mesh of it? In catching garfish we always bull-ring them, and the 30 fathoms in the bunt is not sufficient for us to catch what we require.
3619. Are you satisfied with the mesh of that net, or do you advocate the use of a smaller mesh? The mesh at present in use is quite satisfactory.
3620. What is your opinion regarding a proposal to allow fishermen to use nets of any length up to 500 fathoms, and of any mesh so long as the fish are emptied from the nets in at least 1 foot of water, stringent provision to be made that no undersized fish should be caught or sent to market; would that be better than the present complicated system of varied lengths and meshes of nets? It would be much better.
3621. Do you think any harm would result from the use of the meshing net in closed waters? No; no harm at all.
3622. Do you agree with that provision in the Act which allows of a man's tools of trade being taken from him? No.
3623. Do you think he ought to be given another chance before his net is taken from him? Yes.
3624. Do you believe in half the fine being given to the inspector or informer? No, I do not.
3625. Do you believe in closing certain waters in Tuggerah Lakes? Yes.
3626. What portion of the lakes should be closed? The entrance to the lakes should be permanently closed.
3627. Do you think that if the entrance was permanently closed in order to allow of the free ingress and egress of fish there would be any necessity for other closures? No.
3628. Is there a large area of the lakes naturally closed at the present time? Yes; all the creeks, and some flats, owing to the existence of weeds and a bad bottom.
3629. Has an officer of the department been permanently stationed here as inspector during the last couple of years? One has visited us during the last year, but there is no resident inspector on the lakes.
3630. Has Mr. Smithers ever visited you? Occasionally; once this year.
3631. Has he taken out any summonses against people? Two in the last three months, two boats, and there were seven men in the boats.
3632. Do you know whether Mr. Smithers has disguised himself by wearing a false beard in order to catch the fishermen? No.
3633. Have any members of the Fisheries Commission visited these lakes? For pleasuring, not on duty.
3634. Who was down here? Dr. Cox.
3635. Did he not have an assistant inspector with him then? No.
3636. Who was with him? Mr. Allison and some other people from Sydney.
3637. Did he make any official inspection? No; he did not.
3638. Have any of the other Commissioners visited the lakes officially? Not to my knowledge.
3639. Do you think matters might have been improved, and necessary reforms might have been brought about, if the members of the Fisheries Commission had visited you more frequently, and thus acquired more knowledge of the circumstances and conditions of the fishing grounds? Yes.
3640. Do you believe in the present Fisheries Commission? No, sir; wipe it out altogether, and start afresh.
3641. What lines would you propose to start on? I would appoint a good man, a good practical man as head of the department, and give us local boards, the fishermen to be represented on those boards to advise the man at the head of affairs.
3642. Do you think that would work more satisfactorily in the interests of the fishermen as well as in the public interest? Yes.
3643. Do you know whether there are any crayfish fisheries on our coast? Plenty between here and Sydney.
3644. Do you think there is room for development in that direction? I should think so.
3645. Do you know anything about the oyster fisheries? No.
3646. Do you know anything about well-boat fishing? No.

- Mr. N. Boyaze.
25 Mar., 1895.
3647. Have you any knowledge of trawling? No; not in this country, I have seen them working very successfully in the old country.
3648. Is the evidence you have given to this Commission, evidence that would be given by nine out of every ten fishermen on the Tuggerah Lakes if they were present? Yes, it is.
3649. *Mr. Thompson.*] The present fisherman's license—the paper license—is it convenient for you? We are supposed to carry them with us, but we do not; they get destroyed.
3650. Would it be better to have a small medal, something that could be attached to the watch chain? Yes.
3651. The baskets you send your fish in, are they satisfactory? They could be improved.
3652. Would it be an improvement to have boxes made of galvanised wire-netting stretched on iron frames? That would be much better than baskets both in the winter and in the summer.
3653. Would it not be an advantage to send your fish to market gutted and cleaned? Yes; I would sooner clean one haul of fish than set to work and make another haul, and I could make more profit by it.
3654. Do you think it would be an improvement if fishermen were allowed to sell their fish at the market thus doing away with the agents altogether? Yes; it would be a great privilege, and it would do away with rings and other abuses. I have seen my own fish on the market floor, and I have seen one of the corporation officials in the act of stealing one of the finest on the heap, and when I remonstrated with him I was told I would be given in charge if I made a fuss.
3655. Which is the most destructive to young fish the hauling net or the garfish net? It depends on how they are hauled; if the garfish net is hauled to the shore it would kill a great number of small fish; if it was emptied in a certain depth of water those small fish would escape; in that way I favour the net with the smaller mesh.

- Mr. Francis Aldrich, Assistant Inspector of Fisheries, Lake Macquarie, sworn, and further examined:—
- Mr. F. Aldrich.
25 Mar., 1895.
3656. *President.*] How long is it since you visited the Tuggerah Lakes in your official capacity? Twelve months.
3657. Has anyone been exercising supervision over the fisheries there since you left? There has been no resident inspector in that time.
3658. So that it would be quite possible for the fishermen, in the absence of any supervision, to haul in closed waters as much as they liked? Exactly so.
3659. Practically the closures could be made of no value whatever to the fisheries? That is so.
3660. Do you think the closure of the entrance to the lakes is a justifiable one? Well, the channel and for a smaller distance north and south of the channel would answer the purpose.
3661. Would you make that a permanent closure? I would.
3662. How many men are employed on the lakes fishing? About sixty.
3663. Do they catch the best classes of fish? Yes.
3664. Are there great portions of the lakes closed to net fishing owing to the growth of weeds and bad bottoms? While I was stationed here a great portion of the lakes was overgrown with a weed they call stack grass.
3665. Did that prevent the men hauling on those grounds? Yes.
3666. Do the fishermen use the same class of nets as they do at Lake Macquarie? Yes.
3667. During the time you were stationed here as resident inspector, did you ever know of any members of the Fisheries Commission visiting the lakes officially? Not to my knowledge.
3668. Did you ever hear of any one of them visiting the lakes? No.
3669. At any rate you were never acquainted with any intended visits of the Commissioners, supposing they did come to the lakes? No.
3670. I have one more question to ask you; would the evidence given by you in respect to the fisheries of Lake Macquarie apply to a great extent to the Tuggerah Lakes fisheries? Yes, it would.

Mr. Robert Izzard, steamboat proprietor, Wyong, sworn and examined:—

- Mr. R. Izzard.
25 Mar., 1895.
3671. *President.*] What is your name? Robert Izzard.
3672. Have you been a resident of Wyong for many years? Yes, seven years.
3673. Have you during that time been closely connected with the operations of the fishermen? For six years I have done all their business; I carry the baskets of fish from the mouth of the creek up to this place.
3674. Do you know the number of baskets of fish sent away from Wyong in 1894? Well, according to the figures obtained from the Railway Department, 17,783 baskets were sent away in that year, but several of these were half baskets; I make the number to be 14,373 baskets for 1894.
3675. What would you consider the average price of each basket? I suppose they would average up to about 8s. taking them right through.

PORT STEPHENS AND MYALL LAKES FISHERIES.

SATURDAY, 6 APRIL, 1895.

[The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 2 p.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Samuel Lilley, fisherman, Port Stephens, sworn and examined:—

- Mr. S. Lilley.
April, 1895.
3676. *President.*] Your name is Samuel Lilley, and you are a resident of Port Stephens;—how long have you resided here? Fifteen years.
3677. Have you been engaged in fishing operations during that time? Yes.
3678. Have you been satisfied with the working of the Fisheries and the Oyster Fisheries Act? I have found them defective in some cases. 3679.

3679. You understand, I suppose, that this is a Royal Commission, and is distinct from the Fisheries Commission in Sydney? Yes. Mr. S. Lilley.
3680. Are you engaged in net fishing at present? Yes, I have only been a licensed fisherman these last three years, but I have been twenty-five years altogether fishing. 6 April, 1895.
3681. Prior to that had you been connected with the oyster fisheries? Yes.
3682. Have you a license for your boat? No, I am fishing in another licensed boat.
3683. Are we to understand that the evidence you are about to give to-day will be that which would be given by the majority of the fishermen in Port Stephens? I think so; I have been the representative of the fishermen of Port Stephens for some time past, and will speak on their behalf to-day.
3684. How many fishermen are there in Port Stephens? About sixty fishermen.
3685. Are you satisfied with the license fee and the fee charged for a boat license? I think it a fair thing, but would prefer to pay for the licenses quarterly or half-yearly.
3686. What nets do you use in Port Stephens? Generally 150 fathoms in length.
3687. Have you had the provisions of the Amending Act extended here, giving you the privilege of using a net 300 fathoms long? Not that I am aware of.
3688. Do you find the 150 fathoms sufficient? No.
3689. Would you like the provisions of the Amending Act extended here, allowing you to use 300 fathoms? Yes.
3690. Of course, I am speaking with regard to the hauling net;—are you satisfied with the mesh of the bunt of the hauling net? I think the fishermen seem satisfied with the mesh of the bunt of the hauling net; they require a greater length of net.
3691. In using the hauling net, do the fishermen generally strand the fish or empty them in a certain depth of water? Generally strand them.
3692. Have you found many of the bream kind meshed in the 2½-inch bunt? Not many bream; very small whiting get meshed in the 2½-inch bunt.
3693. Is that because there is not many of the bream kind frequenting Port Stephens, or do they manage to work through the mesh? We mostly catch sea bream—mature fish—here.
3694. Do you look upon Port Stephens as a breeding ground? Yes, I do.
3695. You say the fishermen do not empty their nets in any depth of water? If they get a good haul of fish they generally empty them in about a foot of water.
3696. When hauling their nets do they allow, when they have a good catch, the lead line to be on shore as well as the cork line, allowing the flue of the net to remain in the water? Yes, they do.
3697. Are you satisfied with the mesh of the wings of the hauling net, 3 inches? Yes.
3698. You have said that little whiting get meshed in the 2½-inch bunt; if that bunt were made smaller would those fish be preserved? Yes. The majority of nets used here now are garfish nets, 1½ inch, and they do not destroy any small fish.
3699. Then I suppose you contend that if the mesh were smaller the nets would be less destructive to the small fish? Yes.
3700. Is the meshing net used here? Not much.
3701. Do you think 60 fathoms is sufficient for that net? No.
3702. Would you like it extended to, say, 300 fathoms? Yes.
3703. As to the mesh of that net, 4 inches, is that too large or too small to have as a minimum? I think it is too large; it should be reduced to 3½ inches, because many marketable fish escape through the 4-inch mesh which could be caught if we had a smaller mesh.
3704. Are the fishermen satisfied with the length of the garfish net? Yes, it is quite long enough.
3705. Is the mesh satisfactory? Yes.
3706. How do they catch garfish here, by hauling the net ashore, or bull-ringing them? By hauling them ashore.
3707. The garfish you refer to would be the sea garfish? Yes.
3708. Do they use prawn nets here? None in Port Stephens. I think there are one or two men who use them at the Myall Lakes.
3709. Are any other kinds of nets used here in addition to those you have mentioned? No.
3710. What would you think of a proposal of this description: that with the view of doing away with the present complicated system of differing lengths and meshes of nets, the fishermen should be allowed to use a net of any length up to 300 fathoms, and of any mesh they liked, providing they were compelled to empty their catches in not less than 1 foot of water; and further, that there was a stringent provision to prevent the sending to market of undersized fish? I believe in that. I think the restriction should be in the fish going to market.
3711. Do you think there would be less destruction of the smaller fish, and that it would be more satisfactory to the fishermen? Yes.
3712. Has there been a general desire on the part of the fishermen to protect the young fish here? In all cases I have seen they have been returned to the waters.
3713. In connection with the seizure of nets for being of an undersized mesh, are you of opinion that such nets should be confiscated? No, I am not.
3714. Would it be better to fine a man heavily, or imprison him—say, for seven or fourteen days—rather than take his tools of trade away? Yes.
3715. As a rule, have the fishermen at Port Stephens taken the necessary precautions to have the proper length and mesh of nets before using them? Yes; when purchasing they have allowed for shrinkage.
3716. When the net is once pronounced to be legal by the local inspector, do you think it should always be held to be legal till worn out? Yes.
3717. Do you favour the use of the meshing net in closed waters, so that the fisherman may catch the marketable fish? Yes; it would only catch marketable fish.
3718. Would there be any fear of the feeding or breeding grounds being disturbed by the use of the meshing net? No.
3719. Are there any closed waters here? Yes.
3720. Do you think all the closures that have been made are justifiable closures? No; the places closed now are only sheltered places for winter fishing.
3721. Can you tell the Commission the closures in force at present? Telligherry Creek, Swan Bay, and the Karuah River—the whole of the Karuah from the punt at Alicetown, 3722.

- Mr. S. Lilley, 3722. Do you know whether the local inspector was consulted with regard to those closures? I cannot say.
- 6 April, 1895. 3723. Would it be better to have an opinion from local residents on matters of that description in every case before taking action? I think so.
3724. Fishing in closed waters;—do you believe in the seizure and confiscation of nets for that offence? No; I would fine or imprison a man, but not take his net away.
3725. Do you think the inspectors or the informers should receive half the fine in connection with offences against the Act? No; their salary should be sufficient for the duties they perform.
3726. Do you think the offering of a moiety of the fine might act as an inducement to inspectors to persecute fishermen? I should not think it would be a man who would do it, although it might be done; I know it has occurred in other rivers.
3727. What classes of fish do you catch in Port Stephens? Bream, whiting, mullet, blackfish, flathead, and garfish.
3728. How many species of bream do you catch? There are four different kinds of bream. There are the sea bream, that is the white bream; the river bream, which is darker; the fresh water bream from the Myall Lakes; and an intermediate bream that we call harbour bream.
3729. How do you account for finding these fish of different appearance in different places;—is it owing to their living in different waters? Yes.
3730. So that it is possible the white bream come in from the sea, and after living in an inlet for a certain period they become the classes of fish you have named? Yes. The last floods we had brought the lake bream down in hundreds of tons, and when we caught them they would not carry five hours; they could not get back into the lakes again, consequently they have made their way to the upper reaches of the rivers and creeks.
3731. What time of the year have you noticed black bream coming into Port Stephens in schools? I have seen them at nearly all times of the year, but they do not come in much further than Nelson's Bay.
3732. Do they come in to spawn? Yes, they do; but they do not go to the upper reaches of the rivers. They return to the sea again after spawning.
3733. Do you know when they are in roe? I cannot say with certainty. I caught 12 baskets of bream three weeks ago, and they were all in roe; the roe was soft.
3734. Would it be possible that these fish breed twice a year? I cannot say; but you can see large schools of bream and whiting anywhere near the outside beaches at the present time.
3735. Have you caught any red bream in the harbour? Yes.
3736. Are they in any quantity here? No.
3737. Have you caught any schnapper in your nets? Only at one place, Salamander Bay. We do not get many schnapper.
3738. Do you think Port Stephens is a breeding ground for the schnapper? They come here in pretty good numbers at this time of the year; they go well up the harbour.
3739. The whiting—do you catch the sea whiting here? We catch the sea whiting at the Heads, but up the harbour we catch the bluenose, or sand whiting. We also have the trumpeter whiting here; they are the richest variety of whiting we know of.
3740. What mullet do you catch? The bully mullet, the flat-tail, and a few tallagallans at the Heads.
3741. Do the sea mullet come into this place in shoals? Yes, very large shoals at times, if there is such a thing as a sea mullet. Mullet are coming down from the rivers and lakes now in quantities.
3742. Do you think that what is termed the sea mullet breeds in the estuaries? I have found it to be so.
3743. You think the supply of mullet in Port Stephens does not actually come from the sea, but is bred in the rivers and estuaries? Mostly in the lakes.
3744. Sea garfish;—where do they come from? We are dependent on the sea for our supply of sea garfish; they are in now.
3745. How do you dispose of your catches? Send them to Newcastle by steamer, and from thence to Sydney by rail.
3746. What do the steamboat proprietors charge for conveying your fish to Newcastle? 2s. per basket for good fish and 1s. for common fish.
3747. Do you include mullet in the common fish? Mullet and blackfish.
3748. Who does the business of consigning your fish to Sydney when it reaches Newcastle? The book-keeper on the steamer at Gosford.
3749. Who pays the freight from Port Stephens to Sydney? The agents in Sydney, and they deduct the difference from the proceeds of our sales.
3750. Have you any complaint to make of the charges made by the Railway Department for the carriage of fish? No; it is satisfactory.
3751. Have you to complain of the loss of fish in transit? No.
3752. To what market is your fish sent? Woolloomooloo and Redfern.
3753. Are you satisfied with the returns received from those markets? No.
3754. Do you think that if the fishermen received say one-half of what the public pay for fish it would give them a fair return for their labour? Yes, I do.
3755. How do you send your fish to market, in baskets or in boxes? In baskets.
3756. Have you any knowledge of the manner in which business at the Woolloomooloo Market is conducted? Well, I would like to give the Commission our experience of the markets. I will put it truthfully and clearly. Say there are four men in a boat, they have a haul, and catch eight baskets in one haul; we send that fish to Sydney in four different lots, each fisherman being a separate consignor of two baskets. We have found that one man would get a good price for the fish, the next man would obtain a fair price, the next would just clear himself, and the next two baskets would be condemned altogether. I could have brought you 100 account sales to prove my assertions, but I did not think they would be required. This has not happened to me alone, but to all the fishermen in Port Stephens. Lately we have been consigning our fish to a Mr. Izzard at Redfern Market, and so far our returns and transactions with him have been satisfactory. At first we thought it might be that our fish were crushed or damaged in some way, but judging from our repeated experience we can only come to one conclusion, and that is that we have been robbed right and left.
3757. Would it be a good idea to bring the fishermen into closer communication with the general public? Yes, it would.

3758. Is it possible for the agents to be in collusion with the fishmongers, so that the prices realised may be only known to themselves, and that they send you such returns as they think fit? Yes, I think that is done. I can say that on the whole, within the last four months, no fisherman in Port Stephens has had £1 clear given back to him from the Sydney markets. The only profit they have had is through the little business they have been doing with the Newcastle Ice Company, which has been started lately for the purchase of fish. They give us 12s. per basket for sand whiting, 8s. for garfish, 8s. for bream or flathead, and 6s. for mullet or blackfish, and this pays us well.
3759. In your opinion is the Woolloomooloo Market centrally situated? No, it is not.
3760. Is the system of displaying fish adopted there a good one? No; the fish should not be thrown on the ground, they are liable to be trodden upon, and this naturally creates a prejudice against the use of fish in the public mind.
3761. Would it be a good thing to establish a system by which the agents could be done away with altogether? Yes.
3762. Do you think one sale per day at the Woolloomooloo Market is sufficient? I think there should be two sales a day; that would suit the ports nearer Sydney much better than Port Stephens; the fish could be sold at the markets and sent into the country by the night trains.
3763. Do you send any fish into the country north of Newcastle? Yes; and it is from those returns I receive my profits.
3764. Do you think it would be a good thing to have a market centrally situated, possessing raised tables upon which the fish could be displayed, and allow the fishermen to sell their own fish to the general public? Yes.
3765. Would you advocate the establishment of auxiliary markets, say, one at North Sydney, one at Burwood, one at Paddington, Newtown, and in other thickly populated centres? Yes; fish would be better distributed than it is at present. It would greatly assist in the distribution of fish.
3766. Would it be a convenience to the fishermen if the Railway Commissioners were to place a refrigerating car on the northern line for the conveyance of fish to the Sydney market? Yes.
3767. Would it be an improvement if the fishermen were to gut their fish before sending to market? I hardly see how it could be done in out-of-the-way places.
3768. But supposing the prices realised for gutted fish paid for the trouble taken, could it be done then? Yes.
3769. Do you think the well-boat system could be utilised for sending live fish to market? I had a well-boat once, I tried it with schnapper, but they did not seem to keep after being caught; we could keep the bream and other kinds of fish.
3770. Did you adopt any process to try and keep the schnapper alive;—did you prick them? No, I did not.
3771. Did they knock themselves about in the well? Yes.
3772. How long did you keep them in the well? The farthest trip we made was to Seal Rocks, I suppose three days from the time we commenced to catch the fish until we reached Newcastle. Newcastle is 44 miles south from the Seal Rocks.
3773. Did the fish show a tendency to float on the top of the well? Yes; they floated on the top.
3774. Did you attempt to feed them? No.
3775. You did not try the process of pricking the air-bladder? No; I did not.
3776. Do you think if you could adopt a system by which the fish could sink in the well rather than knock themselves about on the top of the water, there would be a likelihood of their keeping well? Yes. The boat I had was about 30 feet long; I think she was rather too small to carry the schnapper. I think we had them rather too thick together in the well. If there had been plenty of well room in the boat they might have lived.
3777. Was your well divided? Only the centreboard, in a case through the centre.
3778. What depth of water had you in the well? Three feet 4 inches.
3779. Would it be an advantage if you could sell your fish alive in the market? Yes; it would.
3780. Do you believe in leaving discretion to whatever authority may be established to control the fisheries to regulate the number of fishing-boats that should be licensed to work in certain waters? Well, as far as white men are concerned, there could not be much objection to them working; our great complaint is about the aliens.
3781. Would you make it compulsory on the part of aliens to become naturalised before issuing a license to them? Yes; I have written to the papers to the effect that they should be naturalised before being licensed.
3782. As to crayfish—are the fisheries in a pretty good condition? Plenty of crayfish at Port Stephens.
3783. Do the fishermen find much difficulty in catching, landing, and sending them to market? No difficulty in catching them.
3784. What method of capture do they employ? The hoop nets; but we have a class of fishermen here who are a very undesirable class to license, they are catching crayfish by means of galvanized wire pots.
3785. Where do those men fish? At Broughton Island.
3786. What nationality are they? Italians.
3787. Is that island available for the European fishermen to engage in the capture of crayfish? It used to be the principal ground for the Port Stephens fishermen, but since the Italians have gone there they have taken complete command of the island.
3788. Do you mean to say they prevent the Port Stephens fishermen from landing there? From fishing, not from landing. They have all the principal places taken up by their pots. Our men cannot put their moorings down at all. The Italian pots are everywhere on the principal grounds.
3789. How many of those Italians are there? A great quantity in the season, that is during the latter half of the year.
3790. About how many crayfish-pots would those Italians use at the island? About 800 or 900 pots.
3791. Do they fish all the year round, or only during the season? During the season, the time when they capture the crayfish.
3792. Are they caught in quantities when in roe, that is from June to December? Yes, they are.
3793. Is it advisable that the capture of crayfish should be regulated so as to prevent improper interference with their breeding season? Yes.
3794. What prices do the Port Stephens fishermen realise for crayfish? Only a few pence per dozen.

- Mr. S. Lilley. 3795. Do you know the prices the general public have to pay for crayfish in Sydney? Yes, from 1s. to 1s. 6d. each.
- 6 April, 1895. 3796. Supposing you allowed 1s. for the crayfish, and the fishermen had a return of 6d. for each crayfish, would that be a good return? A handsome return, it would be a gold-mine.
3797. Do you think if the crayfish fisheries were properly regulated, that with a fair demand on the part of the public, and with a proper means of distribution, they could be developed and made to pay the fishermen handsomely? Oh, yes, I do.
3798. Do you think that the possibility of their being destroyed or greatly diminished in numbers should be taken into consideration by the authorities? Yes.
3799. Do you know anything of trawling? Not much.
3800. If the bottoms were found to be suitable would you favour an experiment in trawling by the Government? I would.
3801. Have you seen any shoals of fish on the coast? Yes; mullet and garfish.
3802. Any of the herring kind? No.
3803. Have you done any smoking or curing? Yes; in Port Stephens and on the Hunter.
3804. Did it pay you? No; I sent nine and a half dozen to the Redfern market and got 4s. 8d. for them; they were large mullet caught in a 4-inch mesh. That sickened me; they were properly smoked and had roes in them.
3805. What wood do you use for smoking? Rosewood.
3806. Supposing you had got a return of say 3d. each, would that have paid you? Yes.
3807. Have you had any experience in connection with the oyster fisheries in Port Stephens? Yes; Port Stephens and the Hunter.
3808. Where have you held leases? Only in Port Stephens.
3809. What area did you lease in Port Stephens? About 4,000 or 5,000 yards, but I came down to about 800 yards.
3810. Did those leases turn out a profitable investment? At first they did, but owing to the disease I had to relinquish them.
3811. How long did the disease remain in your beds? Until my leases were forfeited, about five years.
3812. When you discovered the presence of the disease in your beds, and found your oysters were being destroyed, did you make any application to the Government to surrender your leases? No.
3813. You simply took all the marketable oysters off as soon as possible? Yes.
3814. Did the Commissioners claim rent for the whole period you held your leases? Yes.
3815. And did you pay the rent? No.
3816. Did you make any application for forfeiture or surrender, or did the department forfeit them? They forfeited them for non-payment of rent.
3817. Has any claim been made upon you for arrears of rent? Yes.
3818. Have you taken any notice of that claim? No.
3819. Was the forfeiture caused through the presence of the worm disease in your beds, which prevented you getting any return from the lease? Not exactly. I had the money to pay the very day I received the notice of forfeiture. I went to Sydney to the Fisheries Department, and I was told they did not know whether the Commissioners would accept the money or not. They did not accept it.
3820. As a matter of fact you were prevented from obtaining a return equal to the rental you would have had to pay, owing to the fact of the disease having attacked your beds? Yes.
3821. After the five years you spoke of did the oysters on your leases seem to improve? No; they got worse.
3822. What is the present condition of the oyster fisheries in Port Stephens? In some places there are signs of the disease leaving the beds; I mean the foreshores.
3823. Are the Port Stephens oysters generally found in deep water beds? Yes; they are obtained by dredging.
3824. Where are the deep beds? In the Karuah River.
3825. Are there many oyster leases held here? Not now.
3826. Do you believe in the system now in vogue of leasing areas for oyster culture? Yes.
3827. Would you like the present system of leasing to a minimum area of 100 yards continued, or do you favour the proposal to lease an arm or one of the foreshores of a river? I believe in small areas.
3828. But would not a certain number of men have to be employed on the larger areas if they were taken up by one man? My experience has not shown that to be so.
3829. Do you think a man can really get a living off 100 yards of oyster lease? No.
3830. If a minimum making the limit 1,000 yards were struck, would that be better? No; he could not make a living unless he could obtain spat to lay down; of course there are different places in Port Stephens where they grow rapidly; in other places they do not flourish so well. Below the ordinary neap tide there are very few oysters. This is owing to the disease, which attacks the oyster more severely below that line. The disease does not seem to attack half-tide oysters.
3831. So that providing a person could obtain from Crown lands the necessary spat for layings, you think he could make a living off 1,000 yards? Yes.
3832. Do you think a man should be asked to pay an annual rental per 100 yards, or would it be better to charge him so much per bag, in other words, allow him to pay by results? I think both, both rent and so much per bag.
3833. What would you think a fair sum per bag? Two shillings.
3834. Do you think a man should be charged for the spat, or should that be given free? Given free, so long as he pays for the mature oyster. I think the leasing system, with a royalty, would be the best way. That would prevent the Italians and Greeks, those aliens, coming here and denuding the beds and depriving the residents of their living, as they did when the old licensing system was in force.
3835. Do you believe in stringent provisions being embodied in an Act to provide for the proper working of an oyster lease? Yes.
3836. Are many oysters sent from Port Stephens at the present time? Yes; a good many go away belonging to one or two leases.
3837. Are they of fair quality? No, I do not think it.
3838. Do you know about what they get per bag for them? Fifteen shillings, down to 1s. per bag.

3839. How long does it take an oyster to develop to the marketable stage here? About nine months on the good beds in the Karuah River or the Hunter, and about three years on the foreshores. Mr. S. Lilley.
3840. Have the oyster-beds any natural enemies attacking them? Only the stingaree. I had to fence in all my leases to protect them from the stingaree. 6 April, 1895.
3841. Are there any beds here where artificial culture is carried on? Not at present; but on some leases I held I placed 400 or 500 bags of oysters. They are on the beds yet.
3842. Are you simply dependent on the natural beds and the foreshores for the supply? Yes.
3843. Are the oysters you laid down some time ago liable to be stolen? Yes, but there are only two lessees near my place, and they will not touch them. I am in hopes of getting them back again when Port Stephens is opened.
3844. Are you satisfied with the present authority charged with the administration and control of the fisheries and oyster fisheries of the Colony? No.
3845. Have they given that attention to the industry which the public expected they would? No.
3846. Can you tell me whether on any occasion they have visited Port Stephens as a body or individually? Never to my knowledge. I have known Dr. Cox to come here, but not officially.
3847. Do you think, in connection with an institution like the Fisheries Commission, it is essential that the members of such a Board should visit the different fishing grounds occasionally to make themselves acquainted with the different conditions and circumstances? Yes.
3848. Do you think the existing authority might be altered with advantage to the industry? Yes.
3849. Can you suggest any improvement? I think fishermen should be represented on Boards of advice—local Boards. Many little things might crop up which could be dealt with by such Boards if they were empowered to investigate—to advise the head authority. I can speak from personal experience on that point. I believe if we had had a local Board here at the time my leases were forfeited they would have gone into the facts and my leases would not have been taken from me.
3850. You mentioned the word authority;—what authority would you have at the head centre—a Board such as at present exists, or what do you suggest? I think we should have one gentleman at the head—one man would be quite sufficient—a man having a thorough practical acquaintance with the fisheries of the Colony.
3851. Would you make it compulsory on his part to visit the fisheries more frequently than the present Board do? Yes.
3852. *Mr. Thompson.*] Have you any reason to complain of your oysters being stolen? Only on one occasion, some years ago.
3853. Have you heard of any complaints of oyster stealing here? Yes.
3854. Then there has been such a thing as oyster stealing? Yes.
3855. How would you remedy that? No person has been blamed more than I have for stealing oysters off Crown lands and private property. I think I should tell the Commission this, because I am innocent of the charges made against me—that is, of taking oysters off private property. I have taken oysters off Crown lands for laying down on my leases. The chief complaints against me for stealing oysters on private property was from the Hon. R. H. D. White. I have told that gentleman since who it was that was really stealing his oysters. The very men stealing his oysters were the men he had in his employ.
3856. Is the garfish net as efficient for the capture of river garfish as of sea garfish? Yes; the river garfish is a short, stumpy fish, and the sea garfish are what we call needles, and are unfit for market.
3857. Supposing it has been said that the river garfish travel along the net and escape at the ends, whereas the sea garfish make no attempt to escape—is that correct? Yes.
3858. Then the garfish net would not be as effective for the capture of the river as for the sea garfish? That is correct, but we do not fish for river garfish.
3859. Which netting shrinks the most, that made of hempen twine or of cotton? Cotton.
3860. Would it be an advantage if the hemp or the cotton could be tanned once or twice before it is made up into netting? Yes, I would like to see that done.
3861. You send fish to both markets? Yes.
3862. Which is the most convenient? Redfern; there is less cartage and less handling of the fish.
3863. Which, in your opinion, is most destructive to young fish, the smaller mesh or the larger mesh? I think the small mesh.
3864. Is it not a fact that there are less fish meshed in the smaller mesh than in the 2½-inch bunt of the hauling net? Yes.
3865. Do you find the form on which your fisherman's license is issued sufficiently durable? It is made of paper; it is liable to get destroyed.
3866. Would it not be more convenient to have a metal token about the size of a shilling, which you could tack on to your boat, or fix on your watch chain, and thus have a durable license always with you? Yes, I would approve of that.
3867. Do you find there is unnecessary handling of your fish by the railway people at Newcastle? There was; the porters used to throw the baskets into the vans, but that has been put a stop to now, and the arrangements are satisfactory.
3868. Have you considered the question of leasing portions of large waters like Port Stephens to fishermen so that they would have the right to all the fish and oysters therein;—would you approve of the apportionment of Port Stephens like that? I do not favour the system at all.

Mr. Edward Holbert, fisherman, Corrie Island, Myall River, Port Stephens, sworn and examined:—

3869. *President.*] Your name is Edward Holbert, and you reside at Corrie Island, on the Myall River;—do you carry on your fishing operations in the river or in the Myall Lakes? Sometimes in the lakes and sometimes in the Myall. Mr. E. Holbert.
3870. How long have you been fishing in this district? About nine years; I have had many years' experience in fishing. 6 April, 1895.
3871. Have you a good practical acquaintance with the fisheries of Port Stephens? Yes.
3872. Is the fish supply at the present time equal to what it was when you first commenced fishing here eight or nine years ago? There is a good supply now, but they are not quite so thick as they were.
3873. Where does the supply come from—the sea, or is it locally produced? From the sea and from the inlets.

- Mr. E. Holbert.
6 April, 1895.
3874. Is anyone associated with you in fishing? My brother and one man.
3875. What is your average catch per week? From about eighteen to twenty baskets.
3876. What descriptions of fish? Sea garfish, mullet, blackfish. The general run has been garfish and a few whiting.
3877. Any black bream? Yes, a few.
3878. Where do you send your fish? To Woolloomooloo and Redfern Markets.
3879. I suppose you send by steamer to Newcastle, and thence by train to Sydney? Yes.
3880. Have you ever had any fish stolen in transit? I cannot swear I have, but I have my suspicions about it. The agents have grumbled about the baskets not being full, but they were filled when they left here.
3881. Would it be possible for the agents to say the baskets were only half full and for them to pocket the difference? That might be. We are in utter ignorance of what goes on.
3882. To whom do you consign—an agent? Yes, an agent—Hudson, Izzard, and Augustus. I have been trying to get a little by sending my fish to different men, and I have also sent them in the name of the men in the boat.
3883. Are you satisfied with your transactions with the agents? No, I am not. I am a hard-working man. I have a family to look after, and I would not like to wrong anybody; but I am not satisfied.
3884. Do you think the return you get for your labour is a fair one, considering the prices the public have to pay for fish? We do not get one-third of what they pay, and many times we get account sales bringing us in debt. I neglected to bring the bills with me, but I will send them to you. I have a lot of account sales showing me in debt to the agents. I can also show you bills in which I have received 2s. for one lot of fish sold by one man and 6s. for a similar lot of fish, got in the same haul, sold by another man.
3885. Do you think it would be advantageous to bring the fishermen into closer communication with the general public? I do.
3886. Are you satisfied with the market at Woolloomooloo;—is it the best market, so far as situation is concerned? It is not centrally situated.
3887. Do you think a better method of displaying the fish could be devised—could there not be an improvement upon the system of throwing the fish upon the floor? Yes; raised tables would be a lot better.
3888. Would you approve of the fishermen being allowed to sell their own fish in the market? Yes; I think that would be very good. We might get a little then for our labour.
3889. Are you satisfied with the freight charged by the Railway Commissioners? I think it is a little too high.
3890. Are you aware they have made a reduction lately? No, I am not.
3891. When you receive your account sales do they simply state the charges as so much and give you no items? No, they give no details; you have to take what they send.
3892. So that you would not really know what you have to pay per basket for the conveyance of fish from Newcastle to Sydney? No.
3893. Do you think 1s. per basket is a fair charge from Newcastle to Sydney? I think it is rather much for any quantity. I can show you returns I have for twenty-seven baskets of fish sold in Sydney. I got nearly £9, and the charges came to £6.
3894. Did the railway freight only come to 27s. for the twenty-seven baskets;—would not that appear to be reasonable? I think the common fish ought to be carried cheaper; the charge is reasonable enough for prime fish.
3895. Do you think it would be a good idea to have fish sent to market gutted, provided the fishermen could get a return which would pay for the extra labour? Yes, it would; I hold with that.
3896. If a truck with cool chambers in it were placed at the disposal of the fishermen for conveying fish to Sydney, would it be patronised by them? It would, and it would be the means of preventing a lot of fish from going bad.
3897. Have you ever had any returns sent back to you with the remark that so many baskets were condemned? Yes, I have.
3898. Have you ever taken the trouble to ascertain the truth of that statement? No.
3899. Would it be possible for the agent or agents to mark the fish condemned, and for no condemnation to take place? Quite likely. I quite believe that. I have consigned six baskets of fish, some in my name and some in another man's name, and I have had something to take for my fish, but the fish sent in the man's name were condemned, and I have had to pay the charges for them, and yet those fish came out of the one haul.
3900. Do you think it is possible for the agents to be in collusion with the fishmongers? Yes, I do.
3901. Would you as a fisherman be satisfied with a return equal to one-half the price paid by the public for fish? Indeed, I would. We work for nothing, I can assure you.
3902. Are you of opinion there should be more than one sale at the Woolloomooloo Market? Yes; I believe in two sales a day.
3903. Would it be a good thing to have auxiliary distributing markets in populated areas near Sydney and other big towns? Yes, one of the best things that ever happened us.
3904. Are you satisfied with the present Fisheries Act? I am not. I can say that I am not.
3905. Do you believe that it requires amendment? Some of it is very hard on a man.
3906. What nets do you use? The garfish net in the season and a hauling net when the season is out.
3907. When is the garfish season? At this time of the year.
3908. How long does it last? It will last now until the warm weather sets in. The day garfish are in now and in the winter they come at night.
3909. Do they frequent the flats? The dark weedy bottoms, but we mostly get them outside.
3910. What is the nature of the bottoms outside? There are broad dark patches about Broughton Island—patches of kelp; they like to get over there.
3911. Do you bull-ring them? Sometimes we land against the boat, at other times we land on the rocks.
3912. Do you catch many river garfish? They are not very plentiful; we never get very many here.
3913. Are there any large black bream in the Myall Lakes? You can get any quantity.
3914. Are there any large mullet in the lakes? Pretty large. I have seen them from 5 lb. to 6 lb. in weight.
- 3915.

Mr.
E. Holbert.
6 April, 1895.

3915. Have you ever seen one 14 lb. in weight? Yes, a big sea mullet, but not the lake mullet.
3916. Does that mullet simply come into spawn or —? No. It comes in along the southern shore, then crosses to the north and goes out full of spawn.
3917. So that the mullet you catch in quantities in the Myall Lakes are locally produced? Yes.
3918. Are you satisfied with the length of the hauling net? I think a little longer net would be better for us.
3919. Would you be satisfied with 300 fathoms? I would.
3920. Would you be able to haul that net to shore? No; not in the tide, but in the lakes.
3921. Do you think the mesh of the hauling net is satisfactory? I think the big net is.
3922. Do you often find young compressed fish meshed in the 2½-inch bunt? Yes, very often.
3923. So that that mesh is really destructive to that kind of fish? Yes, the wings are; but if the bunt were smaller there would not be so many fish destroyed.
3924. Do you think that when once a net is passed as legal it should always be considered legal until it is worn out? Yes, I do.
3925. When purchasing your netting do you allow for shrinkage? Yes; I always buy my net over the sizes, and many a week I have worked for nothing through that.
3926. In respect to the garfish net, is that long enough? I would like a greater length of bunt.
3927. Does that net destroy many young fish? A great number get meshed in the 1½-inch mesh, but if the mesh were smaller still they would not be meshed.
3928. Do you think the meshing net (60 fathoms) should be longer? Yes, it is very short.
3929. Should there be any alteration in the mesh of that net? I think the 4-inch mesh is correct.
3930. But is it not possible that many marketable fish escape through it? Yes; there is no doubt about that.
3931. Do you think much injury would be done to the fisheries if that mesh were reduced to 3 inches or 3½ inches? No; because you would catch as many marketable fish as would go through the 4-inch mesh.
3932. Do you think there could be any harm resulting from using such a net in closed waters? I do not think so, not in the closed waters in Port Stephens.
3933. Do you think there would be any harm in catching the marketable fish? No.
3934. Would it be a wise provision to allow fishermen to use any length they liked up to a length of 300 fathoms, with any mesh they liked, provided they emptied the net in at least a foot of water, and further that a provision should be made to prevent the sending of undersized fish to market? I think that is correct. No experienced man will destroy small fish; it is a man's own fault if the small fish are killed, that is, provided there is no blubber in the net—if there is blubber the fish are killed before the net is hauled in.
3935. Do you believe in that section of the Act which allows of the seizure of nets for the first offence? No; I do not.
3936. Do you think a fisherman's tools of trade should be taken from him for the first offence? No; it is very hard.
3937. Do you think it would be better to fine or imprison a man rather than take away his nets which constitute his tools of trade? Yes, I do.
3938. And do you believe in all cases where proceedings are instituted against fishermen that they should be dealt with as soon as possible? Yes, I do.
3939. If that were done would that obviate cases of hardship arising in consequence of the fishermen having to wait weeks and months for cases to be dealt with? Yes.
3940. Do you believe in giving the informer half the fine? No, I do not, his salary is enough; there are many cases where they make up a case when there is no occasion for it.
3941. Can you state a case where that has been done? Yes, I can. I was fishing in Lake Macquarie for a few years, and I had to cross closed waters to go home. I was leaving one evening after I had been ashore, and just as I left the beach two inspectors came and demanded my net with a revolver. I had to give it up, my license was cancelled, and I was fined £4 10s., and lost everything, and that was the first time I was ever in a Court of Justice.
3942. Who were the inspectors? Paget Bayly, and Gordon. Bayly had the revolver. Bayly was an honorary inspector.
3943. And you say on that occasion you were innocent? I was innocent. Mr. Boyd would tell you that my net was taken out of my boat.
3944. What did that net cost? Twenty pounds.
3945. Do you think the charge for the license unreasonable at the present time? The fisherman's license is reasonable enough; the boat license is a little hard; that is thirty shillings for the year for myself and boat, and there is many a time I leave my children short to find the money to pay.
3946. Could the fisherman's license be made more durable; would you like it issued in the shape of a medal or token which you could affix to the boat? Yes, that would be a great improvement.
3947. Do you think all the closures here are justifiable closures? No; the waters that are just closed we might work this winter, and make a few shillings, but they are closed against us now; those waters close themselves all the summer time.
3948. How? We cannot go up there in the warm weather, they close themselves by reason of their distance.
3949. Do you think people having a local knowledge should be consulted with respect to those closures, instead of the Fisheries Commission having it in their power to close waters without having a knowledge of the circumstances? Yes, I do.
3950. Have any of the Fisheries Commissioners visited this place officially? No.
3951. Do you think that body has given satisfaction to the fishermen and to the general public? No, I do not.
3952. Have you heard complaints amongst the fishermen as to their want of administrative ability? Yes, I have.
3953. Do you think if they had that deep interest in the development of the fisheries that the public expect them to have they would visit the different fishing grounds very frequently? Yes; they ought to do so.
3954. Do you think the fishermen should have representation on any board, or in connection with any authority that may be empowered to administer and control the fisheries? I do.

- Mr. E. Holbert.
6 April, 1895.
3955. Would that be better accomplished by the appointment of a Commission in Sydney with a representative fisherman on it? No. I would prefer that there should be one man in authority—one man appointed by the Government—a man who thoroughly understands the fisheries, and who would work amicably with the fishermen; and I also think local boards, consisting of four or five, should be appointed, with a representative fisherman on each board, to advise the head authority in Sydney in respect to matters of local interest and concern.
3956. You believe an experienced man should be appointed—a man who would be able to pay periodical visits to the fishing grounds so as to become acquainted with their circumstances—a man who would not only have the welfare of the fishermen at heart but who would be interested in the development of the fisheries generally? Yes; that is what we want.
3957. Have you held any oyster leases? No. My brother has. I have been working on his lease.
3958. What area has he? Two hundred yards.
3959. Has that lease been attacked by the disease? Yes; at times very badly.
3960. How long ago is it since it showed itself in his beds? About two years.
3961. Where is his lease? Opposite Corrie Island.
3962. Do the oysters seem to thrive well there? They do.
3963. Do you think, instead of his being able to take up 200 yards of foreshore, it would be better for him to take up a whole arm of a river or a bay, and instead of paying a rental, contribute a certain sum as a royalty on every bag of oysters raised? Yes; I believe in that.
3964. Are you of opinion that with stringent conditions as to the working of the leases that would be better than the present system? Yes; I am.
3965. Have you had any experience in deep-sea fishing? No.
3966. Have you had any experience in the capture of crayfish? Yes; but it is two years since I caught any of them.
3967. Have you noticed them when they are in roe? Yes.
3968. What length of time is the crayfish in spawn—I mean from the time the coral forms in its abdomen until the berry is discharged from the tail? I think about four or five months; that is my experience.
3969. Should there be a close season for crayfish when they are in that condition? I think crayfish should not be captured during the last two months while the berry is under its tail.
3970. As this fish is in its primest condition when in the coral stage, would you be inclined to favour the closing of certain grounds only in order that the public might not be deprived of what is held to be a delicacy? Yes; that would be better, that would do less injury to the prospects of the fishermen.
3971. Have you ever seen any shoals of fish on the coast? I have, many a time.
3972. Of what description were they? I cannot exactly tell you.
3973. Herrings or mackerel? They were a good way out.
3974. Have you ever noticed an oily appearance on the water while those shoals of fish were making their passage northward? Yes.
3975. Have you done any fish smoking or curing? A little.
3976. What wood did you use in smoking? The swamp oak when it is decayed, so that it can just smoulder.
3977. Do you think if smoked fish could be properly distributed amongst the public it would pay you and others to engage in that industry? Yes; it would pay us better than sending them fresh in the summer-time.
3978. And I suppose that large quantities of fish that now go to waste, through not reaching market in a sound condition, could be smoked and utilised for food in that way? Yes, they could.
3979. Do you know anything of well-boat fishing? I have had no experience.
3980. Would it be an advantage to the fishermen if fish could be taken alive to the market? Yes; and I think we should get better prices.
3981. Are the prawn fisheries in the Myall Lakes extensive? Yes.
3982. Do they grow to any size? There are large prawns in the lakes.
3983. Are they sent to the Sydney market? No; they sort them and make them into what they call "chow," and sell them to the Chinamen from whom they receive about 6d. per lb.
3984. Is the evidence you have given to-day before this Commission similar to that which would be given by the majority of the fishermen in your district? Yes, it is.

Mr. Charles Anderson, fisherman, Telligherry Creek, Port Stephens, sworn and examined:—

- Mr. C. Anderson.
6 April, 1895.
3985. *President.*] Your name is Charles Anderson, you are a fisherman, and you reside at Telligherry Creek; how long have you been fishing in Port Stephens? Eleven years.
3986. Had you any previous experience? No.
3987. Have you anyone associated with you? Yes; two men besides myself.
3988. What nets do you use? We are using a hauling net.
3989. Would you like a greater length for the hauling net? Yes.
3990. Supposing it was extended to 300 fathoms, could you haul it in Port Stephens? I could work it outside the creek.
3991. Are you satisfied with the mesh of the hauling net? No.
3992. Do numbers of fish get meshed in the 2¼-inch bunt? Yes; a big quantity.
3993. Do you think a smaller mesh would prevent their getting meshed and being destroyed? Yes; it would not kill half so many.
3994. I suppose you would like the net extended to 300 fathoms, 3 inches in the wings, and, say, 1 inch in the bunt? Yes.
3995. As to the garfish net, 90 fathoms, are you satisfied with the length of that? I would like that increased in length.
3996. Would you like any alteration in the mesh? I would like it reduced to 1 inch in the bunt.
3997. Do you use a meshing net? Yes, I do; I would like that lengthened—I would like a meshing net of 300 fathoms if possible.
3998. Are you satisfied with the mesh of that net? Well it is 4 inches now; I would like it 3½ inches.

Mr.
C. Anderson.
6 April, 1895.

3999. Do you think you lose numbers of marketable fish through using the 4-inch mesh that would be caught by having a mesh of $3\frac{1}{2}$ inches? Yes.
4000. Do you use a prawn net? No.
4001. Is the present Fisheries Act giving general satisfaction? No.
4002. Are you of opinion that when once a net is declared to be legal it should be always considered legal until worn out? Yes; certainly until worn out.
4003. Do you think a meshing net should be used in closed waters? There would be no harm resulting from it.
4004. Are you of opinion that the provision in the present Act providing for the seizure of nets for fishing in closed waters should be repealed? Yes, it should be.
4005. I suppose you do not believe in taking a man's tools of trade away for an offence against the law? No; they had better take the man, too.
4006. Would it be better to fine or imprison a man rather than confiscate his net? Yes.
4007. Do you think the cases occurring under the Act should be heard as soon as possible after proceedings have been instituted against fishermen? Yes.
4008. Are there any closed waters in Port Stephens? Yes; Telligherry Creek is closed.
4009. Are the closures justifiable? No.
4010. Why not? For one thing they reckon it is a place for breeding fish and should be closed now, but it closes itself for six months in the year without the Commissioners closing it.
4011. Will you explain what you mean by that? I mean that in the summer the blubber drive the fish out of the creek, the winter is the only time you can catch a few fish there.
4012. Then you think that during the half-year, in the winter, it might be left open? Yes.
4013. Do you know of any other closures? Yes; Pipeclay Creek, that is the same as Telligherry.
4014. What is your average catch of fish per week? From fifteen to twenty baskets.
4015. How do you dispose of the fish? Send them by horse and cart from Saltash Wharf, Telligherry Creek, to Stockton, thence to Newcastle, where we sell them. We act as our own agents. We send to Sydney in the winter time.
4016. Are you satisfied with the result of your transactions with the Sydney markets? No; I am not.
4017. Do you think your fish ought to realise higher prices? Yes; I do that.
4018. Do you think it would be an advisable thing to get rid of the middleman? Yes; I do. They ought to have been done away with long years ago.
4019. Would it be better to bring the fishermen into closer contact with the general public? Yes.
4020. Have you had anything to do with the oyster fisheries? No.
4021. Have you engaged in the capture of crayfish? Yes.
4022. Where have you caught them? In Hannah Bay.
4023. Do you find them pretty numerous? Not so plentiful this last year or two; one time they were very plentiful.
4024. Do you think that is the result of over fishing? I do.
4025. Have you noticed crayfish when in the spawning state? Yes.
4026. Would it be a good thing to protect crayfish from the time they are in the coral stage until they shed the berry? Yes; they should be protected for one month out of six.
4027. Do you know their spawning season? They are generally in the berried stage in September and October, and they shed the berry not later than October.
4028. Instead of having the closures for one month or two months in the season, what would you think of the idea of closing certain crayfish grounds for a stated time? That would be a good thing.
4029. Have you ever seen any shoals of fish on the coast? Yes; I have seen shoals of mullet.
4030. Any of the herring tribe? No; I have seen what they call the mackerel.
4031. Are you satisfied with the present Board entrusted with the administration of the Fisheries Act and the control of the fisheries? I am not satisfied with them.
4032. Have you ever known one of them or all of them to visit this district officially? No, never.
4033. Do you think it necessary that anyone holding such a responsible position as the members of of the Commission hold, should visit the different fishing grounds at stated intervals in order to become acquainted with local circumstances and conditions? Yes, most certainly; I think it is their duty to do so.
4034. What is the general opinion of the fishermen here with regard to the Fisheries Commission? The opinion is that they have not done their duty as well as they ought to have done it.
4035. Do you think they should be abolished and a new institution created? Yes, I do; the fishermen ought to have some say in connection with the administration and control of the fisheries.
4036. In what way: can you suggest any improvement? I think the fisherman should have representation on the Board appointed to administer the Fisheries Act.
4037. Would you make it compulsory on the members of that Board to visit the several fishing grounds periodically? Yes; I would.
4038. Do you think the fishermen could always do that? Some might if they were appointed to do it.
4039. Do you think that if local institutions were established, by which the fishermen in the different places and the residents elected their own Boards with a practical fisherman on them, it would be a good thing to have such Boards to advise the head Board in Sydney? Yes; it would.
4040. The fisherman's license fee;—how does that suit you? Five shillings a year is plenty.
4041. And as to the boat license? That should be done away with altogether, let a man register his boat once and for all.
4042. Would it be better to issue the fisherman's license in the form of a medal or a token, in lieu of the piece of paper upon which it is now issued, I mean something that could be nailed in your boat and always have by you? Yes, it would; we are supposed to carry our paper licenses in our boat, but the paper gets wet; it is not durable; it is impossible for a man to carry his license, the present fishing license, in the fishing boat.

MONDAY, 8 APRIL, 1895.

[The Commission met at the "Sea Breeze Hotel," Nelson's Bay, Port Stephens, at 9.45 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Peter Johnson, fisherman, Telligherry Creek, Port Stephens, sworn and examined:—

- Mr. P. Johnson.
8 April, 1895.
4043. *President.*] What is your name? Peter Johnson.
4044. You are a fisherman and you reside at Telligherry Creek? Yes.
4045. How long have you been living there? About ten years.
4046. Have you been engaged in net-fishing and oyster-fishing during that period? Yes; I have been net-fishing since I was a boy. I have fished in the Shoalhaven River, Jervis Bay, the Clyde River and Port Stephens with the net, and in the rivers to the north of Port Stephens for oysters.
4047. What kind of fishing do you do now? I am oystering now, I do net-fishing in the winter.
4048. What nets do you use? Mostly the garfish-net.
4049. Are you satisfied with the length and mesh of that net? It is not long enough to do anything with, I think the fishermen should be allowed to use the net as long as they like. In these rivers we cannot use too great a length as the tide is against us.
4050. What descriptions of fish do you catch? Garfish; trumpeter whiting in the winter time.
4051. Are they river garfish? Yes.
4052. How many baskets of fish do you send to market in a week? About twelve baskets per week on an average, I am only working two hands now.
4053. How do you send your fish to market? By steamer to Newcastle and train to Sydney; I sometimes send my fish to Woolloomooloo Market, and sometimes to Redfern.
4054. Are you perfectly satisfied with the returns you get from the markets? No, I am not; sometimes I get in debt for my week's work.
4055. Do you mean to say you get returns from the agents bringing you in debt? Yes; that is true.
4056. Do you think that if the middlemen were done away with the fishermen would have a better chance of obtaining fairer prices for their fish? Yes; I do.
4057. Is it possible for the agents and the fishmongers to act in collusion so as to divide any profit between themselves? I believe they do that; we very often send up baskets of whiting that we know are fetching good prices and we get a mullet price back.
4058. Have you ever lost any fish in transit? Nothing to speak of; maybe a basket or so goes astray.
4059. Do you know the way the business is conducted at Woolloomooloo? Yes, very well; I purchased fish there when I had an oyster-saloon in Sydney.
4060. Can the state of affairs at that market be improved upon? Yes, I think so; the fish are put out in heaps on the floor, and I have seen people trampling on them myself, and they are stolen. I remember Mr. Seymour giving a man three months for stealing fish; the man took the fish off the heap.
4061. Do you think there should be more than one sale a day at the Woolloomooloo Market? Yes, and that would allow the consignments by the steamers from the north being disposed of without the risk of their being kept till next morning and going bad.
4062. Do you think there might be a more central market than the one at Woolloomooloo? It is suitable as far as the steamers are concerned.
4063. Do you favour the establishment of branch markets in the different suburbs for the distribution of fish? Yes; that would be a capital thing.
4064. Would it be a good thing to encourage the gutting of fish before sending to market, provided the fishermen were paid for the extra labour involved? I can hardly see how it could be done in Port Stephens, as we would not have time to gut our fish before the steamer left; she comes in to the wharf here at Nelson's Bay and goes out again very quickly.
4065. Do you use a hauling-net? Yes.
4066. Are you satisfied with the length of the hauling-net? I do not use the 300 yards myself, because I am only two-handed. The length is enough for the river, but not for the Myall Lakes.
4067. Should there be any alteration in the mesh? Yes.
4068. Do you think it should be larger or smaller in the bunt? The 2½-inch bunt is quite large enough for the hauling-net; you do not save any whiting with the present mesh.
4069. Have you noticed any small bream meshed in the 2½-inch bunt? Yes.
4070. If the mesh were smaller would that obviate the destruction of this class of fish? Yes; the bream would not get meshed and they would not be destroyed.
4071. Do you use the meshing-net? No.
4072. Do you think the meshing-net is long enough? No; I do not.
4073. Is it possible for marketable fish to escape through the 4-inch mesh? Yes; whiting and good fish escape.
4074. Would it be a proper thing to allow fishermen to catch the marketable fish that now escape with a smaller mesh? Yes; that would be much better, let us have a 3-inch mesh.
4075. Would the use of a meshing-net in closed waters do any harm? No; it would not.
4076. Do you use a prawn net? No; I have never done any prawning.
4077. Have you heard of people's nets being seized and confiscated? Yes; I have
4078. Do you think it wise or just to have in an Act a provision allowing of the confiscation of a man's net for the first offence? No; I do not.
4079. Would it be better to fine him heavily or imprison him rather than take away his tools of trade, thereby depriving him of the means of earning his livelihood? Yes; it would.
4080. Do you believe in giving the informer half the fine? No; it is quite sufficient for him to receive his salary without looking for further reward in that direction. If the man did not receive half the fine he would not take up such cases as now engage the attention of the Department.
4081. I suppose you are of opinion that all cases under the Act should be proceeded with before a competent Court as early as possible? Yes.
4082. Have you known people who were compelled to wait for a month or more for their cases to be decided? Yes. On these rivers the court is only held once a month.
- 4083.

4083. Consequently the fishermen were deprived of the use of their nets during that period? Yes.
4084. Are you satisfied with the fees charged for the fisherman's license and the boat license? No. I do not think the boat should be licensed; a man should be licensed. Very often our boats get laid up, and we have to take another, and then we are liable for that boat.
4085. Are you not allowed a substitute? I have not applied for one. I laid up three weeks last winter with my own boat rather than risk taking another boat.
4086. As to the licenses themselves—would it be more convenient, instead of having them on paper, to have a kind of token, something made of metal, which you could tack on to the boat? Yes; that would be an improvement.
4087. To whom do you apply for your license? The C.P.S. at the Tea Gardens.
4088. Would it be an improvement if the inspectors were authorised to issue the licenses? Yes; it would save a lot of inconvenience to the fishermen.
4089. How long have you been engaged in connection with the oyster fisheries in Port Stephens? About ten years.
4090. Were you connected with oyster fisheries before that? Yes, on different rivers to the north and south of Port Stephens, before the present Act became law.
4091. Have you, during that time, watched pretty closely everything connected with the growth of oysters? I have.
4092. In what condition were the oyster fisheries when you first entered upon the business? There were plenty of oysters everywhere, and they were in good condition.
4093. Has their condition altered since that time? Yes.
4094. Can you tell the Commission the causes which have operated detrimentally to the development of the oyster fisheries? The greatest cause, in my opinion, is the licensing system. Under that system the great majority of beds in the Colony were destroyed.
4095. Do you mean by over-dredging? Yes, by over-dredging. New chums to the work tore the bottoms of the beds up altogether.
4096. In other words they killed the goose that laid the golden eggs? Yes.
4097. Did they strip the grounds and not give the beds sufficient time to recoup? That is so.
4098. As to the disease that has attacked the oyster;—do you know of more than one disease? Only the worm disease.
4099. In what manner does this disease attack the oyster? The worm gets into the shell. It is only through leaving the oyster in the old beds laying still that helps to kill them; the oysters get too thick by leaving them alone.
4100. Would the disease be lessened if the oysters were moved—raked about now and then? Yes; I have proved that by actual practice myself on my beds. It is a great mistake to allow the oysters to lie still.
4101. Do you know how this disease originates? Partly through not working the beds.
4102. But has the worm its habitat in the mud? It is in the mud; the worm will not live on a clean bottom.
4103. If the bottom were thickly covered with stone or some kind of cultch, so as to keep the mud underneath, would that get rid of the worm? Yes, it would.
4104. Have you noticed the disease in other rivers? Only at Cape Hawke.
4105. What extent of oyster leases do you hold? 300 yards.
4106. Do you lay any spat down? No; at present I have no license to allow me to collect.
4107. Can you get plenty of spat in Port Stephens? Yes, at the present time I could.
4108. Where are your leases? Lemon Tree Passage, Telligherry Creek.
4109. Have you ever tried any experiments with New Zealand oysters? Yes, years ago, at Cape Hawke.
4110. Did they thrive? Very slowly.
4111. Would you be inclined to think that if those oysters were imported and laid down they would be an improvement on our own spat? I do not think so. They do not develop so quickly.
4112. Do you send oysters to market, to Sydney or Newcastle? To Sydney.
4113. Are they sold by auction? Yes.
4114. About what price do you get per bag? About 10s. and 12s. now. I sent three bags a fortnight ago, and got 16s. for the lot.
4115. How do you account for that? Well, my oysters brought 10s. per bag in the open market, but all the return I got was 5s. 4d. per bag. The rest was swallowed up in freight and commission.
4116. Have you ever known very cold weather or frosts interfere with oysters? No.
4117. What do you think of the present system under which foreshores are leased for oyster culture? The rent is too high for foreshore leases.
4118. Do you think more encouragement should be given to those desirous of engaging in oyster culture? Yes; I think 5s. per 100 yards for foreshore beds, and £1 for deep beds is sufficient.
4119. Can you tell the Commission if you favour the proposal for the leasing of a river, or an arm of a river, for the purpose of oyster culture, instead of leasing 100 yards to anyone who cares to apply? I prefer the smaller areas.
4120. Are oysters taken from the Crown lands for sale by non-lessees? Yes; oysters are stolen from the Crown lands.
4121. How long does it take an oyster to become marketable from the time you lay it down in Port Stephens? Eighteen months on some beds, two or three years in other places.
4122. During the time you have held your leases, have you had any transactions with the Department of Fisheries? One or two leases cancelled.
4123. On what grounds? I applied for the surrender of a lease of 1,700 yards. I could not pay the rent any longer.
4124. What was the cause of your inability to pay the rent? I had about 800 yards off which I never took an oyster, and the disease was that bad in the remainder that it would not pay.
4125. So that while you received nothing from the beds as a return for your labour you were —? Unable to pay the rent.
4126. In cases like that, where oyster-beds have been attacked by the disease and rendered unproductive for long periods, do you not think the system of payment by results would be better? Yes; it would be better.

Mr.
P. Johnson.
8 April, 1895.

4127. If such a system had been in force at the time you speak of, you would not have had your lease forfeited? No; I did not want to give it up.
4128. What would you say is the condition of the oyster fisheries in Port Stephens to-day;—are they improving? They are improving.
4129. Do you think there is a fair prospect of the beds being resuscitated? Yes; on the lower part of the river, not at the top. I may explain I have charge of three leases in the upper part of the Karuah River, for Mr. Woodward; a fortnight ago I went and tried those beds, but I saw no young stuff there.
4130. Did you find any old oysters there? An odd one or two on one bed only.
4131. Where did you find them? Above the Flat Rock, in the Big Branch or Serpent River.
4132. Are there any young oysters near the mouth of the river? Lots on the foreshores about the mouth of the river.
4133. Would that be as far up as Mosquito Creek? Yes; all about Sawyer's Point.
4134. What has been the cause of the destruction of the oysters up there? Too much fresh water.
4135. Is the water getting a little more salt now, and will the oysters there, if allowed to breed, afford a good supply? Yes.
4136. How long generally does the water in the river remain in a brackish condition? It has been brackish for three or four years.
4137. Did you notice any disease in the old or young oysters when you were up there? None at all in the Branch; they were quite clean and looked splendid.
4138. If layings were made at the present time, of spat collected from off some of the foreshores in Port Stephens, would they do well? Yes; if we do not get any more fresh water.
4139. Do you know whether any of the Fisheries Commissioners have paid any official visits to these fisheries? No, I do not know of any.
4140. Had they visited this place officially would you have heard of it? Yes, I think so.
4141. What do you think of the constitution of the present Commission in Sydney, are the fishermen generally satisfied with it? I do not think they are.
4142. Is any alteration necessary? Yes, I think so.
4143. Would you have an authority established that would take a deeper interest in the fisheries, and pay periodical visits to the different grounds in order to become acquainted with local conditions and circumstances? I think there should be one practical man on it.
4144. As a representative of the fishermen? Yes.
4145. Would you have five Commissioners? Yes.
4146. Have you ever noticed that there is a difference in the circumstances and conditions attached to the different grounds you have been on? Yes, they are different altogether. The habits of the fish in some waters are quite different to those in other waters.
4147. Would it be an advisable thing to have boards established locally in connection with the fisheries so as to advise the head authority on matters of local interest? Yes, I am in favour of that.
4148. If the fishermen had representation on those boards would that be satisfactory? Yes, it would.
4149. If they had that, would they be so much inclined to ask for representation on the central board? No, they would be satisfied with the local boards.
4150. Then you think the administrative authority requires alteration, and you think some better plan should be adopted so that the grievances of the fishermen, as well as the conditions attaching to the fisheries, should be thoroughly investigated by the local boards? Yes.
4151. Would the fishermen have any difficulty in selecting a man to act as their representative on those local boards? No.
4152. Have you had any experience in the capture of crayfish? No.
4153. Have you had any experience in deep-sea fishing? No.
4154. Have you ever seen any shoals of fish on the coast? Yes, shoals of mullet and garfish.
4155. Any shoals of the herring tribe? No, not outside, I have seen plenty of what we call white herring inside.
4156. Are there any turtles in Port Stephens? Yes.
4157. Are they often captured? Not often.
4158. Are they marketable? Yes, they have fetched very fair prices in the markets.
4159. About what price would a fair sized turtle bring? There were two sent away some time ago, the fishermen got £2 10s. each for them.
4160. Are turtles in sufficient numbers to induce people to fish for them alone? No.
4161. Have you done any fish-curing, canning, or smoking? No.
4162. Do you think the present closures are justifiable? Not in Port Stephens.
4163. Why do you say that? Because the whole of Port Stephens closed at the present time closes itself in the summer time; those waters are too far from the markets, we cannot get the fish into market. In the winter-time we get only marketable fish there.
4164. Judging from your answer, are we to assume that you think the upper portions of Port Stephens should be left open in the winter months? Yes, certainly.
4165. *Mr. Thompson.*] Which, in your opinion, is the most destructive to small fish, a large mesh or a small mesh? A large mesh, because it kills unmarketable fish which you cannot release without damage.
4166. Would it be an improvement if all the several prescribed kinds of nets with their different meshes and lengths were dispensed with, and fishermen were allowed to use in open waters a net within a maximum length, and a certain prescribed mesh? That would be a great improvement.
4167. I suppose if that were allowed you would not object to a stringent provision requiring fishermen to empty their nets in at least a foot of water? That is done now in Port Stephens, but it would be a good thing.
4168. Would it be advantageous to lease portions of Port Stephens to fishermen for fishing purposes? No.
4169. Do you approve of the present style of baskets for carrying fish to market? Yes, and I object to boxes.
4170. Why? They are too close, they have no ventilation.
4171. But if the boxes were constructed of galvanised wire netting on an iron frame, so that ventilation would be afforded? Oh, yes; that would be an improvement. I think they should be locked, too.

4172. Are there any Greeks or Italians here? Yes, crayfishing—one or two net-fishing.
 4173. Should they be naturalised before being licensed? Yes.
 4174. I suppose you have not many amateur fishermen here? No.
 4175. Do you think, considering the advantages that would follow from proper regulation of the fisheries, that amateur fishermen should be asked to contribute something to the revenue in the shape of a license fee? Yes, I do.
 4176. Can you tell me anything about crayfish? No; I have not been crayfishing.
 4177. Which, in your opinion, are the portions in Port Stephens which should be closed against net-fishing? There is a considerable portion of it naturally closed, there is no need for further closures. I do not consider the closures recently prescribed are necessary.
 4178. What netting shrinks most—that made of hemp or cotton? Hemp.
 4179. Supposing, instead of charging rent for your leases, we charged you so much for every bag of oysters you took off the lease, would that be fair as between you and the Government? I would approve of that.
 4180. Supposing this could be done, what would be a fair rate to charge per bag? Two shillings and six-pence.
 4181. Do you know of any instances of oyster deposits in the deep sea outside Port Stephens? I have been told they are there, but I have not seen them.

Mr.
P. Johnson.
8 April, 1895.

Mr. Walter Glover, fisherman, Nelson's Bay, Port Stephens, sworn and examined:—

4182. *President.*] You are a licensed fisherman, carrying on operations in Port Stephens;—how long have you been fishing here? Thirty-two years.
 4183. Have you any men in your employ? Two.
 4184. Where do you send your fish? To Hudson's market mostly now.
 4185. Have you had any transactions with the Woolloomooloo Market? Yes.
 4186. What is your average catch per week? About four or five baskets.
 4187. What kinds of fish are they? Bream, whiting, garfish—the best kinds.
 4188. Have you ever had any complaints about your fish arriving at the market in an unsound condition? Yes.
 4189. Do you think they really do arrive there in an unsound condition? It is hard for me to tell.
 4190. Would it be possible for you to get a return showing that certain fish had been condemned, while as a matter of fact those fish had not been condemned? Yes, it would; because we have had bills stating half had been sold and the other half condemned, and yet the half that was condemned came out of the same catch.
 4191. How do you arrange to dispose of your catch? They are sent to an agent who takes the market dues and commission out of them, and sends me what is left. We have been nearly five weeks clearing 18s.
 4192. Are you satisfied with the manner in which your fish are disposed of in the markets? No; I am not.
 4193. Viewed from a financial standpoint, I should think you would regard it as very unsatisfactory? Yes, indeed.
 4194. Would it be a step in the right direction to rid the markets of the auctioneers and middlemen? I believe it would.
 4195. Have you had any fish stolen in transit? We have lost a good many, but cannot find out where they have gone to. Only a fortnight ago we sent a half basket of whiting, and we got paid for a half basket of garfish.
 4196. You say you have sent to the Woolloomooloo Market in the past? Yes; to Augustus, Lawler, and Congdon.
 4197. Do you think the manner in which the fish are displayed for sale is the most suitable way of exhibiting them? No; they are thrown on the floor and everybody walks over them.
 4198. Would there be a possibility of their being stolen? Yes; I have been at the Woolloomooloo Market and seen fish stolen every morning.
 4199. Should there be more than one sale a day at that market? It would be better for the fishermen.
 4200. Would it be a good idea to establish branch markets in the different suburbs? Yes, that would be better; more fish would be purchased then.
 4201. In sending your fish to Redfern Market, have you less handling than if you sent to Woolloomooloo? Less handling and less to pay; they are not carted to Woolloomooloo and chucked about so much.
 4202. What do you pay per basket to send your fish to Newcastle by steamer? Two shillings.
 4203. Are you satisfied with the charge the Railway Commissioners make to convey fish thence to Sydney—1s. per basket? Yes.
 4204. If the Railway Commissioners provided a cool car, would it be patronised by the fishermen? I think so; it was the fishermen spoke about it first.
 4205. Do you think that by adopting that system supplies of fish could be sent into the interior? Yes, undoubtedly; if fish is sent fresh people will eat it.
 4206. Have you ever thought out the idea of sending fish gutted to market? Yes, you could do it with bream or whiting. I have sent two or three times to see if they would take them, but never got a reply from the people I sent to.
 4207. If you were paid for the extra labour involved you think it would be a very good thing? Yes, the fish would keep longer; that is what turns a lot of these sea bream, not being cleaned.
 4208. If you were to receive (say) half the amount the consumer pays for his fish? I think that would pay us very well.
 4209. You think then there is too big a gap at present between the fishermen and the consumer, and that the profit is pocketed by those who come between them? Yes, they are the men who get paid.
 4210. Would you approve of the system of allowing fishermen to sell to the general public? Yes, I think that would be best. Two years ago I was offered 30s. per dozen for schnapper on the wharf in Sydney, but I could not accept the offer, because I had to put them through the market.
 4211. I suppose it might happen that while you were waiting to take them through the market the fish would become deteriorated? Of course they would; they would be handled from one place to another.
 4212. Have you thought out the idea of having fish sent to market alive? No.

Mr.
W. Glover.
8 April, 1895.

- Mr. W. Glover.
8 April, 1895.
4213. Have you seen any well-boat fishing? Yes, there were two of them working here, but they lose the fish.
4214. What kinds of fish do they catch? Nearly all schnapper; they go from here to Port Macquarie, and take fish to Sydney.
4215. When do the black bream make their appearance here in shoals? They are in schools nearly all the year round, but not always inside; they are on the outer beaches.
4216. And the whiting? The same; they travel about. There are a good few outside now.
4217. Do you catch sea mullet? Yes, but they are not in yet.
4218. Have you noticed any shoals of fish outside? Not particularly.
4219. Is one sale a day at the market sufficient? No, there should be two or three during the day.
4220. Are you satisfied with the amount you are asked to pay for a fishing license? I think it is too heavy altogether.
4221. As to the license itself, is it sufficiently durable, or could the present form be improved upon by issuing a metal ticket or something of that kind? It would be more durable if we had a little metal ticket tacked on to the boat. If you get the paper license wet it is no good.
4222. What nets do you use? The garfish net.
4223. Are you satisfied with it? I would like it longer.
4224. Are you satisfied with the mesh? The mesh is right enough.
4225. Do you destroy many young fish by using that net? Not a great many.
4226. Do you destroy more by using the hauling net? There is not much difference; if you have a big hauling net you drag it right ashore. We pitch the little fish out if they are no use to us.
4227. Do you use any other nets? No.
4228. Have you noticed any of the bream kind get meshed in the 2½-inch bunt? Not many.
4229. Are the nets, as a rule, emptied on the shore or in a certain depth of water? Just on the edge in order to pick the good fish out.
4230. Do they draw their lead line and cork line on to the beach, and allow the flue to remain in the water? Yes, that is so.
4231. Which is the most destructive to young fish, the large or the small mesh? The large mesh.
4232. What do you think of the meshing net? It is right enough, but it should be prevented in places where the hauling net can be used; it should only be used along rocks where the hauling net cannot be used.
4233. Is the meshing net long enough? I think 60 fathoms enough; if others want it longer let them apply for it.
4234. Is the mesh satisfactory? A lot of good fish escape through the mesh.
4235. Do you see any objection to the use of the meshing net in closed waters? No.
4236. You do not use a prawn net? No.
4237. Instead of having all these different dimensions of nets, would it be a good idea to allow the fishermen to use any nets they like up to a maximum length, so long as they were compelled to empty their catches in not less than 1 foot of water, and provided that stringent provision was made to prevent the capture and sale of undersized fish? Yes; I think that would be a good idea.
4238. Are you in favour of that provision which allows of the confiscation of fishermen's nets for a first offence against the Act? I am not; a man's tools of trade should not be taken away from him.
4239. Would you, in order to meet cases of infringement of the Act, impose a heavy fine, or imprison a man, rather than take his tools of trade away? That would be better.
4240. Do you know of any delay having taken place in connection with proceedings against fishermen? Yes; here at the Tea Gardens.
4241. During that delay have they been deprived of their only means of getting a livelihood? Yes.
4242. I suppose you are of opinion that all such cases should be settled promptly? Yes, as soon as possible.
4243. Are you in favour of giving the inspector or the informer half the fine? No, I am not, it leads to persecution; an inspector ought to be paid a salary, that would be better all round.
4244. In respect to closed waters, have the Commissioners done right in making the existing closures? It makes no difference to the fish what closures they make; there are places up here closed now, and they are closed in the summer owing to their distance from market; those places should be opened in the winter.
4245. Would you be able to fish those grounds in the winter, and would the fish carry better in the cold weather? Yes.
4246. Have you known any members of the Fisheries Commission to visit Port Stephens officially? No.
4247. I suppose you would have heard of it had any of those gentlemen been here? Yes, certainly.
4248. What is the general opinion of the fishermen in regard to the Fisheries Commission in Sydney? Well, I do not think they have given us satisfaction.
4249. Do you think the Board should be more in touch with the fishermen? I do; they should have made themselves acquainted with the condition of places, but they have not done that.
4250. Then I suppose you think that the Commissioners, not having a practical knowledge of the fisheries of the Colony, are unable to deal fairly with the grievances of the fishermen? Yes, I do.
4251. Would it be better to establish an authority which would be more in touch with the fishermen? Yes.
4252. Do you think the fishermen should have representation on a board established for the purpose of controlling the fisheries and administering the Act? I think they ought to.
4253. Would it be a good idea to establish local boards of advice, fishermen having representation on that board? Yes, I think it would.
4254. Do you think that such boards, having a local knowledge of the circumstances and conditions of the fisheries, would be able to advise the central authority? Yes, I do.
4255. Would there be any difficulty in getting fishermen to act on such boards? No.
4256. As to the central authority, have you thought out how that should be constituted? No.
4257. But you are satisfied with one thing, that is that a change is necessary? I am.
4258. Are the prawn fisheries in Port Stephens extensive? There are plenty of prawns here, but no one fishes for them. In the Myall Lakes some fish for prawns; they dry them, and sell them to the Chinamen.

4259. Is it owing to the distance from market that prawns are not caught in Port Stephens? Yes.
4260. If some means were adopted by which the prawns could be utilised, do you think the fisheries here are extensive enough to create an industry in their capture? Yes, they are. There are prawns everywhere. You get them wherever you haul.
4261. Have you had anything to do with the capture of crayfish? A little.
4262. How do you catch them? With the hoop and net.
4263. Are crayfish pretty plentiful in this neighbourhood? They were until lately; they are getting scarce now.
4264. What has made them scarce? I do not know whether it is over fishing, or whether the crayfish shift about. Two years ago you could catch plenty on Cabbage-tree; last year you could not get any. Three years ago you could get them round the lighthouse at the entrance, but you cannot get them now. We fish at night for them. You will not get many in the daytime.
4265. Do many European fishermen engage in their capture? Yes; when we cannot do net fishing we go after crayfish. We start in June, and the crayfish are pretty thick in July and August.
4266. When are they in roe? Six months in the year, from June to Christmas.
4267. So that quantities of the crayfish must be captured when they are in the coral or berried stage? Yes.
4268. Do the men send crayfish in the berried stage to market? Yes.
4269. By doing so are not the crayfish prevented from breeding—is there not a possibility of the destruction of the crayfish? No. If you catch crayfish outside, and put them in one of the hoops, and hang it over the side anywhere near the rocks, you will see the green sea eels eating the roe out of them as fast as they can take it. I have seen as many as five eels at one crayfish.
4270. But would not that be only possible under the circumstances you have narrated? The eels follow the crayfish all round the rocks.
4271. What size do the eels attain to? They go from 1 foot to 3 feet long.
4272. Do you think there is any necessity for having a close season for crayfish? No.
4273. Do you know of any European fishermen fishing round Broughton Island? No, not this last year, on account of the Italians being there.
4274. Do the Italians fish extensively for crayfish? Yes; the islands are usurped by the Italians.
4275. How many pots would they use in crayfish capture? Last year they had 300; there is no chance for any other man to go fishing while they are about.
4276. Would you license these aliens before they are naturalised? No; it is not right to give them a license until they are naturalised.
4277. Have you done any deep-sea fishing, other than crayfish capture? I have been schnappering all round the island; that was twelve months ago. I used to catch schnapper and salt them, and sell them to the Chinamen.
4278. Have you ever discovered any bottoms free from obstructions of any sort? I only went to the reefs to catch schnapper.
4279. Have you had any experience in trawling? No.
4280. Have you held any oyster leases? No.
4281. Are you acquainted with the oyster fisheries in Port Stephens? Yes; I think I know where every oyster grows.
4282. What is the condition of the foreshores and the deep beds in Port Stephens just now? The oysters are not as good as they have been; the place has never been the same since it was leased out. Twenty-two years ago there were twenty boats working up the river, and two men in a boat. I was working there; we were turning out four, five, and six bags a day, every day. Since the leasing system the river has never been the same. When the leases were first worked all the mangroves in the river were covered with oysters. They took those oysters off and threw them into the deep water on to the deep beds, and in so doing covered the good oysters there. Those foreshore oysters will not live in the deep water; they are accustomed to being uncovered at certain times of the day.
4283. Can you account for the appearance of the worm? I believe it is owing to the small oysters having been thrown on to the deep beds in the way I have described.
4284. Do you believe in the present system of leasing areas for oyster culture? No; I do not.
4285. Would it be a good plan to lease an arm, or a creek, or a portion of a river? I think it would be best to do away with all the leases, and let any man get a bag of oysters if he wishes to do so, and then let him pay a royalty on that bag of oysters.
4286. Would it not be better to give him the lease of a large area and require him to pay by results—so much on every bag raised? Yes.
4287. Do you think the present system is such a loose system that under it the Crown lands are stripped? I do; because oysters are sent away at the present day, and the people who send them away have no lease.
4288. Do you know of your own knowledge that oysters are taken from Crown lands by people who have no right to take those oysters? Yes; leases are held by people; the oysters they send cannot possibly come from their beds; the beds would not be capable of producing them.
4289. How long does it take an oyster to mature from the spat stage in these waters? About nine months.
4290. Have you seen any turtles in Port Stephens? Yes, a few. There are a number of logger-head turtles; they are no good. The hawkbill turtle is good for market.
4291. Are many sent away? Not many.
4292. They are not in great quantities? No.
4293. Have you ever noticed any evidence of the deposit of oysters in the deep sea? No; there used to be a lot of mud oysters here.
4294. Have you ever seen any oysters on the rocks at the Heads? Yes.
4295. Where do you think they come from? From the rocks inside.

Mr.
W. Glover.
8 April, 1895.

Mr.

Mr. Thomas Bagnall, fisherman, Nelson's Bay, Port Stephens, sworn and examined:—

- Mr. T. Bagnall.
8 April, 1895.
4296. *President.*] Your name is Thomas Bagnall, you are a resident of Nelson's Bay, and a licensed fisherman;—how long have you been fishing? I have been licensed about fourteen years. I have fished here for twelve years on and off, and I have fished at Botany and Port Hacking.
4297. Is there any one else associated with you? My two sons.
4298. What nets do you use? A garfish net only.
4299. I suppose you fish for garfish and catch other fish as well? Yes; I make the one net answer all purposes; it is the best net we can find.
4300. Are you satisfied with the length of that net? No, we want as much "balloo" stuff as that again.
4301. You want twice as much in the bunt? Yes; about 160 or 180 fathoms altogether—that is what we require to get a living.
4302. Do you destroy many young fish in drawing your net? Not more than we can help.
4303. Do they get meshed in the 1-inch bunt? They mostly get meshed in the 2¼-inch bunt. I have been for hours taking the little fish that have been meshed out of the net.
4304. I suppose those fish were destroyed? No. There were three or four of us; we took a great quantity out; we were some hours taking the fish out of the meshes and letting them go.
4305. What fish would they be, the bream kind? No, a small mullet.
4306. If the mesh had been smaller would those fish have been saved? They would have been all saved, they could not have meshed.
4307. Do you tan your nets? We are obliged to tan them or they would not last; every time we tan them they shrink further.
4308. If the twine were tanned before it was made up, would that minimise the possibility of shrinkage? Yes, it would; but we would have to tan again.
4309. Do you think that once a net is passed as being legal it should be always used? Yes, until it is completely worn out.
4310. As to the hauling net, is any further length required for that in these waters? They say they want about 300 fathoms.
4311. Can they work 300 fathoms here with the tide? It is this way: sometimes you can work 300 fathoms, sometimes only 200, and sometimes only 100 fathoms on account of the tide.
4312. Would you like it to be left discretionary with the fishermen as to the length they require to use? Yes, that is just what it ought to be. If they can catch the fish in one haul they do not want to make two or three hauls for them.
4313. Do you use a meshing net? I do not believe in them; they harrass the fish.
4314. If the use of the meshing net was confined to the waters near the rocks, would that do you any injury? It would disturb the fish. I do not approve of meshing nets, although hundreds approve of them, but their use is against the haulers.
4315. Do you use a prawn net? No.
4316. Do you believe that a man's net should be confiscated for the first offence against the law? No; I do not believe in that at all. We have hard work to get a living without having our nets taken from us.
4317. Should there be punishment by fine or imprisonment, rather than by taking the tools of trade away from a man? Well, when a man's tools are taken away from him he is done, he is starving completely; you may as well lock him up at once, for he not only loses his net but what he has paid for it.
4318. Do you believe in giving the inspectors or the informers one-half the fine? No; I do not. It leads to harsh action on the part of the inspectors. It makes them harsh on the fishermen, and they persecute them.
4319. What do you think of a provision to allow fishermen the use of nets up to a maximum limit, with any mesh they like, providing they empty the nets in a certain depth of water—and further, that a stringent provision is made to prevent the destruction of undersized fish? I believe in that.
4320. Do you think the closures that have been made are justifiable? They are not fair to the fishermen. They are only made just for the inspectors to catch the fishermen who go there; they are traps for the fish, and traps for the fishermen. The closures are no good at all. A good many places are shut up in the summer-time by the blubber.
4321. Does the distance of the waters that are closed prevent them being worked in the summer? Yes.
4322. Can you work them in the winter? Yes.
4323. Do you know who recommended those closures? No; there should be no closed waters here.
4324. Where do you send your fish? To Redfern and Woolloomooloo—to Newcastle by steamer and Sydney by train.
4325. Is the freight high between Newcastle and Sydney? I think we pay about 50 per cent. more than any other part.
4326. Have you any complaint to make about the charge made by the Railway Department for the conveyance of your fish from Newcastle to Sydney? It is a shilling; I think it should be lower. If it was only 3d. per basket it would be something in the year to the fishermen.
4327. That is, provided you could get the 3d.? Yes; but we have our risks to run in the market. We do not get 3d. a basket sometimes, and we are often in debt to the agents.
4328. Do you consign your fish to an agent? Yes.
4329. Does he send you account sales? He does.
4330. Are you satisfied with the manner in which your fish is sold—are you satisfied with the returns you receive? We have got to be.
4331. Do you not think, considering the prices the public have to pay for fish, that the fishermen ought to have a better return? Certainly; we do not get one-third of the amount the public have to pay for fish.
4332. Can you show the Commission any account sales which have been rendered to you, showing you are in debt to the agents? I have got any amount of them at home. I beg to show the Commission the latest one I have received, showing that I am in debt £1 11s. 9d. on a consignment of twelve baskets of fish which I sent to Sydney.
4333. You have had transactions with the Woolloomooloo Market? Yes.
4334. Would it be better to have fish displayed on raised tables than thrown on the floor? They are far better dealt with in Hudson's market than at Woolloomooloo.

4335. Are there raised tables at the Redfern Market? Yes, raised tables; no trampling on the fish.
4336. Would it not be a good thing to have the fisherman's name on all fish sold, so that the public could see where the fish came from? Yes, that would be a good idea.
4337. Do you think it would be a good thing to allow fishermen to sell their own catches to the public? Yes, very good.
4338. Should there be more than one sale a day at the Woolloomooloo Market? Yes; there should be a sale in the afternoon.
4339. Have you had any fish stolen in transit? I cannot say. Our agent said the baskets have been very short, but we have filled them here.
4340. Do you send your fish in baskets? Yes. Sometimes we send fish in boxes; sometimes we do not get our baskets or boxes back again.
4341. Have you given any attention to the question of gutting fish before sending it to market? No.
4342. If the fishermen were paid for the extra labour involved in the gutting of fish, could it be done? It could not be done at Port Stephens. Sometimes we make a haul just as the steamer comes in; we stick them on the steamer, and she is off again for Newcastle.
4343. But provided it could be done at some of the fishing-grounds nearer to Sydney, do you think it would be a good thing? Yes; it would save the fish.
4344. Supposing the Railway Commissioners placed a refrigerating car at the disposal of the fishermen, would it be patronised by them? Yes; that is what we want from Newcastle to Sydney.
4345. Have you had anything to do with the oyster fisheries here—have you held any leases? No; but the leases ought to be thrown open to anyone who chooses to get oysters; if that were so, people living near the water would be able to get a bag of oysters and get a bit of flour for them.
4346. But would you allow anyone to get oysters when they liked? Yes; but let them pay a royalty on every bag.
4347. Do all the oysters sent from Port Stephens come from the leases? No, that they do not; they come from Crown lands; the leases do not produce half that goes from here.
4348. Would it be a good idea to allow a person to take up 1,000 yards, he to pay nothing as rental per year, but give him a lease for ten years, and make him pay 2s. per bag as royalty on every bag raised? No. I would sooner have all the leases thrown open.
4349. But how would you prevent wholesale destruction if you were to allow anyone to work these oyster fisheries? There would be no beds then; it would be the same as when I was a boy—go and take where you like.
4350. If people go and take oysters off Crown lands why cannot you and others do so? I would not make a thief of myself; but it is done.
4351. How many bags of oysters are sent from Port Stephens during a week? A good many.
4352. What is your opinion as to the condition of the fisheries at the present time compared with some years back—are they improving? They are about the same now as when I was a boy. There are some months in the year better than others; that is how they were in the days I speak of.
4353. Have you had anything to do with the capture of crayfish? I have caught a few.
4354. Have you caught them when in the coral or berried stage? Yes.
4355. Are there as many crayfish now as formerly? Not as many as there used to be.
4356. How do you account for that? I cannot say whether it is from over-fishing or not.
4357. Is it a wise thing to allow crayfish to be sent to market while in the berried stage? No; that should be stopped.
4358. Would there be any harm in closing some of the fisheries for a certain time during the season, to allow the crayfish to breed? That would give them a chance to breed.
4359. I understand there are several Italians fishing for crayfish? Yes; there were four at Broughton Island the year before last.
4360. How many crayfish-pots had they? About thirty or forty; last year I believe they had about 300 or 400. If they are allowed to use those 300 pots every year, it is no good closing the place, or anything else; they will take all the fish away.
4361. Are there any turtles in Port Stephens? Yes.
4362. Are they sent to market? Yes. I have caught some. There are two different kinds. There is the logger-head turtle—he is no good; but the hawkbill turtle is good.
4363. What do they generally weigh? We caught a young one about 3 cwt.
4364. What would that turtle be worth? I think we got £5 for it in Woolloomooloo Market.
4365. As to the licenses, are you satisfied with the amount you pay per annum? There should be a reduction in the fishing license, and in the boat license.
4366. As to the form in which the licenses are issued, would it be better to give you a kind of medal, which you could screw on to your boat—would that be more convenient than the present form of license? Yes; it would be better for us.
4367. Have the Fisheries Commissioners ever visited Port Stephens? No; none of them to my knowledge.
4368. What is the general opinion expressed by the fishermen in Port Stephens in regard to the Fisheries Commission? They do not believe in it.
4369. Would they like an alteration in the constitution of the administrative authority? Yes, they would. I think they would like to have someone in charge of the whole of the fisheries who would have a practical acquaintance with them, and who would understand them and work harmoniously with the fishermen. But I think that person should have the advice of local Boards, on which a representative fisherman could act, because you would then be able to get a true opinion as to the local conditions and circumstances governing the fishery.
4370. Have you ever done any deep-sea fishing? No.
4371. Have you ever seen well-boat fishing tried? No.
4372. *Mr. Thompson.*] You prefer the licensing system for gathering oysters. Do you remember the old days when oysters were taken in that way? Yes.
4373. Did that prove a success? I cannot say that it did.
4374. Do you think fish canning would prove a profitable industry. If we could establish the canning industry, would it open up large possibilities for the fishermen? Yes; if it could be done it would be far better than sending our fish away.

Mr.
T. Bagnall.
8 April, 1895.

- Mr. T. Bagnall.
8 April, 1895.
4375. How would you check oyster stealing? Only by throwing the place open.
4376. And allow everybody to have them? Yes.
4377. Would you favour the closing of certain areas for the protection of crayfish? I have not given that matter much thought.
4378. Would you require aliens to be naturalised before giving them a license to fish? Yes.

Mr. Henry Laman, honorary Acting Assistant Inspector of Fisheries, Port Stephens, sworn and examined:—

- Mr. H. Laman.
8 April, 1895.
4379. *President.*] You are honorary Acting Assistant Inspector of Fisheries for Port Stephens;—do you hold any other position? Preventive officer for Customs.
4380. How long have you been an assistant inspector? From November, 1889, to July, 1893; then there was a break, and I was reappointed in August, 1893.
4381. Do I understand that when you were first appointed you received a salary, but since August, 1893, you have received no salary? Yes.
4382. What salary did you receive from the Department of Fisheries? £50 per annum.
4383. Did you know on what grounds the Commission dispensed with your services? Retrenchment.
4384. Were the fisheries of Port Stephens left without supervision during the break in your appointment? Yes.
4385. How long did that break last? A little more than a month.
4386. Did you offer to act as honorary inspector? I offered to do so.
4387. During the time you have been acting assistant inspector, have you been asked to report on the matter of closures? Not since August, 1893.
4388. Prior to that date, were you asked to report? Yes.
4389. Were your recommendations always acted upon? Yes, to a certain extent.
4390. Were you asked to report as to the justice of the present closures in Port Stephens? No, I was not.
4391. Have the Commissioners on any occasion officially visited Port Stephens? No;—not during my term of office.
4392. How many fishermen's licenses are issued in Port Stephens? Including the crayfish-men, about eighty. The crayfish-men do not as a rule take out licenses until June; they usually hold them for the half-year.
4393. What quantity of fish was sent away from Port Stephens in 1894? About 5,000 baskets of all sorts of fish.
4394. Have you ever heard the fishermen complain about the unsatisfactory character of the Fisheries Act? Yes; often.
4395. And of the unsatisfactory manner in which that Act has been administered? Yes.
4396. As to the mesh of the different nets, which net is the more destructive—a large or a small mesh? The garfish mesh.
4397. Do small fish get meshed in the bunt of the garfish-net? Not so much as in the bunt of the hauling net, but more young fish are hauled ashore with the garfish-net.
4398. As to the meshing-net, is there any objection to having that extended to 150 fathoms? No.
4399. Supposing the mesh was reduced from 4 inches to 3½ inches ———? It is too small now; it would be of no use then.
4400. But is it not a fact that a good many marketable fish escape now through that mesh? I do not think so.
4401. Would not a 2-lb. mullet go through that mesh? Yes; but they do not usually mesh for mullet here.
4402. Do you see any objection to the use of the meshing-net in closed waters? No; providing there was a minimum mesh of 4 inches.
4403. Have you noticed the fishermen hauling their nets here? Yes.
4404. Do they strand their fish? Not in the presence of an inspector.
4405. Prawn nets are not used very much here, are they? They were used in the Myall Lakes until the flood came.
4406. Do you advocate any alteration in those nets? No; it is long enough.
4407. As to the lengths and sizes of the mesh of the several nets at the present time—we have different dimensions for different nets—would it not be much more simple to allow the fishermen to use whatever net they choose, so long as the fish were emptied in a certain depth of water, and provided they were prevented from sending undersized fish to market? It would; but I do not think it would work. If an inspector was present with them when they were hauling the net it would be right enough, but they would land on the beach when they could.
4408. Would you favour the administrative authority having power to regulate the length and meshes of nets to be used in certain places? Yes.
4409. Are you of opinion that if a net is once pronounced to be legal, and due precaution has been taken in tanning to allow for shrinkage, it should always be considered legal until worn out? Yes.
4410. You do not believe in the confiscation of a fisherman's net for the first offence? No, I do not; it would be better to fine the man.
4411. As to the licenses issued to the fishermen, could they be improved upon, and made more durable if they were issued in the form of a metal ticket? Yes.
4412. Would you favour the issuing of licenses and collecting of fines by the inspectors? I would, because by so doing the inspector would know at once who had a license.
4413. As to the oyster fisheries, have you watched the operations of the lessees closely? Yes.
4414. Have the beds leased by these people been pretty prolific of late? Yes, within the last year or two.
4415. Do you keep a record of the number of bags of oysters that go off the leases? I do to a certain extent, but some lessees do not forward the notice of removal.
4416. So that you cannot keep a correct record? I could, if the Department made it a rule to supply me with the information which is sent to them.
4417. I suppose it is quite possible for bags of oysters to be stolen from Crown Lands and to be sent elsewhere? Quite possible.

Mr.
H. Laman.
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4418. Is it possible for small lessees, say those holding 100 yards, to rob the larger lessees? Yes.
4419. Have you reason to suspect that is done in Port Stephens? Yes, I have.
4420. Do you approve of the present system of leasing in small areas? Yes.
4421. Do you not think that the leasing of areas of 100 yards in extent leads to indiscriminate selection, and is the cause of the unsatisfactory condition of affairs? Yes.
4422. Would it not be better to lease larger areas—say an arm, or the estuary of a river—to one person; for oyster culture? No; I think not.
4423. Why? It would give a monopoly.
4424. Would you allow anyone and everyone to go upon an oyster fishery, and take whatever they liked from them, and bag the oysters and sell them? No.
4425. Would you simply carry on the present system? Yes; but I would limit the area.
4426. What limit would you have? Say 500 yards; not more than 500 yards to be taken up by one person.
4427. How many leases are there in the river? About twenty-nine.
4428. Are they held by twenty-nine persons? No, by five or six persons.
4429. Are they in good condition at the present time? Fair.
4430. Are they improving? They will never improve more than at the present; the lessees leave it to nature, and depend largely on the oysters they get from Crown lands to replenish their beds.
4431. Have the beds been visited by disease? Yes; the worm.
4432. Have any leases been forfeited on the score of nonpayment of rent? Yes.
4433. Do you know how the inability of the lessees to pay rent was brought about? Probably by the low price of oysters.
4434. Would it be through the beds proving unproductive, owing to the ravages of the worm? Yes; to some extent.
4435. Is it possible that some of the beds have been attacked for a period of three years, and for that period they have been rendered unproductive? Yes.
4436. Do you know whether anyone has made application for the surrender of his lease, and has been refused? I do not know of a case.
4437. Do you know whether there are any people in arrears? I do not know.
4438. Supposing a lease is attacked by the disease for a period of three years and rendered unproductive, is it a fair thing to charge the lessee for that three years, seeing that he has received no return from the bed in all that time? No; I would not charge the whole of the rent.
4439. Would you give the administrative authority discretionary power in the matter? Yes.
4440. Would the system of payment by results work better, and give more satisfaction; do you see any objection to that? I see no objection to that.
4441. Do you know whether any New Zealand oysters have been laid down here? Yes.
4442. How did they thrive? They lingered, and ultimately died.
4443. Do you think it was the natural condition of the grounds on which they were placed which caused their death? It was the change in the water.
4444. Which are the best oyster beds in Port Stephens? Corrie Island, some years ago, was looked upon as the best place in Port Stephens; but I think the leases held by Mr. Henry Thompson, above Middle Island, are the best.
4445. Are there any oysters in the Karuah River? There might be an odd one or two got by dredging.
4446. How do you account for their absence;—is it owing to the prevalence of floods? The prevalence of floods, the washing away of the river bottoms, the worm disease, and over-dredging.
4447. The Port Stephens oyster fisheries were very prolific at one time, were they not? They were.
4448. Do the oysters develop quickly here? Very rapidly.
4449. Have the oyster lessees tried to adopt any practical means of oyster culture? No, none of them.
4450. They have trusted to nature to a very great extent? Wholly so.
4451. Are there no cases where artificial methods are adopted for catching spat? None.
4452. How many yards does Mr. Lilley hold? He holds no leases at present.
4453. Did he hold any? Yes.
4454. The crayfish fisheries were very extensive at one time, were they not? Yes.
4455. In what condition are they now, compared with what they were some years ago? They have been overworked.
4456. Are our European fishermen wholly responsible for that? I think so.
4457. Does no blame attach to the Italians in the matter? It is only during the last two years the Italians have made their appearance on the crayfish grounds off Port Stephens.
4458. Have you seen crayfish being sent to market when in the berried stage? Yes.
4459. Do you think it would be wise to stop that sort of thing? I do.
4460. Would it be a good thing to have a close season for crayfish? Yes.
4461. Is it a fact that there are Italians, or Greeks, camped on Broughton Island, and that they use something like three or four hundred pots for the capture of crayfish? Yes.
4462. Are they licensed? They had licenses; they were all Italians.
4463. Were they naturalised? I rather doubt it. Half-a-dozen Italians will use between three and four hundred traps; it is no trouble to them, as they do not have to attend to them during the night; they set them to-day and pick out the fish to-morrow. I think if a fee were charged for all traps exceeding a certain number they would not be used so largely.
4464. I suppose these Italians really control the market by having so many crayfish always on hand, to the detriment of the European fishermen? Yes, they do.
4465. Have you had any experience in deep-sea fishing? None whatever.
4466. Have you any knowledge of the use of the trawl? No.
4467. Have you ever seen the system of well-boat fishing carried out? Yes; two well-boats put in here occasionally.
4468. Have they proved successful? Well, in one instance, yes.
4469. Where do they fish? They go as far as the Solitaries, and take their catches to Sydney and Newcastle.
4470. Have you ever heard the fishermen complain of the want of proper accommodation at the Woolloomooloo Market? Yes.
- 4471.

- Mr. H. Laman. 4171. Have you ever heard them complain of the manner in which they have been robbed by someone in the market? Yes, frequently.
- 8 April, 1895. 4472. Is the curing and smoking of fish carried on to any extent here? No; sometimes a fisherman will smoke a few mullet, he sends them to market, and gets nothing for them, and it ends there.
4473. Does it frequently happen that a fisherman will miss the steamer, and consequently his catch, which may consist of twenty baskets, will become useless? Occasionally, not very often.
4474. What is done with those fish? Thrown overboard; more fish are thrown overboard and wasted in that way when the steamer does not call here owing to bad weather.
4475. Could not those fish that are thrown away be smoked, and utilised as articles for human consumption? Yes; but they have no smoke-rooms ready.
4476. In regard to the prawn fisheries, are they extensive? Not in the Port Stephens waters, but in the Myall Lakes.
4477. Are the prawns captured in the lakes sent to Newcastle or Sydney? To Newcastle in a dried form, and sold to the Chinamen.
4478. Are the Myall Lakes pretty full of fish life? Yes; very full; the Myall Lakes cover an area of nearly 40,000 acres.
4479. Have you a boat in which to get about here? Yes.
4480. Would it not be much more convenient if you were provided with a small steam-launch? Yes; it would.
4481. Do you advocate that, in connection with extensive waters such as those you have to supervise, the inspectors be provided with some more suitable means of getting over large areas of water? Yes; one man can do very little by himself in a boat.
4482. Are turtles numerous here? Yes; fairly so.
4483. Are they captured by the fishermen? When they are caught they are caught accidentally, generally in the upper waters.
4484. How are they caught? In a net.
4485. What weight are they? All sizes, the loggerhead, or spotted, or soft turtle, is not edible; they have a very rank smell and are full of oil; they grow to an immense size, and probably weigh about 2 tons.
4486. What would be their yield of oil? Some of the fishermen got one here on the beach, and they cut his liver out, and boiled it thinking to get the oil, but it went just like a bullock's liver, and they got no oil; so they left it on the beach for the sharks. The body of the turtle was in the wash on the beach, and the oil was tried out by the sun. It was throwing off oil until the flesh rotted away.
4487. Do you think an industry might be built up in the collection of that oil? Yes; in oils generally, porpoise oil, shark oil, and turtle oil.
4488. What about the edible turtle? They do not grow so large as the loggerheads. They are called hawkbills, and weigh about 2 cwt. They are captured and sent to Sydney; they are good eating.
4489. Have you ever noticed any shoals of fish passing along the coast? No; I have not been outside.
4490. Have you heard the fishermen say they have seen shoals of fish outside? Yes; I have.
4491. Any of the herring, maray, or pilchard tribe? They did not tell me what they were.
4492. *Mr. Thompson.*] Do you think the continual stirring and working of the oyster-beds will help to eradicate the worm? I do.
4493. Where do you find this disease, below low-water mark only? No, a little higher up than that.
4494. How far up? About a quarter above neap tide mark.
4495. If platforms could be built, so as to have their floor one-third above low-water mark, and the oysters were placed on them, would they grow? I think so.
4496. I suppose you would call that practical oyster culture? Yes, I would; if I had a lease I should cultivate them in that way.
4497. Is anything of that kind attempted here? No.
4498. The lessees take just what nature gives them ——? And all they can collar.
4499. I suppose with your limited means of getting about these waters it is beyond the bounds of possibility for you to exercise supervision over the Crown lands? Of course it is.
4500. You expressed the opinion that the granting of large leases, such, for instance, as the North Arm, would create a monopoly? Yes.
4501. Do you think it would prove any greater monopoly than the leasing of Crown lands for other purposes? I think so.
4502. You think the case would not be parallel with the case of leasing land for gold-mining or coal-mining? No.
4503. Why? To go in for coal-mining, or gold-mining, requires a little capital.
4504. Does it not require a little capital, and special knowledge, to successfully follow oyster-culture, for instance these platforms, the building of "claires," the construction of "fascines," and the adoption of all the different intelligent methods of oyster culture which are practised in other countries, would not they require capital, and do you not think if a man followed any or all of these he should have a right in the property he cultivates, just in the same way as a man should have a right to the gold or coal he may win from Crown lands? Yes.
4505. That being so, where does the monopoly come in? It would not require so much money to go in for oyster culture.
4506. Have you noticed any oysters outside the Heads? Yes, I have.
4507. Where? They are outside on the rocks.
4508. Where do they come from? I think they come from deep beds in the sea.

Mr. Henry Thompson, oyster lessee, Nelson's Bay, Port Stephens, sworn and examined:—

- Mr. H. Thompson. 4509. *President.*] You are an oyster lessee, and you reside at Nelson's Bay;—how long have you lived here? Nearly five years; I have been on the river thirteen years.
- 8 April, 1895. 4510. How many leases do you hold, and what is their area? I have four leases; the area of the lot is 1,600 yards.
4511. How long have you held those leases? About ten years.
4512. When you first took them up were there plenty of oysters? Just about the same as now, I kept shifting them about; we had a great spawning season the year before last.
4513. Have you been troubled by the worm? Yes, a great deal.

4514.

4514. Did that disease do much damage to your beds? It did; there are young oysters now below half tide which have not got a touch of it.
4515. How long has the worm disease been in your leases? I have three islands; on one of these islands there is no disease, and the other two have the worm.
4516. Have you done anything to cope with the disease? Only by getting the oysters off, and cleaning the bottom, taking away the sea-weed, and so on.
4517. It is your experience that the oysters that are uncovered for a portion of the day are those which escape the worm disease? Yes, especially those on the rocks.
4518. Do the oysters develop quickly here? Yes.
4519. How long do they take from the spat stage, when they are laid down, to develop into a mature oyster? That all depends on the feeding ground.
4520. Quite so, but what is the shortest time? About eighteen months on a good feeding ground, in other places two or three years.
4521. Have you obtained good supplies while the disease was in your beds? Yes; every winter we shift the oysters from the high rocks and lay them out on the flat, and when they develop we send them to market.
4522. But you do not deposit rock oysters in the deep water? I put them below half tide in order that they may fatten. They are not allowed to remain there long enough to contract the disease.
4523. Do you know of any means by which you could rid the beds of the disease? I do not; they have tried on the Hunter to rid their beds by taking the shells away, but it did no good; the disease seems to be in the mud, it is not only the worm that does the harm to the oyster, it is the mud which he swallows, it forms a blister.
4524. Have you ever asked for the surrender of any of your leases? Yes.
4525. Have they been surrendered? Yes.
4526. On what grounds? The disease.
4527. What area did you surrender? 1,000 yards in the Karuah, and 700 in the Telligherry Creek.
4528. Used the oysters to be pretty good in the Karuah River? I never got any oysters there, I took it up to form an oyster-bed, it was a hard bottom.
4529. That would be after the dredging had taken place there, some years previously? Oh yes, that is so.
4530. How do you account for the non-existence of oysters there;—is it owing to the fact that the river was over-dredged? No; oysters were never there in payable quantities.
4531. Are you satisfied with the present system of leasing, or would you prefer some other system? I am satisfied with it.
4532. What do you think of the idea of leasing an arm, a creek, or a foreshore to one man; that is to do away with the leases of 100 yards, and give a man a larger area? I do not believe in those 100 or 200 yards leases; I believe in having 1,000, or 2,000 yards,—a man can get a living off that, but he cannot get a living out of 100 yards,—not by fair play.
4533. Do you think the Crown lands must suffer if small areas are taken up? Undoubtedly; that is my opinion.
4534. Would you favour a continuance of the present system of leasing, or would it be fairer for the lessee to pay according to results? That is my idea,—payment by results.
4535. Would you favour a man paying say 2s. 6d. per bag on every bag of oysters he took off the large lease I have suggested? I believe that would be much better than the present system.
4536. Would payment by results meet the case of a person who might have taken up a large area, and who had not obtained anything from his beds owing to the worm disease? Yes, that would be fairer, either that way, or have a sliding scale, say from 10s. per 100 yards up to £5 for a bigger ground.
4537. Do you send many oysters to Sydney? About eight or ten bags per week.
4538. What is the average price per bag? About 10s. clear money to me. I have sent oysters to Sydney and received a return of 5s. 4d. per bag.
4539. Was that when the New Zealand oysters were in? No; that was only about five weeks since. They were sold in Hudson's Market.
4540. Have you known any beds on which New Zealand oysters were laid down? I laid some on my own beds.
4541. Did they thrive well? Not at all; I think the oysters were too old when I received them.
4542. You do not think they have the carrying capacity our own oysters have? No; I do not.
4543. Have any of the Fisheries Commissioners ever visited this place officially? No; not that I am aware of.
4544. Do you think it their duty to visit the different fishing-grounds occasionally, in order to make themselves acquainted with local circumstances and conditions? I think an experienced man should come here.
4545. Do you mean to say that the Fisheries Commissioners are not experienced men? I do not think they are.
4546. What is the general opinion, in regard to the Commissioners, held by the fishermen at Port Stephens;—are they satisfied with the administration? The fishermen blame them, and they do not agree with what they have done.
4547. Would it be a good idea to establish a local Board—say for Port Stephens—to advise the central authority on matters connected with the fisheries here? I believe it would.
4548. And for a representative fisherman to have a seat on that Board? Yes; that would be a good idea.
4549. Have you ever noticed any evidence showing the existence of deep sea deposits of oysters? I have seen oysters on the rocks outside, they have been seen as far as Long Island, about 9 miles to the north.
4550. Where do you think the spat came from? It may have come from the river.
4551. Have you any knowledge of crayfishing? Yes; a little.
4552. Should there be a close season for crayfish? There are times when it is a shame to take them, I mean when they are in the berried stage; there should be a close season for crayfish, say for one or two months. The Italians are fishing for crayfish at Broughton Island.
4553. Do they use many traps? They told me they had as many as 300 belonging to one boat.
4554. Would it be a good thing to compel these people to pay so much for every crayfish pot they had? That would be a good idea.

- Mr. H. Thompson. 4555. Would you license aliens before they become naturalised? I think they should be naturalised first. About two years ago, before the Italians went to the island, there were twenty or twenty-five boats went there, now none go there. There is one boat down there for every twenty boats that used to go. Under the present system the Government only receives £2 for the one boat, whereas before these people went there and took up all the grounds with the pots the Government used to receive £50.
- 8 April, 1895. 4556. Mr. Thompson.] Are all the aliens engaged in the capture of crayfish at Broughton Island licensed? I believe one half of them are not.

PITTWATER, NARRABEEN LAKES, AND DEE WHY LAGOON
FISHERIES.

SATURDAY, 30 MARCH, 1895.

[The Commission met at the "Narrabeen Hotel," Narrabeen, at 11 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

L. G. THOMPSON, Esq., J.P.

Mr. Charles John Hastie, fisherman, Pittwater, sworn, and examined:—

- Mr. C. J. Hastie. 4557. President.] Your name is Charles John Hastie;—where do you reside? Pittwater.
- 30 Mar, 1895. 4558. How far is Pittwater from Narrabeen? About 10 miles; I have lived in the district about thirteen years.
4559. Are you a licensed fisherman? Yes.
4560. How long have you been a fisherman? Between twenty-five and thirty years.
4561. So that you have not devoted the whole of your time to Narrabeen and Pittwater, you have fished elsewhere? Yes; as far as Seal Rocks north and Ulladulla south, schnapper fishing.
4562. Have you fished the inlets with the net? Yes; all of them between Seal Rocks and Ulladulla.
4563. Judging from your answer, you ought to have a pretty extensive knowledge of the fisheries on the New South Wales coast? I have.
4564. Have you anyone associated with you in your fishing operations? My three sons at present; they are all licensed fishermen.
4565. Have you taken out one boat license? Only the one license.
4566. Are you satisfied with the amount the Government demands for the license? I am quite satisfied with the license, but I think it is an imposition to charge a license for a man who fishes outside the Heads. I pay my license for the net boat, but not for the other, as I fish beyond the territorial limits.
4567. How many fishermen are there in the Pittwater district? About eight licensed fishermen—permanent resident fishermen.
4568. What kinds of fish do you catch? Schnapper, flathead, nannegai, morwong—all kinds of line fish. We had a fish yesterday that would have done for the Museum if we could have caught him. It was what we call a billfish. He took six schnapper from me, and then got away. He was about 8 feet long, and had a long bill like a swordfish, with his mouth underneath the bill. The fish was blue, sky blue; he had a tail almost like a bonito, and an eye almost like a saucer, and it was nearly as large. He leapt out of the water about 10 feet, and got away; that was off the south head of Broken Bay. He was an excellent specimen—a kind of shark. I used to go with the late Sir William Macleay getting specimens.
4569. How do you dispose of your catch? I send to Woolloomooloo Market.
4570. How many baskets do you send on an average? Ten or twelve baskets per week.
4571. Do you send by boat or rail? Sometimes by rail from Peat's Ferry; sometimes by the Hawkesbury steamer; and sometimes we run them ourselves to Sydney.
4572. To whom do you consign at the Woolloomooloo Market? Fitzgerald and Lawler.
4573. Are you satisfied with the returns you receive as a result of the sales of your fish? Yes, perfectly.
4574. Are you satisfied with the market accommodation at Woolloomooloo? Yes; the only fault I find with it is the flooring of the market. It ought to be flagging instead of cement, on account of the flagging being cooler.
4575. Are not the fish, as displayed at the Woolloomooloo Market, liable to be trodden upon and spat upon;—would it not be better to display them upon raised tables? As regards spitting upon, I think they would be equally spat upon if they were upon raised tables. With the large concourse of people around them you can hardly help it.
4576. Supposing the congested state of affairs at that market was done away with by providing auxiliary markets, do you think that would be better? Yes; perhaps it would.
4577. Would sales during the day be an improvement? Yes; there would be a greater consumption of fish. It would be better than keeping the fish about in the market.
4578. What do you receive per basket for your fish, taking them all round? About £1 per basket.
4579. Do you send any sea mullet to market? No.
4580. Any garfish? The boys send garfish; the last basket they sent they got 12s. 6d. for. They were very large sea garfish.
4581. Have you ever lost any fish in transit? No.
4582. What nets do you use? A hauling net, 3 inches in the wings and 2½ inches in the bunt. Since the issue of the last regulation reducing the mesh of the garfish net, I have bought the net 1½ inch, to allow it to shrink to 1⅓-inch.
4583. Do you use any other net? In the winter-time we use the sunken net for whiting.
4584. What mesh is that? We use 2½ inches; a great many use a smaller mesh, but that ought to be prohibited.
4585. Do you use a meshing net? No.
4586. Do you use a prawn net? No.
4587. Are you satisfied with the length of the hauling net? Quite satisfied.
4588. Are you satisfied with the mesh? Quite.

4589.

Mr.
C. J. Hastie.
30 Mar., 1895.

4589. Are you satisfied with the length and mesh of the garfish net? Quite.
4590. Pittwater is at present open to net-fishing, is it not? The top portion of it, from below Scotland Island, is closed to net-fishing.
4591. Narrabeen is closed, is it not? I believe so.
4592. Have you ever hauled in Narrabeen? No; and I never would.
4593. Why? The place is full of grass; it has been closed too long.
4594. When hauling, do you empty your fish from the net in a certain depth of water? I always take care, and I have taught the boys the same, to throw the small fish into the water. I use the greatest precaution to save small fish, such as small red bream, whiting, black bream, and blackfish; but when you come on to the shallow flats you must destroy a certain proportion of small fish.
4595. Have you ever seen numbers of little red bream, black bream, and blackfish meshed in the bunt and in the wings of the hauling net? Yes, I have; you cannot help destroying the fish in that way.
4596. Do you think if a smaller mesh were used in the bunt you would be able to save those fish? I do not think so; if you had a smaller mesh you would suffocate them. If a man took time to throw the small fish out before he looked after his good fish, in the Lower Hawkesbury at any rate, he would have the bunt of his net eaten out by small sharks.
4597. What is your opinion regarding the different closures that have been made;—do you think they were justifiable? No, I think they were not justifiable. I am speaking, not on my own behalf, but for other people. I consider that the heads of the river, such as Mullet Creek and Mooney Creek, should be closed, and the other portions opened. At the present time there are mullet in Mooney Creek, but the fishermen cannot take them. These mullet will travel soon and nobody will get the benefit of them.
4598. Do you think the Narrabeen Lakes should be thrown open for net fishing? Yes, in the winter, but not in the summer.
4599. Why in the winter? Because the fish have done spawning then. In the summer the lakes should be closed because the fish enter and breed.
4600. Do you consider the Narrabeen Lakes a breeding ground? Yes; all lakes are breeding grounds.
4601. Do these lakes get their supply from the sea as well as from local production? Oh, yes; you can see the fish come in from the sea, and go out again.
4602. What would you think of a provision in an Act to allow the meshing net to be used in closed waters? I do not think it ought to be used in closed waters. I consider the meshing net ought not to be allowed, only around lakes and places where men cannot go with the hauling net to catch large fish. As to using a meshing net where a man is going to haul, it is wrong.
4603. What would you think of a provision allowing fishermen to use a net of any dimensions, say, not exceeding 300 fathoms, in any waters opened to net fishing, providing that the net was emptied in not less than 1 foot of water, and further, that a stringent provision should be made to prevent the sending of undersized fish to market;—would that be better than the present complicated system of lengths and dimensions of nets? I think if we were allowed 300 fathoms of net, and let none of it be less than $2\frac{1}{2}$ inches, from that to 3 inches, that would do if we were allowed to use it on rivers as well as lakes.
4604. You are opposed to the use of a meshing net in closed waters? Yes. Principally those parties who use meshing nets in closed waters are not fishermen. They pay no license fees. I have seen men using meshing nets in closed waters, at Pittwater, with the inspector under their nose, and they have not been prosecuted.
4605. Who was the inspector? I am not certain.
4606. Who were the parties? Bulfins, of Newport.
4607. How long ago would that be? About three years ago. I have seen the yachtsmen come into Pittwater and use meshing nets in closed waters.
4608. Do you believe in fishermen's nets being seized and confiscated when they are found guilty of an offence against the law? Not for the first offence. I had one confiscated some time back. I think it was about the cruellest thing ever done. It was only a short piece of net, about 1 foot in depth, that I had attached to the lead line and the bunt.
4609. What did that net cost you? About £18. I was advised by an inspector to remove the wings of the net and make them legal, and I did so at a cost of £4. About ten days after that the net was seized and confiscated, although the bunt which was considered illegal had been passed by the inspector ten days before as being legal.
4610. Were you prosecuted? No, the net was taken out of the boat. If I had been prosecuted it would have cost me less; I should have been fined £2 and had my net restored.
4611. Do you think it would be better not to take away a fisherman's tools of trade for the first or even the second offence, but that he should be fined heavily or imprisoned, say for a term not exceeding seven days? Yes.
4612. I suppose you believe in such cases being tried as soon as possible after the alleged offence has been committed? As soon as possible. I do not wish to and never had any intention of breaking the law. I have worked as close to the Act as any man and it has cost me hundreds of pounds to do so.
4613. Do you believe in inspectors receiving half the fine? No; I consider it is only an encouragement to them to seize the net; it is like a bribe to those men who go and seize the fishermen's nets.
4614. Do you consider the Fisheries Act works smoothly? I consider it is right enough, with the exception of the provisions I have just mentioned.
4615. Are you satisfied with the Fisheries Commission—the Board appointed to control the fisheries at present—or do you think any change should be made? I am satisfied.
4616. You think they pay sufficient interest to the fishing industry to warrant the assumption that they are a body capable of developing the fisheries? I think so.
4617. Can you tell us of any occasion when all or any one of the Fisheries Commissioners have visited these fishing grounds? I cannot.
4618. Do you know of a single instance? I do not.
4619. Do you think men charged with the administration of the Fisheries Act should visit the different fishing grounds and make themselves acquainted with their conditions and circumstances? I do.
4620. Do you think, also, if they recognised that they were called upon to administer a defective Act, it was their duty to attempt to remedy it? I do that.

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4621. Do you think it would be an improvement to establish an authority whereby the value of a practical acquaintance with the fisheries of the Colony could be utilised in the development of the industry, either by the appointment of local Boards, or by the appointment of a Board in Sydney with representative fishermen on it, or the appointment of a Commissioner of Fisheries with local Boards to advise him? I think there should be practical fishermen on the Boards to advise.
4622. Do you think if the services of a man could be secured to administer and control the fisheries, and local Boards to advise were formed, with representative fishermen on those Boards, that would tend to remove many of the grievances the fishermen now complain of? I am certain it would.
4623. Have you done much deep-sea fishing? Yes.
4624. Have you found it pay you well? Yes, it pays me very well.
4625. Do you shift your grounds much? Yes, according to the season and the weather.
4626. What time of the year do you work the southern fisheries? I have given up working the southern fisheries. I am getting too old now. I can earn a good living closer home.
4627. What time of the year did you generally visit the southern fisheries? In the winter I worked the Sir John Young Banks through and through, and round Ulladulla, Shoalhaven, Shellharbour, and Wollongong, right up to Sydney Heads.
4628. What system did you adopt for keeping your fish alive? I took a well-boat with me. I worked a well-boat the last month I was in Ulladulla, but it did not suit.
4629. Why? The schnapper fret too much.
4630. How long did you try the experiment? For a month; you keep the fish in the well for about twenty-four hours and they go off.
4631. Did you prick them? Yes, I was with a practical fishermen from Hobart. We pricked them three scales back from the pectoral fin.
4632. Did you ever prick them near the ventral fin? No, I did not.
4633. Did you keep those fish alive any time? We could keep them alive as long as we liked, but they became lean through being confined in the well.
4634. Did you feed them? Yes, on all kinds of fish.
4635. What was the size of your well-boat? Forty feet long, 10 feet beam, and between 6 and 7 feet deep; she had a well of 10 feet by 8 ft. 6 in. wide.
4636. Had she a partition in the centre? Only a centreboard, no casements at all; she was perforated with ventilation holes on each side. She was beautifully got up, but rather narrow. She used to roll about and the seas would come wallop up against the deck. I have seen four of us load that well with schnapper in two hours off Ulladulla.
4637. Did you ever try to get the fish to eat? They will eat after they are twelve hours in the well—eat ravenously.
4638. Did you ever try feeding them on what they call suction—oatmeal put into the water during the first two or three days? No; the only fish that will live in the well on this coast is rock cod, flathead, nannegai, and any kind of rock fish.
4639. You know the grounds along the coast between Seal Rocks and Ulladulla pretty well,—have you ever come across any sandy bottoms? I can find you a stretch of sand 20 miles long, bordered by rocks; that bottom would be 5 or 6 miles wide; it is between the North Head and Broken Bay, and Bungaree's Norah.
4640. Would there be plenty of edible fish on that bottom? Plenty of flathead; there might be others.
4641. Would that be a good place for a trawling experiment? It would be right enough; I have seen the trawl used.
4642. Where? Here on the coast. It was tried in Sydney Harbour, about eighteen years ago, by Mr. Buckingham. He worked it with a little open boat; it was only on a small scale.
4643. Do you think an experiment in trawling should be made in order to set at rest the doubts that exist as to whether trawling could be carried on successfully? There could be no harm. It might pay very well.
4644. During your trips along the coast, have you ever seen shoals of fish travelling from the southward, north? Yes, all kinds—the maray, four or five kinds of maray, and what they call the herring maray, almost like the English herring. [*The witness was here shown a plate "Clupea Sagax."*] Yes; that is the herring I mean.
4645. Are you satisfied that we have a species of herring travelling in great shoals along our coast at certain periods of the year? Yes.
4646. At what periods of the year? About May and June.
4647. Did you notice any particular features in connection with the water during their passage? Yes; there was a kind of grit on the water. You can find it now on the coast. It is like little eggs. It is the same as if the fish had left a shell. It is like little egg shells.
4648. Would you take that to be the spawn of some fish travelling? Yes, I do. That is what the garfish feed on—these egg shells. You will find the garfish out here about April and May.
4649. Would it be possible to catch those fish of the herring species with the drift net? You would want a fine net—a net they use to catch them with at home.
4650. Do you think they could be utilised—have you ever eaten them? Yes, I have. They could be preserved. I have eaten them. They are beautiful eating.
4651. Have you ever smoked or salted any of them? No.
4652. Have you had any experience in the capture of crayfish? I have caught a few between here and Bungaree; they are very plentiful at times.
4653. Are you acquainted with their habits? No.
4654. You cannot say what season they spawn? No.
4655. Have you noticed any evidence of deposits of oysters in the deep sea? I have had nothing to do with oyster culture.
4656. *Mr. White.*] With all your experience in fishing, has it never struck you as an extraordinary fact that we import so much cured and tinned fish, when we might cure and tin the fish we have in our own waters? Yes; it has been tried here. I have tasted some tinned smoked mullet from Cape Hawke. It was of very good flavour—better than you could import.
4657. Are you of opinion that a large trade might be done in tinned fish in this Colony without importing at all? Yes, I am.

4658. Do you think a very large industry could be established here? Yes, I do.
4659. You have had considerable experience on the coast—are the fish migratory? Yes.
4660. What time of the year do they go north? Schnapper travel north in March and April. About ten years ago I made a haul on Mackerel Beach in Pittwater, and I got twenty-six dozen schnapper; they were travelling. Mullet travel north at the same time; garfish and black bream also travel about the same time.
4661. Have you noticed that schnapper always go in schools, and if you strike a school you get plenty of fish? Yes, that is so. The schnapper I caught at Ulladulla were local fish. They were a large dark fish; you can always tell the difference; the school fish are bright red fish, the local fish are dark.
4662. Do you think that if there had been divisions in your well-boat the fish might have had a better chance of living in the wells? The boat we had was not built in a satisfactory manner for well-boat fishing.
4663. Are you of opinion that properly constructed well-boats would be advantageous to the fishing industry here? They answer well in Hobart; I do not know how they would answer here.
4664. *Mr. Thompson.*] Have you ever fished in Tuggerah Lakes? About a month in Tuggerah.
4665. Did you find the ordinary hauling-net large enough to catch fish in payable quantities? I was there in the winter and it was sufficient for me.
4666. Why do you object to 300 fathoms of hauling-net being used in the lakes? I did not object to it; what I intended to say was that if 300 fathoms is allowed in the lakes, the same length should be allowed everywhere.
4667. The grass in the Narrabeen Lakes, is it ever destroyed or removed by natural causes—for instance, by floods, or anything of that kind? I think the fresh water spreads the seed.
4668. Which mesh is most destructive to fish, the larger or the smaller mesh? I think the larger mesh.
4669. Are fish fry in Narrabeen in the winter? I never worked there much in the winter; the fish go up to the heads of the creek. There are big holes up there, and they resort to those holes in the winter.
4670. Then there are no fish except in those deep holes? Not in any quantity; that is where most of them lie.
4671. And would you net those holes in the winter? Yes.
4672. Would not such netting destroy young fish as well as old fish? There may be tributaries further up where the young fish go; I do not know much about the place.
4673. Why, then, would you recommend the opening of Narrabeen for fishing during the winter months? Because there is plenty of whiting down at the mouth and they could be caught.
4674. Would you object to drift meshing-nets or set nets being used in closed waters, under supervision, to capture those fish? I object to those nets.
4675. Would you license amateur fishermen? They ought to pay a license as well as professional fishermen.
4676. Would you require aliens to be naturalised before being licensed to catch fish? Yes, they ought to be licensed the same as we are.

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Mr. Charles John Hastie, fisherman, Pittwater, sworn and further examined:—

4677. *President.*] Do you know the difference between this Commission and the Fisheries Commission in Sydney? I did not know until just recently. I was told this was a Royal Commission after I left the room.
4678. Were you of opinion, when you were giving evidence, that you were speaking to the members of the present Fisheries Commission? Yes, because I saw Mr. Lindsay Thompson in the room.
4679. Then are we to understand that you did not know you were giving evidence before the Royal Commission on Fisheries? Yes. I thought I was giving evidence before the Fisheries Commission.
4680. Had you known you were speaking to the Royal Commission on Fisheries, would you have expressed yourself differently concerning the other Commission, the existing body? Yes, I would have done so. I am certain they have not done their duty. What I intended to say, in giving my answers to some questions put to me, was that I was satisfied with the appointment of the Royal Commission to inquire into matters. I did not know, until just now, that your Commission was the Royal Commission. I am glad to see the appointment of the Royal Commission. The old Commission is no good; they have not done their duty. I am glad the Royal Commission has been appointed to inquire into everything.

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Mr. Thomas John West, Paddington, sworn and examined:—

4681. *President.*] Your name is Thomas John West, and you reside at Paddington; I understand you are a frequent visitor to Narrabeen, and the adjacent fisheries? Yes, generally about once a week.
4682. The Commission desire to know whether you represent the line fishermen in the evidence you are about to give? Yes, I do.
4683. How long have you been acquainted with these fisheries, how long have you been visiting them? About forty years.
4684. How do you find the fishing now, comparing it with what it was the first few years of your experience here? Well, at times, within the last seven or eight years, it has been impossible to catch a mess of fish here.
4685. How do you account for the decrease? To a very great extent it is owing to the net-fishing. This is a small place, and when it is opened for net-fishing there are generally four or five fishing boats down here together, sometimes more than that. I have watched them very closely at times while they have been netting, and they destroy a great number of small fish; they drag the fish on to the sandy flats. I have seen bushels of small fish floating about after they have hauled their nets.
4686. Was that the result of their becoming meshed in the bunt or in the wings of the net? Yes.
4687. Do you think that a stringent provision, making it compulsory for fishermen to empty their nets in a foot of water, would minimise the destruction of live fish? It might do so, but unless you have an inspector here they would not do it.
4688. You say you have actually witnessed the destruction——? Of thousands of small fish in the Narrabeen Lakes.

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4689. Do you consider Narrabeen a breeding and feeding ground? Yes, there is no better place in the Colony; I know no finer place than this used to be. Of late years it has suffered from the over-dragging with the nets. I know most of the lakes in the Colony, and this used to be a splendid place.
4690. Do many people visit these lakes? I do not think there is a place in the Colony where more people go to fish; a great number of amateur fishermen come here.
4691. Do you think it would be an injustice to the net fishermen if, in the interests of the large number of amateur fishermen who visit Narrabeen, these lakes were permanently closed? No injustice at all. The fishermen themselves have informed me that they have made very little out of it. This is a great breeding ground; you can see myriads of young fish in the lakes at times. I think it would be beneficial to the fishermen instead of proving injurious to them, because, if the lake gets full of water, and a passage is opened, the fish go elsewhere, and the fishermen catch them.
4692. Have you noticed the growth of weeds in the lake—is it extending? Generally about this time of the year the weed is bad. This is continually altering; places that are covered with weed now will, in three or four months' time, be quite clean.
4693. Do you think it is necessary to permit net-fishing here to keep down the growth of weed? Nets do not remove the weed at all. I have had a good deal of experience in net-fishing, and you cannot haul a net where the weeds are bad, and you cannot catch fish there for the simple reason that the lead line rolls up in the net and it comes over the weeds, and you lose all the fish.
4694. What fish do you generally catch here? Before the lake broke out this last time you could go almost anywhere and catch three or four dozen of very nice whiting, black bream, and flathead.
4695. I suppose you catch all the edible species of fish that frequent the inlets? You never catch red bream only on very rare occasions; you catch the silver bream and blackfish; any amount of blackfish, mullet, perch—very fine perch here sometimes—especially up those creeks, Deep Creek and Middle Creek. In Deep Creek I have often caught perch weighing 2 lb., in the brackish water. You will catch them further down, too.
4696. Have you ever seen any fry of the schnapper in the lakes? No.
4697. Do you know whether set lines are used in Narrabeen? I know set lines are used and nets are used there at the present time. Of course the difficulty is to catch the offenders.
4698. Is any supervision exercised over the lakes at the present time? I have not seen an inspector here for a very long time.
4699. Is it your opinion that if it is wise and discreet to close certain waters against net-fishing, for the sake of keeping up the continuity of the supply of fish, it is necessary an inspector should be appointed to give proper supervision to the waters? If you do not have an inspector you will not keep up your supply of fish. This lake has been closed for some time, but only last week fish were sent from here to Manly; those fish were taken in the lakes with nets.
4700. Do you know who caught those fish? I cannot say.
4701. Have any of the Fisheries Commissioners ever visited the lakes officially? I have never seen any of them here.
4702. Do you think if certain areas were set apart for amateur line fishermen, waters in which fishermen were not allowed to haul their nets, they would object to pay a nominal license fee annually, to meet the expenses of supervision? I know dozens of amateur fishermen who come here who would be only too pleased to pay an annual license fee in order to get proper supervision. No honest sportsman would object to pay a license fee; it would be a good thing to have one inspector to supervise two or three places such as Narrabeen and Dee Why.
4703. Have you done any deep-sea fishing? Yes, I have.
4704. Do you know anything of the fishing-grounds off the coast, are any of them suitable for trawling? I do not think there are many grounds suitable—that is my impression.
4705. Supposing there were grounds, would you favour the proposal that the Government should be requested to make an experiment in trawling on the coast? Yes, I think it would be a very good thing for the Government to do; it might be the means of catching more fish than at present and at much less cost.
4706. You spoke of Dee Why Lagoon;—do many fish breed there? Yes; but it is a lagoon that breaks out more frequently than the others, and you never get so large a fish in Dee Why as in Narrabeen; but that lake would require equally as much supervision as Narrabeen.
4707. Speaking generally of the fisheries of New South Wales, do you think it would be a wise provision to set apart certain waters within a convenient distance of populated areas in order to allow amateur fishermen to indulge in line-fishing? I think it would be a very wise thing indeed, and it is very necessary that something of that kind should be done.
4708. From your experience, do you think there are plenty of fishing-grounds further afield to which the fishermen could resort without dragging the waters so near to the populated centres? I am certain of it.
4709. Do you think they might take a little more interest in the development of our deep-sea fisheries? Yes.
4710. In regard to the administration and control of the fisheries of the Colony, do you favour a continuance of the existing Fisheries Commission, or do you think that institution might be improved upon by the appointment of someone who would display more interest in the fishing industry? If I had my way about it I would abolish the Fisheries Commission to-morrow, for the simple reason that I have never known any good result from it.
4711. You knew the condition of the fisheries of the Colony in 1881? Yes.
4712. Comparing that time with the present time, can you say whether the fisheries of New South Wales are in a better condition to-day than they were in 1881? They are in a far worse condition, there is no doubt about that.
4713. *Mr. White.*] When do the schnapper travel north or south? Schnapper generally go south about October. About that time you will find more schnapper and squire about the reefs than at any other time. I have caught them at various places from here to Wollongong. I have caught them much more readily about October and November than at any other time in the year.
4714. Have you ever noticed any shoals of fish on the coast? Yes, I have.
4715. What months do they generally travel? The sea mullet in March and April.
4716. Have you seen the herring on the coast of New South Wales? Yes; I have seen the herring in shoals. You may call it a true herring; it is very much like the herring. Tailer are also very plentiful on the coast at times.

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Mr. Donald McLean, Narrabeen, sworn and examined:—

4717. *President.*] Your name is Donald McLean—how long have you lived at Narrabeen? I have resided here for over eleven years; I am the oldest resident on the Mount Ramsay Estate, Narrabeen.

4718. Do you know anything of the fisheries of the Narrabeen Lakes? I have studied them since I have been down here, and taken much interest in the fisheries.

4719. Is the fish supply in the lakes as good as it was some years ago? It was much better some years ago; the scarcity of fish is owing to the fact that of late years the lake has been dragged so much that it has never had proper time to recover itself. I have seen eight nets in the lakes at one time, and they dragged them to such an extent that they have become almost depleted; fishermen have come here from Botany, Parramatta, Manly Beach, the Hawkesbury, and Pittwater. The fishermen, when they first came to the lakes, got a good supply of fish in one or two hauls, and with those catches they glutted the market, and consequently prices ran very low. The close time for net-fishing expired towards the end of December, and the men came down and got all the fish. It has not paid them on account of the presence of so many fishermen on the lakes at the one time. They raked the grounds and then left; this did no good to anybody.

4720. After the visits of the fishermen you allude to, did you notice any evidence of the destruction of small fish? Yes; after the first few hauls the fish became very scarce. The men hauled their nets up into the boats, then they separated the marketable fish from the unmarketable ones, and the little ones were allowed to rot on the banks.

4721. They did not empty their nets in the water? No, not at all times.

4722. Did they leave the young fish stranded at times? Yes.

4723. Any quantity? *Yes, in great quantities. Visitors have complained of the stench which has arisen from the dead fish.

4724. Is it your opinion that there are plenty of waters further afield available for the fishermen without their resorting to the Narrabeen Lakes? From what I have seen of Narrabeen and the other lakes, I can say Narrabeen is one of the principal, if not the best breeding places in New South Wales. It is said the lakes get overcrowded with fish, but that is not so, because the big fish leave the lakes after the entrance is opened. Narrabeen Lakes form a nursery for fish, and other fisheries get the benefit of this nursery.

4725. Do many amateur line-fishermen come down here? Yes, a good few.

4726. If the lakes were permanently closed to net-fishing, would it induce more frequent visits from amateur line-fishermen? Yes, I am certain of that. People would come here for the benefit of their health, and to enjoy a little fishing. Narrabeen is close to Sydney, and easily reached from all points. If these lakes are kept closed the poor man has a chance to bring his wife and family, and enjoy a little fishing; they can go out in a boat, or fish from the sides of the lake, and get sufficient to benefit themselves.

4727. Do you know whether the lakes are hauled by fishermen during the close season? I believe so.

4728. Is there an inspector stationed here who is charged with the supervision of the lakes? No; perhaps one comes on a special occasion. Unless the waters are permanently watched it is a hard matter to keep the net fishermen away.

4729. Can you see any utility in closing waters without having proper supervision over them? Certainly not.

4730. Are you of opinion that someone should be stationed in this district to protect the fisheries? Yes; someone that has an interest in the lakes should be stationed here.

4731. You know, of course, that this Commission is the Royal Commission on Fisheries? Yes, I am aware of that.

4732. Have you heard of a body called the Fisheries Commission, who now administer the Fisheries Act? Yes.

4733. During the years you have been here, do you know whether any member of that body, or that body as a whole, have visited these fisheries? No, not to my knowledge.

4734. Have you ever heard any fishermen who came from other waters boast that they could use the nets in the Narrabeen Lakes in spite of the inspectors? Yes, I have. A few weeks ago I was in Sydney, and I heard a conversation between two men in an hotel. One said to the other, "They are going to close Narrabeen." The reply was, "No fear, they will never close Narrabeen." The other man said, "How is that?" to which his friend replied, "Well, they will not close it later on." One of the men who had been speaking said to me, "They will not close Narrabeen, because the hauling would be done secretly." I replied, "How is that?" and he said, "Well, I have known a party go down there, and take a boat from a person who has boats on the lake, and capture fish with a net." Now this happened to be one of my boats, as I keep boats for hire on the lake, but the man did not know who he was speaking to at the time.

4735. Would it be a step in the right direction to permanently close the Narrabeen Lakes, as well as the Dec Why Lagoon, so as to allow amateur fishermen to come here and enjoy a few hours fishing? I think it would be a good thing.

4736. What does it cost to reach Narrabeen? By steamer, 6d. return from Sydney to Manly; by coach from Manly to Narrabeen, and return, 2s.; making the total cost 2s. 6d. return from Sydney to Narrabeen.

Paget Bayly, Esq., Brookvale, Manly, sworn and examined:—

4737. *President.*] Your name is Paget Bayly, and you reside at Brookvale, Manly? Yes.

4738. I understand you have, for a considerable time past, taken a deep interest in the fishing industry? Yes.

4739. How long have you lived at Manly? About ten years.

4740. During that time have you had good opportunities of noticing the capabilities of the several lagoons—I mean in regard to the fish supply in those places? Yes; the best opportunity, that could possibly be had.

4741. Have you been a frequent visitor to the different fisheries in this neighbourhood? Yes, frequently, by night and by day.

4742. I understand that some time ago you offered your services in an honorary capacity to the Fisheries Commissioners, with a view of having some supervision exercised over the several fisheries in this district, and

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and that you subsequently acted as an honorary inspector of fisheries for a considerable time? Yes; for two years and five months.

4743. How long is it since you ceased to occupy the honorary position of inspector of fisheries? Since last May.

4744. As you were receiving no salary for your services, it would not be on the score of retrenchment that they were dispensed with? No. I should like to say, also, I was the means of adding revenue to the Department.

4745. Do you mean that, in consequence of your supervision of the fisheries, everything went smoothly, and that more licenses were taken out? That the men were getting a living, and that they took out licenses which they had not taken out before.

4746. During the time you were honorary inspector did you have occasion to visit the Narrabeen Lakes very often? Oh, yes; I was a constant visitor three or four times a week, night and day. I worked very hard—as hard as any inspector in the world would work—to keep the fisheries in good condition.

4747. During the period you were exercising supervision over the fisheries here, did you prevent fishermen from hauling their nets in the closed waters? Yes; most decidedly. I stopped that as far as I possibly could.

4748. You say you gave a lot of attention to the protection of the fisheries of the Narrabeen and other lakes at Manly? Yes; and Sydney Harbour and Broken Bay as well.

4749. Did the Commissioners of Fisheries give you any reason to account for your services being no longer required? No; they wrote me and thanked me for my services, and told me they were going to appoint a paid inspector.

4750. Have they appointed him? No.

4751. Do you think the fisheries have suffered from the want of supervision? They have suffered greatly.

4752. What do you think was the reason which prompted the Commissioners to send you the intimation dispensing with your services? It is an open secret that no inspector will interfere with the Newton's net; it is an open secret that his billet is not worth it. Mr. Hill had pulled me over the coals for interfering with Pearce's net. A fortnight before my services were dispensed with a Manly fisherman came to me and complained that Newton was using an illegal net. I afterwards saw Newton and told him I should watch him, and if he put the net in I should seize it; that day Pashley came to me and told me the net was in the boat. I got a boat and found they had been hauling small garfish. I saw two of the inspectors and I took the garfish up and showed them to the inspectors. I went across to Newton's camp and said: "Someone has been hauling here, I shall put a stop to it." The next week I got the intimation to go. My conclusion is that from my having stopped Newton, and interfered with Pearce, my services were dispensed with.

4753. Where do those Newtons live? Watson's Bay, I believe.

4754. Are they old fishermen about the waters? I think so.

4755. You think, then, that the Newtons made some communication to the Fisheries Commissioners in order to have your services dispensed with? No; I think Newton made an information to Mr. James Hill, a member of the Commission, and Mr. Hill rules the roost, that is my opinion.

4756. As to the present state of the fisheries, you say that the good work you have done for the last two and a half years has practically been lost as far as its value to the fisheries is concerned? It has; but one year the fishermen had the benefit of the fish. I think the Broken Bay fishermen had the benefit, they get all the benefit of these two lakes in my opinion.

4757. In the way of these lakes providing a supply of fish for the Hawkesbury? Yes, they go direct to the Hawkesbury; the entrance is only dammed up five or six months out of the year, and in the winter they breed there, and go out into the Hawkesbury.

4758. There is an opening then—a channel made as a means of ingress or egress to the sea and the lake at certain periods of the year? Yes; half as broad as George's River at Liverpool; you can take a big fishing boat in on the tide with eight or nine men in her.

4759. Would you consider the lakes purely breeding grounds, or nurseries for fish? Purely nurseries.

4760. Would you be inclined to recommend that no nets should be used in these lakes? Well, that is a question I hardly like to answer; I recommend that no hauling-nets should be used, but under proper supervision, I do not think a meshing-net would hurt at certain seasons.

4761. That would be a net that would only catch marketable fish? Yes, marketable fish; but they are such small lakes that they might destroy the whole place.

4762. Would it be in the interests of amateur line fishermen to reserve these lakes as a field for line fishermen to have a little sport in? I never took that into consideration. I like to see the fish preserved for the general public—the amateurs can generally find fish—and so preserved that the fishermen could get a living. Amateurs do a lot of damage; the fishermen by netting Narrabeen kill the goose that lays the golden eggs. One haul kills millions of fish, and only benefits one man, who gets a few pounds out of it.

4763. Do you think, if amateur line fishermen were allowed to use the lakes, that there should be a stringent provision to prevent the catching of under-sized fish? I do, most decidedly; I think they should pay a nominal license fee to bring them within the meaning of the Act.

4764. Supposing the lakes were thrown open, how long do you think it would take for six or seven boats to exhaust the fish supply? A week. Two boats pretty well exhausted it in a month. Some parts of the lake they could not net; but six or seven boats would haul every bit of it in a day. It would not pay six boats to go for a week.

4765. Do you think at the present time, owing to the lakes not being subject to supervision, they are netted illegally? Yes; positively. They took a net out of it the other night. Some private individuals seized it on their own account.

4766. Can you understand why the Fisheries Commissioners neglect to provide proper supervision for fisheries of that character? No; I cannot.

4767. Could it have been on account of the salary or expenses which were paid to you that you were retrenched? It cost me over £100 out of my own pocket. I got 10s. a week latterly for my horse. I crippled a horse and smashed a buggy, and part of the time I got 10s. a week. I used to pay my own expenses to Sydney. I paid one man's fine out of my own pocket. I found his wife was ill, and he turned

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turned out my best man afterwards; he would do anything for me. It could not have been retrenchment. In February or March there were six boats licensed by the reports I made. I have sent many men up to the office that had no licenses. I used to be about day after day to get these men to go up to be licensed. I seized Pearce's net, and Mr. Hill called me over the coals for it. Mr. Hill told me he was one of the honestest men he ever saw. On Friday, the 11th July, I seized Pearce's net.

4768. Was your removal prior to the retrenchment scheme? A long while after that. I was made an inspector for the Colony after that. It was this time twelve months I was made an inspector for the Colony, after all our inspectors went, and allowed 10s. a week, and I put my whole heart into the work, and worked hard. You could go on Manly pier and see no small fish there.

4769. As to the classes of fish in the lakes, do you think they are purely of local production or do they find their way through the channel? Oh, the channel. I have been there for years at about this time. I have gone down and stopped a week at a time at the mouth, camped out, and I have caught forty and fifty big whiting coming in on the tide, and I fished it down, and I perhaps caught one or two. They go up past the bridge and stay in all the winter, and breed in the spring. These big whiting go out again and leave their spawn. They come in in millions—bream, tarwhine, mullet, and whiting this month or any time last month, when it is open. They stay all the winter, and the first time it is opened they go out, and the lake is a mass—in October and November—of whiting of various lengths, from 3 inches to a foot long. I have noticed the mouth of Narrabeen lagoon for the last eight years.

4770. How often has it, during your residence in the vicinity, been opened to the sea? It is open to the sea six months in the year, perhaps more. In a rainy season it is open all the year. It is open more than it is shut. In a rainy season it is 30 or 40 yards broad. The year before last it was never closed all the summer. It all depends on the seasons. As a rule it is pretty well half and half. It is shut now, and it was opened about two months ago, very wide.

4771. Do you know of any occasion when the Commissioners as a body, or any one of them, have visited the fisheries of Narrabeen Lakes? No, I do not; they were coming once, but they only drove past.

4772. You have had some experience of the work of the present Fisheries Commission;—do you think there should be any change as far as the administration and control is concerned? I do; most decidedly.

4773. In what direction would you suggest an amendment? As an improvement on the Commission?

4774. Yes? I should abolish this Commission. They do not know anything about fish; they are neither use nor ornament. I have often thought over the subject myself. I think there should be an inspector of fisheries responsible to a Minister alone, and he should have the control. Until you get a good man solely responsible to the Minister, there will be no satisfaction to the fishermen or the general public. I do not think this Commission know anything about the subject.

4775. Do you think they have not shown that interest in the fisheries of the Colony the public expect of them? If they have shown any interest it only shows their ignorance; but I do not think they have ever shown any interest at all? Fishermen fishing at Manly Beach without licenses, and without supervision, except by a visit now and then from an inspector, shows bad management.

4776. You think there should be some one appointed who would have a practical acquaintance with the fisheries, some one who would be able to spare time to acquire a knowledge of the local circumstances and conditions of the fisheries? Most decidedly; there should be a man at the head responsible to a Minister alone.

4777. Would it be an advantage to establish what might be termed Boards of Advice at the different fishing centres—say, one at Tuggerah Lakes—the fishermen to have one representative on that Board, so that local matters could be referred to that Board, in order to advise the Chief Commissioner? I do not hold with that. If a man is appointed as inspector and allowed to do as he likes, he will know all about the different matters. If Jack, Tom, and Harry, are allowed to tell him what to do, he would get a variety of opinions, and between two stools he would not know what to do. A practical man knowing the wants of the place would know what to do himself, that is with his inspectors under him. I do not think he should be interfered with. A good man would work it more satisfactorily to everybody, and it would be satisfactory to the fishermen themselves. A good man could improve the fisheries. I could have effected great improvements myself. I think it wants a man with supreme command—a man who would not favour anybody; where there are a whole lot that have power they have favourites. If the fishermen were on the Board for the purpose of advice only it would be a good thing. If the inspector's word is final it would be a good thing, and I quite agree with it on these grounds.

4778. *Mr. Thompson.*] About nets, do you think it would be an advantage if we discarded the present system of nets, that is the hauling-net, and the garfish net, with their various lengths and sizes of meshes, and allowed fishermen to use any net they desired in open waters within a maximum length and a minimum mesh, relying on judicious closing of waters for the continuity of supply? If they did empty their fish into the water I would be in favour of it, but from my knowledge of fishermen I do not think they would do so, and there must be some guard against killing small fish; if they were properly supervised I should allow them to do what they liked.

4779. Would you allow the use of set-nets, or drift-nets in closed waters? I would not allow them there at all.

4780. We have heard about the duckweed in Narrabeen, do you know anything about it? Yes, the fish breed in it.

4781. You do not think its presence a disadvantage? It is an advantage, decidedly.

4782. Would anything destroy that weed, or remove it? No; you cannot remove it, unless you pull it up by the hand.

4783. Does it develop most in fresh or salt water, that is when the lake is open or closed? It is natural, it will stand either water, brackish or salt, and goes away itself in four or five years; floods take it away when it is too bad. It is what the fish breed in.

4784. I think you told the President you favoured the idea of amateur fishermen being licensed? Yes, I do, a nominal license to bring them within the meaning of the Act.

4785. About this license, do you think a metal ticket would be preferable to the paper license that is given now? Yes, I do, a great deal better.

4786. Are you of the opinion that Narrabeen is a very favourable spot for observing the habits of the several species? Yes, very.

4787. I suppose you think that by intelligent observation information could be obtained about the habits of our fish that at present we do not possess? Yes, at Narrabeen especially.

- P. Bayly, Esq.
30 Mar., 1895.
4788. Can you say with any degree of certainty what fish spawn there? I do know in some way.
4789. Can you give us a general idea what fish spawn there, and when? I have it down in my diary and will supply the information.*
4790. Would you advise the artificial opening of this lake when it has been closed naturally for a long period? It has to be opened, if there is a shower of rain the road-man has to go down and open it as it floods the houses; half a day opens it, and there is a stream that would wash a bullock team off their legs.
4791. Do you think the use of drift or set nets would be destructive to the breeding grounds? Yes, I do, I do not hold with them at all.
4792. Would you refuse a license to aliens until they are naturalised? My opinion is that they cry out about the aliens too much, for the reason that they are willing to work when others are not.
4793. You do not think they should be naturalised? No, I do not.
4794. I suppose the remarks you have made as to Narrabeen as a fishing ground would apply to Curl Curl and Dee Why? Yes.
4795. Do you know anything about well-boat fishing? No; I do not.
4796. Do you know anything about trawling? No.

Mr. James Wheeler, fisherman, Narrabeen, sworn and examined:—

- Mr. J. Wheeler.
30 Mar., 1895.
4797. *President.*] Your name is James Wheeler, and you are a resident of Narrabeen;—how long have you lived there? Altogether a little over forty years.
4798. You have a good acquaintance with the fisheries? Yes; I have followed that occupation for twenty-five years.
4799. As a professional fisherman? Yes.
4800. Were you engaged in net or line fishing? In both kinds of fishing.
4801. How long have you discontinued fishing? I carried on fishing till about twelve months ago.
4802. You are a permanent resident of Narrabeen? Yes.
4803. Have the Narrabeen Lakes proved a good source of supply for the Sydney Markets? In former years they did, but not lately, on account of their being so much closed.
4804. Do you think net-fishing in these waters increased or decreased the supply of fish? By closing them against the nets it increases the supply of fish in the harbour.
4805. Do you consider Narrabeen and the other lakes are breeding-grounds? Yes, in every sense of the word; they are nurseries.
4806. Is not an opening made naturally on certain occasions by the influence of the sea? No, not naturally; only by the flood-waters being allowed to remain. It would overflow eventually.
4807. Is Narrabeen closed at the present time? Yes.
4808. Do you consider it a justifiable closure? I do not think the fish are exhausted there at the present time; there is an abundance of fish there now.
4809. What kinds? A different class of fish to former years. The place is overrun with duckweed. We have blackfish and perch in the lakes. The principal kinds of fish to be caught now are mullet, blackfish, perch, and black bream.
4810. How do you account for the growth of the weed? I cannot say. The seed may have been carried there by the nets, or it may be owing to the birds who eat the seed.
4811. Do you think allowing the use of hauling-nets in the lake would prevent the growth of the weed? I do not think so; the weed has got such a hold of the water now that a fresh crop must come. I doubt very much if you could work seines in it.
4812. Are there many amateur fishermen patronising the lakes? Yes; very many.
4813. Do you think it a wise provision to set apart certain areas for amateur fishermen? Yes; I think such a thing would be necessary; it is a question whether Narrabeen would be most come-at-able. There are many like myself who let out boats who would say, "Shut it up against amateurs." I make as good a profit as I did out of the net-fishing; but I should like to show the Commission the true light of this thing.
4814. How many fishermen would Narrabeen support? I do not think more than two boats. In three or four months of the year they would exhaust the place.
4815. That is, by net-fishing? One or two will do very well. More could not exist; they would run one another out.
4816. So that it not being a permanent field for the fishermen, would you think it advisable to have the waters reserved for amateur line-fishermen, so as to meet the dual purpose of giving the fish a chance to breed, and to give sport to a certain class of the community who wish to indulge in fishing? It would simply afford a living for the people round the shores of it, and whether they are to be considered before the *bonâ fide* fishermen or not is a question.
4817. You mentioned just now that on an occasion when the lakes were thrown open, the waters were exhausted by the wholesale netting of eight or nine boats? Yes; there were too many there for the place.
4818. Should professional fishermen seek fields further away, rather than confine their operations to places adjacent to Sydney? Yes; as long as they have a chance of getting their fish to Sydney in a marketable state.
4819. Is there any supervision exercised over the Narrabeen Lakes at present? No, not at present.
4820. Do you think it possible the lakes get fished sometimes? There is not the shadow of a doubt about that; and since Mr. Bayly's time it has been done wholesale.
4821. In respect to the use of the meshing-net, do you consider that is the only net that should be used on the lakes? I would prohibit the use of all nets, meshing-nets or otherwise, in waters set apart for breeding purposes. 4822.

* NOTE (on revision):—Brookvale, 10th May, 1895. To the President and Gentlemen of the Royal Commission on Fisheries.—Gentlemen, I find in Narrabeen Lagoon the most garfish come in to spawn about the month of August; whiting, bream, tarwhine, in March and April; sea mullet, the end of February, March, and April. The fish cast most of their spawn on entering, but I have caught whiting and bream full of spawn up till December, and flathead that never go out nearly all the year. I have seen a basket of beautiful perch taken at a haul, and the duckweed is full of them, but I don't think they ever go out, and I don't know when they spawn. I beg to call your attention again to the beneficial effect of duckweed in any lagoon; it is a feeding and spawning-ground and should never be disturbed. In proof I wish to mention besides Narrabeen, Muddy Bay, Lake Macquarie, which is always full of fish; besides being a feeding and spawning-ground it stops netting to any extent, and in my opinion should always be kept intact. If we had more of it we would have more fish.—I have, &c., PAGET BAYLY.

Mr.
J. Wheeler.
30 Mar., 1895.

4822. Do you see any objection to the meshing-net being used generally in closed waters? A meshing-net will only catch those fish that are fit for consumption; I consider the garfish-net does a great deal of damage.
4823. Would not the 2½ or 2¼ inch bunt of the hauling-net be equally destructive? It would be a large whiting that would escape through that.
4824. What is your opinion in regard to the fish-life in the lakes—is it of local production? Yes, of local production; the bulk of the fish breed there, and when they become of mature age they escape. Just before the heavy rains you could see 100 or 150 tons of fish waiting there, and you could stand and throw them out with a shovel as fast as you could handle it.
4825. What kinds of mullet have you there? Three kinds—the hard-gut, what I believe go into the sea mullet, the flat-tail, and the tallagalan or sand mullet.
4826. Have you ever known any of the members of the present Fisheries Commission to visit Narrabeen with the view of making an efficient investigation into the conditions of the place? No, I cannot say I have; they may have gone there unknown to me, but I have never heard of them doing so. We have frequently had visits from the inspectors to try and catch the poachers.
4827. Being amongst the fishermen, and having been mixed up with them for a number of years, have you ever heard them express an opinion as to the wisdom of continuing the present Fisheries Commission? No; I cannot say that I ever have. I do not associate with the average number of the fishermen.
4828. Have you thought the matter out yourself as to whether there should be a change in the administration and control of the fisheries? Yes; I consider it requires alteration.
4829. In which way would you suggest? In the first place as regards nets.
4830. I mean as to the Commission as a body—the governing power;—you see there is a Fisheries Commission administering the Act; they are clothed with certain powers; I want to know whether you are satisfied with the way they have administered the Act, or whether it has been open to censure? Well, it is a matter that I have never gone into. As I have found the law it was my chief object to act up to it accordingly. I must confess I have lost nets at different times, through their not being up to the standard, which I have purchased according to law in Sydney, and after wear they shrink and are seized. Whether the Fisheries Commission instructed their officials to seize them I cannot say.
4831. Did you make any appeal to the Fisheries Commission? No; I never did. I knew the nets were wrong. They were right when I got them; but by frequent tanning they became illegal, and I lost them.
4832. Do you believe in a man's tools of trade being taken from him? It seems a hardship. I always used to make an allowance of a ¼ of an inch in my nets for shrinkage, and then I knew they came within the limits of the law. It is a hardship to a man who has to trust to it for a livelihood.
4833. How many fishermen are living at Narrabeen? At the present time about two, and they obtain their livelihood by hook and line; but there are fishermen outside who frequently pay nightly visits to it for the purpose of working it by the seine or net.
4834. Although the lake is closed? Yes; they have been doing so. The officials have not been successful in capturing them. They captured one small net a week ago, but the men got away.
4835. You think, then, there is a necessity for local supervision being established? Yes; you want a smart man to go about in the night-time—two would be better—to inspect these places once or twice a week at the very least.
4836. *Mr. Thompson.*] I suppose you consider the lakes very much more a breeding than a fishing ground? Yes.
4837. In fact, it is not a fishing-ground at all; it is a breeding-ground? Yes; that is so.
4838. And the fish, when they go to sea, find their way into other breeding-grounds? Yes.
4839. Do you think it desirable to preserve Narrabeen as a breeding-ground? Yes.
4840. Would you object to the use of set nets or drift nets in Narrabeen? Yes.
4841. Would you consider it desirable if these nets were used that they should be set in a certain way, cast from, and hauled into a boat, so as not to interfere with the breeding-grounds? Yes; hauled into a boat.
4842. In respect to the duckweed you spoke of, is it removed by fresh water? No; the fresh water seems to improve it from some cause or other. About ten or fifteen years ago, before the bridge went across Narrabeen, the road to Newport used to pass through the lake, and a man was paid to keep that road open; but since the bridge has been erected the water remains in a stagnant state for six or twelve months at a time. The water becomes fresh and the weed seems to grow.
4843. If the entrance could be kept open would it improve the lake as a breeding-ground? Yes.
4844. That would involve some expense? Yes; undoubtedly.
4845. Do you know anything of Dee Why as a breeding-ground? Yes, it is the same bottom—the same kind of fish there, perch, black bream, and mullet. Like Narrabeen, it is a nursery; it is not so large a body of water, but the fish congregate there just the same, and escape and leave it.
4846. Is it more open to the sea than Narrabeen? Less.
4847. Do you know anything of Curl Curl? Yes, a little; I never fished there; I fish with a line, not with a net.
4848. Would that come in the same category? Yes, the whole—Dee Why, Curl Curl, and Narrabeen—I would place them all in the same category.
4849. Is Curl Curl very often open to the sea? Not more so than Narrabeen.
4850. You agree then that this forced opening is really beneficial to the waters of breeding-grounds? It is; because the fish that arrive at maturity leave the place.
4851. Do you see any harm in amateurs fishing with lines if they caught only fish of a marketable size? No, no harm at all.
4852. Would you license amateurs? Yes, I would.
4853. Would you think it fair that if all this protection is afforded to them they should pay for it? Yes, I do, as some of them come there to catch fish for their own consumption, but then sell it.
4854. Would you make the amateurs who simply fish for their own recreation pay for the protection the law has given? Yes.
4855. Aliens—would you have them naturalised before they were licensed? Yes.
4856. Have aliens been much trouble on that lake? No; the waters are not suitable for the sunken nets, and, therefore, they do not come there.
4857. I suppose you would keep these lakes closed and use them as breeding-grounds? Yes; and owners of boats on waters set apart as breeding-grounds—men who let boats out for hire—should be licensed.

PORT JACKSON AND PARRAMATTA RIVER FISHERIES.

WEDNESDAY, 6 MARCH, 1895.

[The Commission met at the Offices, Bligh-street, at 11 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

The Hon. R. H. D. WHITE, M.L.C. | L. G. THOMPSON, Esq., J.P.

Bertram Horwitz, Esq., Superintendent of Agents, The Equitable Life Assurance Society of the United States, Sydney, sworn and examined:—

- B. Horwitz, Esq., 6 Mar., 1895.
4858. *President.*] What is your name? Bertram Horwitz.
 4859. Where do you reside? At Manly.
 4860. How long have you resided at Manly? About three years, but I have known the locality for some considerable time.
 4861. Do you take any interest in the fishing industry? I do; so much so that I was instrumental in having a petition prepared and signed by a number of prominent persons for the purpose of endeavouring to have certain of the harbour waters closed.
 4862. Are those waters included in a line drawn from Middle Head to the extreme point of Inner North Head in a straight line on the Manly side? Yes.
 4863. The waters you desire to have closed would include Middle Harbour, North Harbour, Quarantine Bay, Gasworks Bay, and Green Flats? Yes.
 4864. Did you forward the petition to the Fisheries Commission? I did.
 4865. Did you receive any reply to the prayer of the petition? I did.
 4866. Was that reply of a satisfactory nature? No indeed, it was not. The petition reads as follows:—

The Chairman, Fisheries Commission, Sydney,—

Manly, 6 November, 1894.

Dear Sir,

We, the undersigned residents of Manly and district, beg to suggest for your consideration the advisability of closing against all net-fishing the waters from (say) Middle Head to extreme point of Inner North Head in a straight line on the Manly side. The waters closed then would, of course, be the Middle Harbour, North Harbour, Quarantine Bay, Gasworks Bay, and those waters known as Green Flats.

Our reasons are as follows:—

In the first place, the abovementioned bays are without doubt the spawning and breeding places for fish, and we feel sure that you are not aware of the immense amount of destruction that is going on daily at these places.

We have seen bushels upon bushels of small fry left on the beach after each haul of the net, comprising flathead, whiting, garfish, soles, flounders, and many other descriptions, and we feel that we are doing our duty in bringing this wholesale destruction under your notice, and the public at large would be greatly benefited by your closing these waters for such time as you may deem fit.

Trusting that this Petition will meet with your favourable consideration,

We remain yours, &c.,

Name.	Occupation.	Address.	Name.	Occupation.	Address.
B. Horwitz	Superintendent of Agents, Equitable Life.	Manly.	J. M. Paxton		Manly.
R. N. Luckham	journalist	"	A. B. Spark		"
Arthur Bennett	dentist	"	C. J. Burns		"
M. Wood	draftsman	"	W. H. German		"
W. J. Halloran	registrar, District Court	"	S. S. Smith		"
Edgar Ray		"	W. T. Smellie		"
— Halloran, J.P.		"	A. Davis	dentist	"
A. H. Smith	artist	"	E. Washburton	merchant	"
Jas. O'Brien	engineer	"	Thos. Cripps	baker	"
W. Johnson		"	S. L. Sadler		"
A. W. Glen	engineer	"	W. E. P. Prott	com. traveller	"
H. P. Ferris	clerk, Lands Dept.	"	F. L. Edwards, jr.	merchant	"
A. G. Miller	clerk	"	S. Asher		"
P. S. Nott	surveyor	"	W. H. Vivian	stockbroker	"
George Thomas		"	Fred. J. Bird		"
Leslie Johnston		"	W. Carrington		"
A. J. P. Stevens		"	J. D. Nelson	civil servant	"
C. Woods		"	P. T. Robinson	merchant	"
— Solomon		"	L. F. Dixon	solicitor	"
R. Wilkinson		"	H. D. L. Woods	law clerk	"
C. S. Wilson		"	G. H. Wild	merchant	"
J. S. Green		"	A. A. Littlejohn	solicitor	"
T. Stanner		"	H. Kellett	auctioneer	"
C. Hilder		"	E. Reading	dentist	"
J. J. Lough		"	J. Y. Mills	auctioneer	"
R. S. Wisdom		"	H. J. Croker	solicitor	"
John Woods		"	W. Cargill	importer	"
A. M. Dean		"	Joseph Kevens	accountant	"

4867. Have you got the reply of the Fisheries Commissioners with you? Yes; I should like to read it. It is as follows:—

Sir,

Department of Fisheries, Sydney, 7 November, 1894.

I laid before the Commissioners of Fisheries your petition praying for the closure against the use of fishing nets of that portion of Port Jackson northerly of a line drawn from Middle Head to the extreme point of North Head. The Commissioners desire me to state that they consider that sufficient breeding grounds for Port Jackson are already closed; they are much obliged for the information respecting the destruction of small fish, and will instruct their inspectors in that regard.

Also, the Commissioners will be thankful if you will give them your authority for the statement that the bays to which you refer are "without doubt the spawning-places for fish." The Commissioners are most anxious to acquire information on this question, where the various kinds of fish spawn, and as so little has hitherto been found out about it, they hail with some satisfaction the solution by the petitioners of this difficult problem.

The Commissioners are very desirous to learn from accurate sources what fish spawn in our waters; where they deposit the spawn; and how long the spawn is undergoing the hatching process.

I have, &c.,

LINDSAY THOMPSON,

Chief Inspector of Fisheries.

Benjamin Horwitz, Esq., Manly.

4868. I suppose you look upon the reply as being rather satirical in its nature? I do.

4869. Are you of opinion that sufficient consideration was given to the request made by the petitioners? Most certainly not. 4870.

B. Horwitz
Esq.

6 Mar., 1895

4870. This copy of the petition embodies reasons for asking for closures to be made? Yes.
4871. I notice you say some of these beds are spawning and breeding grounds, and that you have on different occasions seen bushels of young fish left on the shore? Yes; that is correct.
4872. Would that be the result of the fishermen using nets of a small mesh and dragging the nets on to the beach? Yes, certainly.
4873. Have you ever witnessed any of the operations of the fishermen? Repeatedly.
4874. So that what you state with regard to the destruction of small fish has come under your own notice? Absolutely under my own notice. I have witnessed the destruction of young fish, and have spoken to the fishermen about it. I told them to throw the fish into the water again, but they only laughed at me. They took little notice of what I said.
4875. I notice this petition is signed by over fifty gentlemen who are residents of Manly? Yes.
4876. Can they testify to the wholesale destruction of fish in this manner? Most certainly they can. I could have got hundreds to sign the petition, but I picked some of the most influential people in Manly.
4877. What kinds of fish have you seen destroyed in this way? Flounders, flathead, bream, garfish and other sorts. Some were no larger than a half-crown piece.
4878. Do you think, if the waters you refer to were closed, amateur fishermen would have a chance of enjoying an afternoon's sport? Most decidedly I do.
4879. Do you contend that the waters adjacent to large centres of population should be closed—reserved for the use of the people? Yes. My reasons for saying so are, that there are plenty of good fish in other parts of the harbour; but notwithstanding this, the waters we would like to see closed are continually being dragged by three families of fishermen—the Pashley's, Sly's, and Skinner's. These men even go so far as to place a net right round the wharfs at Manly, and then they go inside with their boat, and splash and drive the few fish out near the wharfs. They have done this whilst I have been fishing.
4880. Do they use a meshing-net; Yes? they use all sorts of nets as far as I can make out. The present Fisheries Act is bad; it is deficient—it does not grasp the difficulty. When I wrote to the Fisheries Commission men were sent to inspect the nets at Manly, but that had no effect. When the fishermen saw the inspectors they sent a man round who whipped the lashing, or whatever it might be, out of the nets, and pulled the nets to pieces. On the arrival of the inspectors of course the nets were all right. The fishermen crowed over this and said I was damned smart, but they were smarter than I was.
4881. Have you seen the fishermen drawing what may be called a sunken-net? They can make a meshing-net a sunken-net; they often do that. If they see anyone coming they haul the net up, take the weights off, and it floats as a meshing-net.
4882. Have you seen anyone drawing a sunken-net? I have seen a large garfish-net dragged on the harbour beach by the Skinners, Slys, and Pashleys. They continually drag the place. The day before yesterday I went out on the Flats, and a man came and put his net down by my boat, and I had to clear out. These men drive the fish away. The Hon. Mr. Carruthers can corroborate what I say. He has been fishing on the Flats, and has had some good hauls, but the fishermen drive the fish away with their nets.
4883. Would your remarks concerning the waters of Middle Harbour and other parts apply equally well to the Parramatta River and other places? Certainly.
4884. Are you one of those who believe in closing the Parramatta River altogether? I believe in closing the whole of Sydney Harbour for the purpose of giving the fish a chance. I would close it for a specified period. These fellows drag their nets on the sandy beaches, and destroy great quantities of small fish. I have seen half a ton of small fish lying on the beach in Quarantine Bay—none of them were longer than 2 inches. The destruction of young fish is simply scandalous.
4885. Evidently from what you saw a very small mesh must have been used in the capture of these fish? Quite so. The fishermen shoot nets for garfish down at Manly, and although there are no garfish there they bring in all the small fish, and they are left on the beaches. I have had to go to the front of my house and shovel the young fish into the sea. The stench was awful. The destruction of fish life that takes place is lamentable, but the Act seems inadequate to alter it.
4886. Your contention is that if the harbour were closed against net-fishing, facilities would be afforded to amateur fishermen to enjoy a day's sport, and at the same time the waters would be protected from denudation? Decidedly. The fishermen can go outside and get as many fish as they want, whereas now they are simply dragging the inside out of the place.
4887. In regard to the application you made to the Commissioners when presenting your petition, have you taken any further steps towards approaching them on the subject? I wrote in reply to their letter, and then wrote to the President of the Royal Commission, as it is quite useless to take any further action so far as the old Commission is concerned.
4888. Were you of opinion that they seemed to exhibit a want of interest in the matter? Yes; they showed a want of interest in the matter in every way. I complained of a net being used at Manly as a stalling-net. The inspectors from the Fisheries Commission went down. I wrote to the Commissioners saying that where this net was used at low tide there was not more than 6 inches of water, if that. Inquiries were then made of the local sergeant of police, and he stated there was 6 feet of water at low tide. Now I am prepared to swear that there is not 4 inches of water at the spot at low tide—that is, where the net was being used, and where they say there is 6 feet of water.
4889. *Mr. Thompson.*] Have you seen fish stranded in a shallow depth of water at Manly? I have.
4890. *President.*] You contend that under section 13 of the Fisheries Act of 1881 these people should have been prosecuted? Certainly. Of course, the inspectors are known to the fishermen at Manly, and they come down in such a manner that they might just as well write to the men telling them they are coming. Their visit to the place was an utterly useless and fruitless journey.
4891. I suppose you, as an amateur fisherman, would not object to being compelled to abide by certain regulations as to the weight of fish to be caught? Most decidedly not. In reference to the destruction of the red bream, I should like to mention that I have seen the boats come in on a Sunday afternoon with as many as 140 or 200 dozen red bream—small fish. That sort of thing could easily be stopped, and it ought to be stopped by the authorities.
4892. Do you think, if there was a law providing for the proper protection of young fish, such as young schnapper, the amateur fishermen would respect it? Most certainly they would, and they would give every assistance in carrying it out. It is time some proper steps were taken to prevent this wholesale and wanton destruction of fish life.

THURSDAY,

THURSDAY, 18 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10.45 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

William Charles Shipway, Esq., M.P., sworn and examined:—

W. C.
Shipway,
Esq., M.P.
18 April, 1895.

4893. *President.*] Your name is William Charles Shipway, you are a Member of the Legislative Assembly, and President of the Amateur Fishermen's Association of New South Wales? Yes.

4894. You desire to introduce a deputation to this Commission? Yes; a deputation from the Amateur Fishermen's Association of New South Wales.

4895. What is the object of the deputation? Messrs. A. Spain, E. Morris, C. Wiseheart, H. Maxwell, C. Thackerary, our Honorary Secretary, and myself, as President, have been appointed a deputation to wait upon this Royal Commission, and present a petition, which is in the following terms:—

Petition to the Honorable Gentlemen of the Royal Commission on Fisheries of New South Wales.

RESPECTFULLY SHOWETH,—

That we, the undersigned persons, interested in the important subject of the fisheries of this Colony, desire to draw your attention to the urgent need that exists for the closing of the waters of Sydney Harbour and its branches against all net-fishing and set-line fishing. We would point out that the harbour has been systematically denuded of fish for years past, and, despite the zealous efforts of the Government officers who are appointed to see that the Fisheries Act is carried out, we are personally aware that large quantities of immature fish are taken from the harbour by men engaged in netting, and left to die on the beaches. We would also point out that the shallows and sandy flats—the natural spawning-grounds—are constantly disturbed by the dragging of nets, and that these waters, which, from their extent and calmness, were once the habitat and spawning-grounds of many of our largest and best edible fish, are now shunned by those fish, and promise speedily to lose all prestige as fishing waters.

That we are of opinion that these waters should be entirely closed against net-fishing and set-line fishing, and beg that your recommendation to that effect, and your earnest effort to ensure your recommendations being effective, may be made to Parliament and the Government of New South Wales.

And your Petitioners will ever pray, &c., &c., &c.

Here follows the signatures of 5,104 persons. All the members of our Association, some 300 in number, have signed this petition. Amongst the signatures will be found those of many gentlemen who hold prominent positions in the city. We now present this petition to the Commission, and we would urge the desirability of the fact of its having been presented being mentioned in your Report, in order that it may become public property, and that it may be used in connection with matters which our Association may feel disposed to support with a view of rendering substantial service to the fisheries of New South Wales. I would like, if I have your permission, to emphasize the fact that netting is going on in Sydney Harbour at the present day, and millions of small fish are as a consequence left to die and rot on the beaches in the harbour. Within the last fortnight, I have received information that both at Abbotsford, on the Parramatta River, and at Manly Beach, nets have been drawn, and thousands of young fish left to die. In one instance that has come under my notice four dozen red bream were left to die; that was at Manly. This destruction was caused by European fishermen, and not by foreigners. Our Association is of opinion that set-line fishing should be prohibited. It is known from practical experience that the heads of a number of good large black bream have been found attached to lines that have been left unattended, the sharks or other fishes having eaten the bodies while the lines remained in the water. We think this sort of thing should be put a stop to, and we hope this Royal Commission will help, not only our Association, but the amateur and professional fishermen of Port Jackson, by having the waters of Sydney Harbour closed against net-fishing and set-line fishing. If the fishermen will look at this matter in the proper light, they will see that such closure will be to their benefit, and to the advantage of the fisheries. We hope this Commission will accept our petition, and see fit to make mention of its presentation in the Report they will ultimately draw up for presentation to Parliament.

4896. Has your Association adopted rules for preventing the destruction of undersized fish? We have such rules. Certain fish are not to count, unless they are of a certain weight. I am glad you have mentioned the matter, because it has come under my notice that there is a very great destruction of small fish by certain people. Our Association has steadfastly set its face against that sort of thing.

4897. I suppose in connection with any Act that may be passed for the better regulation and development of our fisheries, the Government may rely upon the assistance of your Association to see that its provisions are properly carried out, especially those referring to the destruction of small fish? Yes; we would abide by such an Act; in fact we are now considering the advisability of offering rewards in order to help the Government, so that the law might not be broken.

4898. In regard to this petition you have presented, are you satisfied that the persons who have signed the petition have been fully acquainted with the contents of the prayer of the petition? I am certain of that.

Paget Bayly, Esq., Brookvale, Manly, sworn and further examined:—

P. Bayly, Esq. 4899. *President.*] The Commission have been taking evidence respecting the Port Jackson fisheries, and they would like to know whether, in your opinion, Port Jackson should be wholly closed against netting and set apart for the recreation and amusement of the inhabitants of the metropolis and its suburbs? That is a question I have not thoroughly made up my mind upon. If the waters were closed—I mean the breeding-grounds closed at proper places—I should be inclined to leave part of Sydney Harbour open to net-fishing.

4900. What part of Sydney Harbour would you have open to net-fishing? Well, I should not let them touch Middle Harbour or North Harbour. I would allow them to fish all down Watson's Bay and Double Bay. By closing the whole of the harbour the market might run short of fish.

4901. But supposing that proper and efficient provision were established for the transit and distribution of fish captured at other stations, so that there could be no chance of a failure of the fish supply for the metropolis, would you still be disinclined to close Port Jackson to netting? If such a state of things as that you have outlined could be brought about, I would close Sydney Harbour to-morrow.

4902.

4902. *Mr. Thompson.*] About Middle Harbour, do you consider that sheet of water a breeding-ground for fish? Yes, I do. It is as good as Narrabeen, or better.
4903. From the Spit upwards? Yes; it ought never to be netted.
4904. Do you consider Middle Harbour a nursery-ground for young schnapper? Oh, yes; anybody knows it is a nursery-ground, especially for young schnapper.

P. Bayly, Esq.
18 April, 1895.

WEDNESDAY, 24 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10:30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Edward Fanning, fisherman, Blakehurst, George's River, sworn and examined:—

4905. *President.*] Your name is Edward Fanning, and you reside at Blakehurst;—have you been a licensed fisherman? Yes; I am not using my license at the present time.
4906. How long have you been engaged in fishing operations? For about thirty years.
4907. What waters have you fished in? Principally the Parramatta River and Broken Bay.
4908. Do you mean by Broken Bay the Hawkesbury River as well? Yes.
4909. How long have you fished the Parramatta River? Continually for the last thirty years.
4910. Had you anyone working with you? Yes; up to the last four or five years I used to engage men, but lately my son worked with me.
4911. How does the fish supply of the Parramatta River compare at the present time with the fish supply (say) fifteen years ago? There is no comparison whatever—no fish at all to what there were fifteen years ago.
4912. Can you give us an idea as to what you consider the cause of the decrease in the quantity of fish? The sunken prawn and garfish nets—indiscriminate working. I might further add, with reference to the Parramatta River, that I left it as I could not make a living.
4913. How long have you left it? The last six weeks.
4914. As to the closures which have taken place—have sufficient waters been allowed to be opened for the use of the fishermen in the Parramatta River? There are sufficient now, but the closures have been entirely wrong. The Fisheries Commissioners closed the head waters with the view of allowing bream and whiting to breed; but I maintain they do not breed there.
4915. Where do you think they breed? Along the channel banks. That has been open for years past, and dragged with a sunken prawn net. Every winter, some years ago, myself and two or three others used to go, two or three months in the year, with a sinking net with a 3-inch wing and 2½-inch bunt, and it was a poor day we could not get two hampers of whiting, and some days fourteen or fifteen. Since the advent of prawn nets we get none at all. The trumpeter whiting are now nearly extinct in Sydney Harbour. There is a provision in the Act that the prawn net should be worked for prawns only, but that net has been worked all the year round. This should never have been allowed.
4916. Do you consider the closures that have been made are not the proper closures? No; not proper.
4917. Have they, in some instances, been unnecessary? Yes.
4918. Do you think the deposits of deleterious matter coming from manufactories along the river has had anything to do with destroying the feeding grounds of the fish? Only to a small extent. There are no factories along the lower banks of the river. Of course, the increasing traffic may be against it somewhat, but not to a great extent.
4919. Do you think the discharge from the gas works at Mortlake would have any effect on the fish supply? It may have some on the ground fish, but not on the mullet. A lot of the stuff floats on the surface, and the fact that you can catch bream and mullet right against the works puts that away.
4920. What nets have you used on the Parramatta River? Principally 3 and 4 inch.
4921. Hauling? Hauling and meshing nets. I have not made two hauls with the garfish net this five years.
4922. As to the hauling net, are you satisfied with the length and dimensions of that net? More than satisfied. We do not need the length of hauling net that is required in other places.
4923. You say you are perfectly satisfied with the length and dimensions of the hauling net, because it is suitable for the waters of the Parramatta River? Yes; I never use 150 fathoms.
4924. You have used a meshing-net? Yes.
4925. Are you satisfied with the mesh of that net? Yes; with the mesh, but not the length.
4926. Do you think a great number of marketable fish escape through the 4-inch mesh which could be captured by a smaller mesh? Yes, undoubtedly. We should be allowed 3 inches. I have meshed mostly with a 3-inch mesh. I do not know whether it is legal or not.
4927. In hauling your net, do you haul so that the whole of the net becomes stranded on the shore? We always empty our net in the water.
4928. Do you haul your cork and lead line to the shore? Always. By landing fish on the beach or mud, it deteriorates its value in the market. A fish pulled ashore on the mud does not look so well as if landed in the water.
4929. Have you ever noticed fry of the bream kind meshed in the 2½-inch bunt? Very seldom.
4930. Would it be less likely that the compressed fish would become meshed if they were caught in a smaller bunt? It is very seldom that you get bream in quantity. You might get one or two, but very seldom, and the 2½ or 2¼ inches allows the whiting to escape, and that is some of the principal fish we should endeavour to get back again.
4931. As to the use of the meshing-net, do you think any harm could result in giving permission for a meshing-net to be used in closed waters? None whatever.
4932. As to the garfish net, have you used this net at all? No; not this five years. I have made about two hauls in the last five years. I do not use either prawn or garfish net. I pay particular attention to the mullet and bream.

Mr.
E. Fanning.
24 April, 1895.

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4933. Do you advocate the frequent use of the garfish-net, or would you have it discontinued? Discontinued. There are no garfish in the Parramatta River worth using the net for.
4934. As to the use of the prawn net, do you think it is destructive to young fish? Most undoubtedly. The only time I used it I caught about a peck of little whiting, little flathead, and soles. That was with only a couple of hauls.
4935. Are there many garfish and prawn nets used at the present time? Principally in the Parramatta River.
4936. Who use them;—are they English fishermen? Both English and foreign. I saw them using 2½ inches for a short time.
4937. Have you seen the sunken net used at all? Yes.
4938. By our European fishermen? Yes.
4939. Do you consider they have been destructive to the breeding as well as the feeding grounds? Yes.
4940. Would you approve of a stringent provision disallowing the use of that net altogether? Yes, or not above Bradley's Head in the garfish season.
4941. Would you be inclined to license the foreigners before they become naturalised, or would you make it compulsory that they should become naturalised? I would not like to say anything on that. I would not like to express an opinion one way or the other.
4942. As to the use of all these nets in the several waters, as the circumstances and conditions of the different fisheries are not the same, do you think it would be wise to make a provision to allow the use of a net of any dimensions, subject to a certain limit as to length, provided that net was emptied in a certain depth of water, with a stringent provision preventing sending undersized fish to market? It would all depend on what bottom you hauled it on. If you hauled it on a mud bottom, no matter what provision you made, they would destroy the fish. If it was a hard bottom you could save the fish.
4943. As the Act stands at present nets must be of certain lengths and dimensions; there have been several prosecutions on account of men's nets being a little smaller in the bunt or wings than they should be, through no fault of their own, but from trying to preserve their property through tanning;—in order to prevent such a thing taking place, would you favour a provision making it compulsory that these nets should be emptied in water of a certain depth—say, a foot—and having the provision as to undersized fish, and so on—would that be better than having it as it is at the present time? Yes; but I do not see any difference. Take a garfish-net and it shrank up to an inch; no garfish would escape; and the same way with the 2½-inch net, and it shrank to 2¼ inches; it would make very little difference to the size of fish that would escape through it. At night time it would be a dangerous proceeding to haul it and to pick your fish out of the water. If you were pressed for time it would be almost impossible. It would be a wise provision if the fishermen would avail themselves of it. They could do it often in the day-time, if not at night.
4944. Do you believe if a net is once pronounced to be legal it should be considered legal till it is worn out? If it becomes unnecessarily small I put it away, but there may be other men unable to procure another net and forced to use it. I always put it away when it becomes undersized.
4945. Do you believe in the confiscation of a man's net, or tools of trade? No; I always object to that.
4946. Do you believe in giving the informer one half the fine? No. A case in point was brought under my notice:—A Mr. Derven, of George's River, was fishing with the garfish-net. It was his first haul, and yet Inspector Tynan came to him and sent in a report to the Commissioners that he had mullet from 1½ to 1 oz. in his boat. On that report the Commissioners fined him the full penalty—£2 odd—and he lost the net. Afterwards, it turned out there was no truth in the statement. It was his first haul, and he never had a fish in the boat at all. Would it have been any advantage for that man to have such fish in his boat? The Commissioners believed that report, and he was fined. He brought the matter under my notice, and I said, "We will see the Commissioners and endeavour to get the money returned." We accordingly saw Mr. Hill, who brought out the report, which I maintained was wholly untrue. This man was fined £2 odd, and the net confiscated, and he did not succeed in getting any redress from the Commission. The inspector may have been induced to tell the untruth because he got half the fine.
4947. Are you satisfied with the provisions of the present Fisheries Act;—do you think they have worked satisfactorily? No, they have not worked at all satisfactorily. I, perhaps, used to get myself into trouble with the members of the Board in trying to benefit myself and others, and found it only heaped trouble on my own head. I was the principal cause of getting the mullet reduced from 16 oz. to 8 oz. I was three weeks going about with a petition with that object in view, and ultimately we got it passed; and then, when we got it reduced you still saw fishermen getting fish under that again, and after losing time and money I gave it up, and have not troubled the Fisheries Office for years.
4948. Do you think the license fee is reasonable for man and boat? I do not object to them at all. If I was to have my wish I would probably make it heavier—perhaps from a selfish point of view—because that would debar amateurs from working at it. Amateurs pick up everything they pull ashore.
4949. Do you think amateur line fishermen should be licensed? Yes.
4950. That is, those who fish from a boat? Yes, because they compete with you in your work. I think it is unfair my paying a license, and others not doing so, who probably spoil your work.
4951. As to the form of license that is issued to the fishermen, do you think that could be improved upon by the issue of a metal medal that could be tacked on to the boat? I have not found any difficulty with it.
4952. Do you always carry it with you? No; I do not. I have been fishing all my lifetime and the inspectors know me well; but perhaps that does not apply to everyone. It is a wise provision to carry it on you. The inspectors know I have a license, and I think it is unnecessary to carry it.
4953. Of course you know under the Act you are supposed to carry it with you? Yes.
4954. Do you think a better system might be devised by which licenses are issued to fishermen;—instead of their being compelled to apply to the nearest Clerk of Petty Sessions, should the inspector have power to issue the licenses? Yes; I think so.
4955. And would it not mean that fishermen could be identified better? Just so; the local man would know the local fishermen.
4956. What classes of fish have you caught in the Parramatta River? Mullet in the summer time, and whiting in the winter.
4957. What mullet would they be—of local production? Yes; of local production.

4958. Have you not had any visits from the sea mullet? I never went to compete with the men when the mullet left our place. I left them to them; when the mullet were in season I generally went at other fish—bream or something else; they come in such quantities, they would not pay for catching. I found it better to catch other fish and leave them alone.

4959. The market becomes glutted? Yes.

4960. Where used you to consign your fish? Woolloomooloo.

4961. Did you send your fish to an agent? No; I always went with them myself.

4962. Going with them yourself you know what the fish sold for? Just so.

4963. If you had had the privilege of selling your own fish in the market, do you think that would have been better? Yes, at times; I have not been in the market for some time—my son generally goes.

4964. Do you agree with the system of displaying the fish? When there are not too many fish in the market the system does very well, but when there is a glut of fish there should be raised tables.

4965. Do you think there should be more than one sale a day? If you could induce the dealers and public to attend.

4966. Do you think it would be a good idea to establish branch markets for the purpose of distribution? Yes; fishing has grown now, it wants splitting up, there is too much confusion; too many men moving about the market; it seems to be in a turmoil.

4967. Do you think the Woolloomooloo Market is in the best position for a fish market? I always thought it was out of the way; numbers of the fishermen at Parramatta River would not go there if they could get any other place. It suited at the time the market was built, the fish now coming by train has altered the case.

4968. As you take your own fish to market in your own boat, you have been free from the grievance of having your fish stolen? Yes.

4969. Do you know that fishermen have had their fish stolen? Yes. One winter I was working down the harbour, and I put my fish out at night, but I found I lost them.

4970. Do you think, considering the price the consumers have to pay for their fish, the fisherman gets a fair return for his labour? No; sometimes he does not get anything at all, and often gets account sales showing him in debt.

4971. Do you think there should be a more extended distribution in the country towns? We tried, several of us, to improve the system of distribution. Mr. Robert Hudson went into it very extensively, travelling about. His idea was to establish cold boxes at every station along the line, leaving them in charge of the refreshment-room people. That would have done away with the bulk of the fish now being sacrificed at the market. The fishermen are greatly to blame because they would not help themselves.

4972. Do you know anything about well-boat fishing? No; what little experience I have had the fish do not seem to do well penned. They seemed to lose their scales as soon as they were taken out of the water. I tried it once or twice but gave it up.

4973. As to our oyster fisheries, have you devoted much attention to them? Very little. In the Parramatta, and other rivers close to, there is too much slime coming into them now. There used to be a good supply off Tennyson, but there is nothing to speak of now.

4974. Do you not think that the disease has attacked them in some way or another? No; I do not think there is disease in the Parramatta River. I do not think they will grow there. The filth off the roads going into the river has stopped them.

4975. If a person cared to enter into the oyster propagating industry, do you think that by artificial means he could get the foreshores clean, so that the spat could adhere? Yes; I think he could.

4976. Do you know anything about the system of oyster-leasing? No.

4977. Have you had any experience in trawling? No; I believe the Fisheries Department have tried it two or three times, but it has been a failure, owing, I believe, to want of a proper survey.

4978. As to the crayfish fisheries? I have never gone in for them.

4979. Are you satisfied that the fisheries of the Colony have been administered and controlled satisfactorily? Quite the opposite. I consider that a body being charged with the development of the fisheries of the Colony should have done something by way of experiment, or trawling, so as to offer some inducement to the *bonâ fide* fishermen. It has been their desire to force fishermen to the open sea, but whether there is a suitable field ought to be proved by some other means than by the fishermen themselves, because they have not the means at their disposal wherewith to make these experiments, nor the experience, and as the Commission had the trawling-gear and experts in the service they should have done so.

4980. Do you think any harm would result by having an experiment made in that direction to prove the grounds? I think it ought to be done. It should be proved, or otherwise, whether the fish are there, and set the matter at rest, and if this Royal Commission accomplishes that it will accomplish a very great thing.

4981. Speaking generally of the Commissioners of Fisheries, you have held a prominent position in connection with the Fishermen's Association and are well known amongst the fishermen, what is the general opinion expressed regarding the Fisheries Commission? That it is no use to go to them. You can get nothing from them. I might add, when one of their number, Dr. Ramsay, makes the sweeping assertion that "there are only one or two fishermen, and all the rest are loafers," you cannot expect much of a gentleman that uses such an expression. He says also that "they are lazy," and the Premier, Sir George Dibbs, went out of his way to call them lazy. When other people are in bed, then our work begins. There are some loafers, as in all communities. I think it is a hard statement to make about a respectable body of men. A net fisherman must not be lazy if he wants to succeed.

4982. Do you think it would be an advisable thing to alter the administrative authority controlling the fisheries? I would not abolish the Commission if you could get anything out of it; if not, abolish it at once. If we had a representative man, whom we knew was in sympathy with the fishermen, false reports would not be sent in. Sometime ago, I think last November, I got a summons for fishing in closed waters. I attended at the Police Court—I had never been in a police court but once in my life to hear a case tried—I was charged with fishing in closed waters. In opening the case, the solicitor for the Commissioners told the Magistrate I was a man with plenty of money, and I was only doing another poor man out of a job, that I was getting great loads of fish daily, and was continually

writing

Mr.
E. Fanning.
24 April, 1895.

writing letters to the Department, informing on other fishermen who were working in closed waters, and doing the same thing myself; and lastly, that the Commissioners wished to press the case. For twelve months my son and I had not earned £20; and as to writing informing about other men, I never wrote a letter to the Department in my life. The solicitor made out I was a very bad man. Mr. Bull, to check that, told the Magistrate he had never met a more honest man. The evidence was contradictory, and the Magistrate dismissed the case. The truth of the matter is, I was in the bay that night; I was not fishing; we were simply taking my brother-in-law home. I went to the Commissioners, and saw them about the matter, and Mr. Thompson was deputed to inquire into it. Since the solicitor made that charge in the Police Court about my informing on men, it got abroad amongst the fishermen that I was the means of their being prosecuted. I went to two or three of them and got written apologies when they found it was not me. I went to the Commissioners—I believe Mr. Lowe was ill at the time—and they totally denied the report.* I was bad for five or six weeks after that, and have never been to the Commissioners since. That is my experience of the Commissioners, that they prosecute on untruthful reports.

4983. What would you think of the appointment of local boards for the different fisheries, to advise the local or central authority on matters connected with the fisheries, those boards to have representative fishermen on them, each board to consist of three, including one representative fisherman? Yes; that would do, so that you do not make it too expensive. I would give my time willingly if it would better the matter in any way.

4984. Do you think it would be a good innovation to allow the fishermen, as they are taxpayers, some voice in the administration of the fisheries' laws? Yes; they should have. It is time something was done.

4985. Do you know whether the Commissioners have made any official visits to any of the fisheries of the Colony? Not that I know of.

4986. Do you think a body of men charged with the administration and control of the fisheries should visit the fisheries and make themselves acquainted with their circumstances and conditions? Yes, I do. At times you will see bushels of small fish lying all along the beach. If the Commissioners saw it it would have been done away with long ago, but they do not see it. How can they administer a thing they never come in contact with?

4987. Do you think the Commissioners have the interest of the fisheries at heart? I really do believe they have. I do not believe there is one of those gentlemen that is not doing his best; they are really thinking according to their knowledge they are doing their best.

4988. But the result has not been as they think? No.

4989. What do you think of the idea of the appointment of one man as the head of the fisheries, a man who would have a practical acquaintance with the fisheries, and who would be in a position to visit the different fisheries throughout the Colony frequently? I would hail with satisfaction a change of any description whatever.

4990. Would you like to have the extra safeguard of local boards of advice, so that the fishermen could have a representative on them, and have some voice in the administration? I think that ought to work well.

4991. Is there any Fishermen's Association in existence now? It has never been wound up, but it is almost as though it was out of existence. I do not know about the others; the one I belong to is almost dead. The fishermen are so scattered that you cannot get them to attend; it is an expense they cannot afford.

4992. Have you on any occasions waited upon the Colonial Secretary as one of a deputation, to point out certain grievances under which the fishermen laboured? Almost every time there was a deputation.

4993. Have you received any redress? None whatever; we only got put off every time.

4994. *Mr. Thompson.*] Are there prawns in the Parramatta River in numbers? They are not very thick.

4995. How would you propose to capture them? If you capture them you must ruin the fish; if you have the prawns it will be at the expense of the fish.

4996. Then you would dispense with the use of prawns as a food in order to preserve the fish supply? There are prawns elsewhere.

4997. If we prevent the use of the prawn nets during what are supposed to be the spawning seasons—June, July, August, and September—would that preserve the continuity of supply? Nets would destroy young fish.

Mr. James Thomas Pashley, fisherman, Manly, sworn and examined:—

Mr. 4998. *President.*] Your name is James Thomas Pashley, and you reside at Manly? Yes.

J. T. Pashley. 4999. Are you a licensed fisherman? I am.

5000. How long have you been a licensed fisherman? Since the Fisheries Act has been in force.

24 April, 1895. 5001. Do you hold a boat license as well? No.

5002. The evidence you give before the Commission to-day,—will it be of that character that it will be shared by the rest of the fishermen in the Manly district? Yes.

5003. As to the license fee,—are you satisfied with that? I am satisfied with the license fee for fishermen; I think a boat ought to be licensed once, and once only. I do not think a boat should be licensed each year.

5004. You consider that the fee should be paid once and for all? Yes; while the owner paying the fee owns the boat.

5005. As to the form of license issued,—do you think there should be any improvement in that, by the issue of a medal that could be tacked on to the boat? Yes; something in the form of a railway pass. In carrying the paper license it is likely to get wet and become useless; of course, a good many fishermen do not carry their licenses about.

5006. Would you have an alteration in the system of issuing licenses so as to provide for the local inspector to issue the license? Yes; I think any local inspector or Police Magistrate should issue the license; it is very inconvenient for some people to go to Sydney to get their license.

5007. How many fishermen are there in the Manly district? As near as I can tell you, thirty-seven in Manly and district; of course, I am not including Newport or Pittwater.

5008. Where do they work principally? Principally between Middle Harbour, below the Spit, and round North Harbour, Manly, and the Quarantine Grounds.

5009. How do you dispose of your catch? We sell most of it at Manly to fish dealers; if we have any quantity we take them to market. 5010.

* NOTE (on revision):—Mr. Hill informed me that if what I said was true I was greatly maligned.

Mr.
J. T. Pashley.
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5010. In your own boats? Sometimes; sometimes by steamer.
5011. Are they consigned to an agent, or do you witness the sale yourselves? Sometimes they are consigned to an agent; generally, we witness the sale.
5012. Which do you consider best—to consign to an agent, or witness the sale yourself? Witness ourselves.
5013. Have your returns not been satisfactory in entrusting your fish to an agent? In many instances in entrusting to an agent we have lost a great quantity of fish; fish have been taken out of the baskets.
5014. Would it be possible for the agent to work in with the fish dealers? Quite possible.
5015. Do you send your fish to the Woolloomooloo Market? Generally.
5016. Are you satisfied with the accommodation there? No; I think the accommodation should be improved upon a great deal. Laying them down on the floor is not a fit way to show fish; they are trodden and spat upon; they might be put out on slabs.
5017. And with the crush of people at the market as well, is it not possible that the fish get stolen from the floor? Quite possible; a man buys a heap of fish, and it is quite possible he could take two heaps.
5018. Do you advocate the system of having raised tables? Yes.
5019. Do you think it would be a good idea to bring the fishermen into closer communication with the consumer? I do.
5020. Would you approve of a trial being made of the fishermen selling their own fish to the public? I do not think it would do in many instances. The fisherman has to catch the fish, and he would lose a great deal of time.
5021. Do you think there should be more than the one sale a day at Woolloomooloo? Yes; a morning and evening sale.
5022. Would it matter if the fish market were open all day for the sale of fish? No; I do not think it would.
5023. Would it be a good idea to have auxiliary markets established throughout the suburbs? Yes; they have been wanted a long time. It would be a great improvement both to the consumer and the fishermen.
5024. Do you think also that a system might be devised under which consignments of fish might be sent into the country towns? I do.
5025. Have you ever thought out the question of sending the fish to market gutted? I think if fish were sent gutted they would be much fresher, and it would make a great improvement. It means their keeping twice as long.
5026. What nets do you use in the capture of your fish? The ordinary mullet-net, the ordinary ground fish-net, a garfish-net occasionally, meshing-nets—4 inches.
5027. As to the hauling-net, are you satisfied with the length and dimensions of that? We are, as far as the hauling-net is concerned, but want an alteration in the garfish-net.
5028. What alteration? We want the garfish-net 100 fathoms long, half of 1½ inch, and half of 2 inches.
5029. You would have it 2 inches in the wings? Yes.
5030. Fishing with a hauling-net, do you fish above Goat Island? No; we never go up above Goat Island. We do not fish that way at all. Bradley's Head is about as far as we go.
5031. So you have an opportunity of catching garfish when they come into the harbour? Yes.
5032. And you use the garfish-net in a *bona fide* manner? Yes, we do.
5033. As to the meshing-net, are you satisfied with the length of that? Yes; quite.
5034. Sixty fathoms? Yes.
5035. Are you satisfied with the mesh of it? Yes.
5036. Is it possible that many marketable fish escape through the mesh at present? As far as we are concerned we use nothing less than 4½ inches. Three inches would suit many places better—such places as Narrabeen.
5037. You speak of Port Jackson? Yes.
5038. Do you use a sunken net at all? No; never.
5039. They have been used? Yes; every day.
5040. By whom? The Italians principally.
5041. Do they destroy the breeding and feeding grounds? I am sure they do. They are not our greatest destruction, but next to it. They are the only destructive nets used in the harbour.
5042. Would you favour their disallowance altogether? Yes; it is the opinion of the fishermen, as well as myself, that sunken nets should be abolished in the harbour.
5043. So that the fishermen you represent are as anxious to preserve the small fry as the Commissioners? Yes, they are.
5044. What classes of fish do you catch? Bream, whiting, mullet, trevally, tarwhine, blackfish, nearly all kinds, with the exception of schnapper; we go outside for them.
5045. Do you ever in your hauls discover many of the young schnapper? No; with the exception of a sunken net you would not catch on an average a small schnapper a day.
5046. Does it not happen that they get meshed in the bunt of a hauling net? No; occasionally you may get one or two; small schnapper do not come close enough in where the hauling-net touches the bottom.
5047. Do you haul your net on to the shore so that the fish become stranded, or empty your net in a certain depth of water? We haul till we come to our back net, and we pick it up and tie it; we bring the bunt of the net ashore.
5048. The lead and cork-lines on shore, and the flue of the net remaining in a certain depth of water? Yes.
5049. Do you depend, then, for your supply principally on the shoal fish that visit the harbour? Yes, principally on the shoal fish; we might say that they are nearly all shoal fish we do catch.
5050. When do the garfish make their appearance in the harbour? Generally from Christmas up to September; you may get them all the year round in small quantities.
5051. As to the mullet, when do they come in? The mullet come chiefly from the end of February to May.
5052. When do the black bream come? From the end of November till April, or sometimes you will get them earlier, it depends on the weather a good deal.
5053. Where do you think the sea mullet spawn? They come down out of the rivers to spawn, and spawn down at the mouth, outside; I have watched them on several rivers, and found at spawning time they come down the rivers. I have seen them coming down in thousands of baskets, on the Hastings River particularly.

- Mr. J. T. Pashley. 5054. Have you ever seen any evidences in Port Jackson of the sea-mullet having deposited their spawn in the upper reaches of the river? No.
- 24 April, 1895. 5055. Have you ever noticed an alleged peculiarity about the sea-mullet—that in the day time they are full of mud, but if caught at night-time there is no appearance of mud in them? No; I have not.
5056. What is the largest black bream you have caught in the Harbour? $4\frac{1}{2}$ lb. in weight.
5057. As to the whiting, what classes of whiting do you catch? The school whiting is the only whiting we get in the harbour; they vary from about 6 oz. to 1 lb.
5058. When do you catch them? About the mullet season.
5059. Do you believe in fishermen's nets being confiscated under the Fisheries Act? No; I think a fine or imprisonment should be inflicted rather than take their tools of trade away from them.
5060. Do you believe in offering a moiety of the fine to the informer? No; all fines should go to the Crown.
5061. As to the fish supply generally of Port Jackson, do you think it has decreased of late years? Only the schnapper, so far as I have seen. When I first went out fishing I could catch large red bream in good quantities—now you will not get one of them.
5062. Do you think the harbour wants any rest from net-fishing? No, I do not, other than sunken-nets.
5063. Would there be any harm in allowing fishermen to use a meshing-net in closed waters? No, no possible harm from that; in fact, no harm in using 3-inch in any closed waters, 3-inch kills no small fish.
5064. In regard to the administration and control of the fisheries of the Colony, are the fishermen satisfied that the fisheries are in the proper hands? No they are not; in the opinion of the fishermen that we represent, the present Commission do not know their duty, and I think, if you remember rightly, there was a resolution passed at a conference that the present Commission and its laws ought to be abolished. I do not think they are capable of carrying out their duties as Fisheries Commissioners.
5065. Might it have been possible for them to remove many of the grievances the fishermen labour under, if they had taken a little more interest in the industry? I do consider that it might, and also that the present Commission is actually influenced by one or two fishermen.
5066. Please explain the last statement? There is a certain fisherman in the harbour, who leads us to understand that if he wants a place opened or closed, he can get it done by going to the Commission, and it is known that when he has gone he has got what he wanted.
5067. Would that fisherman's name be Newton? Yes.
5068. Have you heard this man boast that he could get what he liked from the Commission? Yes, he boasted to me, and to Mr. George Sly, that he could get what he wanted.
5069. Do you think there is some necessity for a change in the constitution of the present authority? I do.
5070. Do you think it would be a good idea to establish local Boards at the different fisheries, to advise the central authority in connection with matters concerning the fisheries? I do; I think the Commission ought to be three in number, and that they should be paid, not honorary.
5071. As a central body or local body? As a central body.
5072. And would you have local Boards to advise that body? I think that would be sufficient.
5073. Would you like to see a Board appointed that would pay some attention to the fisheries, and pay frequent visits, so as to become conversant with the local conditions and circumstances? Yes; I think any Commission that is not paid will neglect their duties, and I think they should be paid well.
5074. What would you think of one man having the control of the whole of the fisheries, and of establishing local Boards consisting of three, on which there should be representative fishermen, do you think that would be likely to work well? It may work well, but I think it could be done just as well by appointing three Commissioners as I say, three men that would look after their work, not as the present Commission, for as far as I have had to do with them, they do not seem to care about anything at all.
5075. Have you known them pay an official visit to the fisheries? No; I never knew one of them, nor heard of them doing so.
5076. Have you ever had anything to do with well-boat fishing? No; I have not.
5077. Have you ever noticed at any times of the year large shoals of fish passing along the coast? I believe there is what is called the southern herring; I have seen them in good-sized shoals in the harbour, but I think they pass in large shoals outside.
5078. Have you had any experience in trawling? No.
5079. Have you had any experience in fish curing or smoking? Yes; I have smoked and cured.
5080. Have you found it to be remunerative? No.
5081. Was it because you had not the means of getting the fish distributed properly? We sold them wholesale, and it was a hard job to sell them at that.
5082. Do you think it would be advisable to license amateur fishermen? You might make them pay a small fee. I think you should make everybody fineable that has a small fish in his possession. My reason for saying so is this:—On Sunday week I counted the different catches of fish that were brought into the Manly Wharf alone, and when I had finished up at night there were forty-eight dozen red bream, the largest not weighing 4 oz., and if anybody had gone over to the corner of Manly they would have found the same number. The amateurs are the biggest fish destroyers we have; there is no doubt about that. I think the same restriction should be placed on them as on fishermen; if they are found in their possession they should be fineable.
5083. *Mr. Thompson.*] Do you think it would be a desirable thing to dispense with all the present nets, and substitute one net within a maximum length of 300 fathoms, and down to an inch mesh, which might be used with such limitations as might be necessary for any particular water? I approve of such a scheme; I think the nets should be made convenient for the requirements of any particular water.
5084. Would you allow the use of set-nets or meshing-nets in closed waters? I would. In regard to the lagoons, Narrabeen particularly has been closed against net-fishing for two years. Before it was closed there were great quantities of whiting, mullet, and bream. Since it has been closed a weed has accumulated which goes rotten on the lagoon being cleared out, and it kills the fish. The nets, of course, used to keep this down. When it has been closed for two years, or twelve months, the fish accumulate, but when they go out they are devoured by sharks and large fish. I think a large mesh should be allowed in these lagoons all the year round. I do not think garfish nets should be used at any time; but a large mesh should be used.
5085. Would you limit the number of fishermen on any water? I hardly think it would be fair to do so.

Mr.

Mr. George Sly, fisherman, Manly, sworn and examined:—

5086. *President.*] Your name is George Sly, you are a fisherman, and you reside at Manly? Yes.
 5087. How long have you been a fisherman? About twenty years.
 5088. Have you a good knowledge and acquaintance with the fisheries of the Colony? Not outside.
 5089. You have heard the evidence given before this Commission by Mr. James Pashley;—do you agree with the evidence he has given; do you think it is evidence that can be shared in by the other fishermen; and are you satisfied with the evidence he has given? Yes; with the exception of one thing: In regard to the sunken net: they may have a floating net that would reach the bottom; there are plenty of places where they could use that. The depth of the net should be limited—that is the only correction or addition I would like to make to the evidence.

Mr. G. Sly.
 24 April, 1895.

Mr. Edward Skinner, fisherman, Manly, sworn and examined:—

5090. *President.*] Your name is Edward Skinner, and you dwell at Manly;—are you a licensed fisherman? Yes.
 5091. How long have you been so? About twenty years. Not a licensed fisherman all that time, but I have been a fisherman for that period.
 5092. So that you have a pretty extensive acquaintance with the home fisheries? Yes.
 5093. You have heard the evidence given to this Commission by Mr. Pashley, do you concur in that evidence? Yes.
 5094. Are there any alterations or additions you would like to make? Yes, one; that is, that there should be some better means of preventing the amateurs selling their fish.
 5095. You would prevent them selling their fish to the detriment of the licensed fisherman? Yes.
 5096. You think they ought to leave the sale of fish to those who earn their livelihood by it? Yes; if they have more than they want they can sell them to the dealers, or bring them to the market. There should be bills printed that we might put up on the beach so that we could prevent amateurs from disturbing our hauls.
 5097. Does it frequently happen that they anchor on your hauls? Yes; every day some of them come and drop their anchor in spite of us, and we have to go in search of a policeman, and after spending some time in looking for the policeman, when we do get him we return to find the offender gone.
 5098. You would like to see a provision incorporated in the Bill, so as to prevent obstruction being placed in the way of fishermen when hauling? Yes.

Mr. E. Skinner.
 24 April, 1895.

THURSDAY, 25 APRIL, 1895.

[*The Commission met at the Offices, Bligh-street, at 2 p.m.*]

Present:—

FRANK FARNELL, ESQ., M.P., PRESIDENT.

L. G. THOMPSON, ESQ., J.P.

The Hon. George Thornton, M.L.C., sworn and examined:—

5099. *President.*] Your name is George Thornton; you are a Member of the Legislative Council of New South Wales, and have been so for a considerable time? Nearly twenty years. I was formerly a Member of the Legislative Assembly.
 5100. I understand you have taken a very deep interest in the question of the development of our fisheries, and that you have had a good deal of experience as an amateur fisherman? I have had a life experience of fishing, and I can claim to have an extensive acquaintance with the fisheries, with the fishing in Sydney Harbour, with the fishermen, and with all the various phases of the fishing industry in New South Wales.
 5101. Were you appointed a member of the Fisheries Commission? Yes; I think I was one of the first so appointed.
 5102. How was it you came to sever your connection with that body? I could not reconcile myself to carry out the duties under the law or the regulations. They were unsatisfactory, and I resigned.
 5103. In other words, you found the Act defective, and you declined to be a party to the administration of a defective Act? Quite so.
 5104. Do you think it would have been better if the whole of the Commission had resigned rather than allow the present Act to remain in force so long? I believe the late Sir William Macleay, the late Mr. Dalley, and others did resign on that account.
 5105. Was the cause of their resignation made known to the Government? It is almost too far back for me to speak with accuracy, but that is my impression. My impression is that the Government were fully cognisant of the reason for our resignation.
 5106. As a matter of fact, your action, and the action of your confrères in resigning, did not have the desired effect in the way of bringing about the necessary legislative requirements? That is so. The Act was faulty in so many respects that I disliked being a party to such a state of stupidity and uselessness.
 5107. Does your acquaintance with the fisheries of Port Jackson and the Parramatta River extend over many years? A great many years; I began to fish when I was a young boy.
 5108. What is the present condition of the fisheries, comparing them with what they were like say twenty years ago;—has there been any improvement or development worthy of the name? On the contrary, the state of the fisheries from twenty to fifty years ago bore no comparison in any respect with the present condition of the fisheries in all its phases. The condition of the fisheries of to-day will not compare with the condition they were in from twenty to fifty years ago, either for quantity, quality, or anything else connected with fishing matters generally. At the time I speak of we could go to any part of Sydney Harbour, Middle Harbour, North Harbour, Manly, the Parramatta River, and other places within the heads of Port Jackson, and always be sure of getting a good catch of fish of the best quality, schnapper particularly, from the youngest cock-schnapper to the full-grown fish. There were places we knew of where we could always catch fish, and we were never disappointed in getting a good supply of the best varieties.

Hon. G. Thornton, M.L.C.
 25 April, 1895.

5109.

Hon. G. Thornton, M.L.C.
25 April, 1895.

5109. Were you successful in catching the different varieties of fish in the upper reaches of the Parramatta River? I have not had so much experience as a fisherman in the upper as in the lower reaches of the Parramatta. I used to catch them at Ball's Head. Good fish used to be caught away up at Kissing Point on the Parramatta River, and there were good oysters there too; right opposite Kissing Point used to be one of the best oyster grounds in the Colony. In the eastern part of Port Jackson—I refer to Watson's Bay, the south side of the harbour, Quarantine Point, Green Flat, Middle Harbour, North Harbour, and in fact all round the harbour—fish of the choicest quality and in any quantity could be caught. I have been living at Manly for twelve months lately, and have been anxious to resume my former habits of fish catching. I have tried every place in the harbour, and it is not too much to say that I have not been able to get even so much as a bite. The fact is the fish are gone; I am greatly disappointed with the present state of affairs.

5110. Can you tell the Commission what has led to this condition of affairs? There are many causes: there is the enormous and continuous traffic, and the disturbance of the surface of the water by the steamers; the fish have been frightened away from their haunts. Another fruitful cause of the decay in the fish supply in Port Jackson is that nearly the whole of the harbour, excepting Middle Harbour, has been polluted by sewage matter, and offensive matter from slaughter-houses and manufactories. The debris from those places, such as kerosene, tar, and floating poisons from boiling-down establishments and tanneries, runs into the water and poison old fish and young fish alike. Another cause of the depletion is the practice followed by some fishermen of using sunken-nets; by the use of these nets nothing escapes, not even the ova of the fish. The fish enter Sydney Harbour regularly to spawn; as a rule the fish select the deepest holes to spawn in. They spawn on the seaweed and other growths at the bottom, and leave their ova amongst the leaves of the seaweed. As a result of the use of these sunken-nets the spawn, whether it is in the shape of ova or fry, cannot escape; the effect of using these sunken-nets is to destroy the spawn. Sunken-nets are the most fruitful source of the scarcity of fish in the harbour—the fact is, the fish are not allowed to breed. Another cause of the depletion is fishing, as practised by amateur fishermen. I come within the category, and I do not want to exclude myself, except to say that I never destroy young fish. It is a fact that for years past, and it still goes on, boats have been, and are engaged in the different parts of Sydney Harbour catching young schnapper. The men in those boats catch from 5 to 10 dozen every day, young fish from 1½ inches to 3 inches in length. They simply catch these fish for what they call sport. The fish are useless and cannot be eaten as food. There must be an average of 100 boats fishing in Sydney Harbour, and those boats catch an average of from 5 to 10 dozen fish, young schnapper of the size I have mentioned, and this shows you how impossible it is for the young red-bream to grow into the squire or the schnapper. Another fruitful cause of the depletion of the fish supply in the harbour is the distribution of the refuse from the slaughter-houses outside the Heads, for two reasons. First, it entices the fish outside the harbour; secondly, it induces hundred of voracious fish, not only sharks but leather jackets, kingfish, and tailer to come to the spot; they are attracted by the offal and refuse, and they make for the place where it is distributed and eat it, and they also eat the other fish. I think it is an abominable thing to empty that refuse outside the Heads; it is a pity some better plan cannot be adopted for disposing of our slaughter-house refuse. Instead of turning that refuse into manure, it is simply used for the purpose of destroying our fish. As a consequence of emptying it outside the Heads hundreds of sharks and other voracious fishes are attracted to the place. We have hundreds of sharks in Sydney Harbour now, whereas in the olden days we never had one. I am a swimmer myself, and in the early days I and others used to swim from the Fig Tree in Woolloomooloo Bay, now the site of the Sydney Baths, to Garden Island and Polts' Point. We never thought of sharks in those days. We used to swim every morning up and down the bay, and we never heard of a shark and never thought of them. I defy any man to go there now without endangering his life. That is a proof that sharks have been attracted as a consequence of this abominable system of feeding them outside Sydney Harbour. This casting of refuse outside the Heads is a fruitful cause of the diminution of our fish supply. Years ago I used to go down to what is now called Fort Macquarie and catch young schnapper—good fish too—off the red buoy. You could not get a fish there now to save your life. The Sow and Pigs used to be a favorite spot for fishing; we could get any amount of fish there, and it was just the same in Watson's Bay and at Shark Reef. At any time you could go and get two or three schnapper, but it is impossible to do so now. The same thing has happened at Manly. The aborigines, 57 years ago, showed me where I could always get a schnapper, but that is a thing of the past.

5111. Are you of opinion that the general use of nets has had anything to do with the diminution of the fish supply? Yes, the too general use of nets. I wish to speak of another thing that does a lot of mischief, that is what the fishermen call the ballahoo—the garfish net. Strange to say the present Fisheries Commission allow this garfish net, which is only supposed to be used in April, the garfish season, all the year round. The use of this net is a fruitful source of the depletion of our fish supply. I know as a fact that at Pittwater and in Sydney Harbour the men get a lot of fish that are too small for sale; small fish are destroyed in enormous quantities by the use of these garfish nets.

5112. As to Narrabeen, Dee Why, and Curl Curl Lagoons, are you of opinion that those places are natural breeding grounds for fish;—do you think they should be preserved as such? I never had much opinion of Curl Curl as a fishing or breeding ground. The proper name of that place, by the way, is Coral Coral. It was so called by the aborigines, who used to be employed in the very early days of the Colony in diving for coral there—white, crimson, and canary colour coral—specimens were obtained on the rocks along the shore at the place we now call Curl Curl. I never had much opinion of Curl Curl as a breeding ground, because, as a rule, it has no outlet to the sea, and therefore as the fish cannot enter to spawn, it is not a good place. Dee Why is oftener a lake than anything else. With regard to Narrabeen, that has always been a good breeding ground, and although sometimes closed by the filling up of the sand, it is very often open to the sea and fish enter and leave as they please. It is a very good breeding and rearing ground. The finest fish I have ever eaten in my life were caught in the Narrabeen Lakes, high up near the fresh water. I have often had good fish there; the sea mullet go up there and become very fine. In my opinion all those places should be most rigidly preserved; I refer particularly to Narrabeen.

5113. Are we to understand you would close those waters against line fishing? Yes I would; but I am not one of those who think Sydney Harbour should be closed against net fishing. I think under reasonable regulations, and with a law sufficient to punish those who broke the law and the regulations, Sydney Harbour

Hon.
G. Thornton,
M.L.C.

25 April, 1895.

Harbour might be left open without any great danger of destruction to fish, and I have another reason, which I confess operates strongly with me, and that is, that men who have been many years earning their living there should not be deprived of obtaining their livelihood in that way.

5114. Speaking of the causes, mostly through human agency, that have led to the decrease of fish in Sydney Harbour, would it be a wise thing to prevent the use of the garfish net in the harbour and elsewhere, excepting during that period when the garfish come in in large numbers? There should be a close season for garfish, as we have a close season for wild ducks. Garfish nets should only be used in the garfish season, and prohibited—most strictly prohibited—at other times.

5115. I gather from your remarks that you would prevent the use of the sunken net altogether? Absolutely. That net is destructive wherever it is used, and those men who use it, especially the foreigners, do not care what they destroy so long as they get a haul of fish.

5116. The deposit of silt outside the Heads,—who is primarily responsible for that? I hardly know what department is responsible; it is a regulation of the Government. It is a most disgraceful state of things.

5117. Is it not necessary to have an alteration in the regulation in order to prevent it being taken outside the Heads, or to have it deposited further out at sea? I can hardly say; I think it would be almost impossible to take it further away. I have had much experience in yachting and fishing, and I know if you put the silt ever so far out it will come in again, as it does now. The real remedy lies in utilising this slaughter-house refuse, garbage, and so forth by making it into a manure. Such a manure would not only clear the cost of making, but it would be of benefit to orchardists and others. When I was a Member of the Legislative Assembly I was constantly telling the Government of the day they were going to an enormous expense in putting the sewerage into Sydney harbour, and at the same time they were incurring further enormous expense in taking it out again by dredging. Many scores of thousands of pounds are annually wasted in this way; the silt comes back again and it has to be dredged out.

5118. In respect to amateur line fishermen and the destruction of young fish that takes place, would you be inclined to license them so as to have proper control over them? No; I would have a regulation to the effect that they should not be permitted to catch fish under a certain size and weight to be indicated in the regulation. I would not let them catch a fish weighing less than 4 to 8 ounces.

5119. Even if they did catch small fish would you like to see a provision compelling them to throw those fish back into the water again? Yes, I would; my blood boils sometimes when I see the destruction that goes on, the wanton destruction of young fish; but the men who use those sunken nets are worse than the amateurs, for they destroy both the ova and the young fish as well. The edible fishes that come into Sydney Harbour, such as the black bream and sea mullet, deposit their spawn in the deepest places they can find; all fishes do this. They enter Port Jackson to spawn, especially the big sea mullet and black bream, and they deposit their ova on the seaweed, which grows like grass grows in the bush; fish feed on it just the same as the cattle feed on the grass in the bush. The fish deposit their eggs upon this seaweed, and nature assists them in the process of reproduction, as the ova becomes attached to this weed, and if left alone you would soon see the place swarming with young fry. We used to see them—acres of young fish—one-eighth of an inch and a quarter of an inch long, swimming about in the water; but those sunken nets destroy all those young fish and the eggs as well.

5120. Have you ever seen any shoals of fish passing along our coast from the south to the northward? I have seen acres of fish outside, particularly the fish we call the sea salmon and the sea mullet. I have never seen any shoals of herrings, but I have seen plenty of maray. I have caught the herring in Sydney Harbour and outside the Heads, but it is an exception.

5121. Was the herring you caught known as the southern herring, or was it the maray? It is the true herring, I know what a herring is; I have seen the fish in all parts of the world; it is a herring, unmistakably so, but I have never seen them in shoals on this coast; they may, however, make their appearance in shoals off the coast.

5122. Would it be the "*clupea sUNDIACA*?" Yes, that is the fish I have seen, but not in shoals. I have seen the sea mullet from Jervis Bay to Point Danger. My impression is that the sea mullet goes right round this continent; it performs an entire circuit of the continent of New Holland. I know those fish have been caught on our coast, at Rockhampton, and still further north, and I believe they travel north to Torres Straits and go right round the continent. Speaking of the sea mullet, I have no hesitation whatever in saying that it is the finest fish in all Australia. Some people will not touch it because it is so cheap and plentiful; but in all cases where I have induced people to eat it they have pronounced it to be excellent, and it undoubtedly is a delicious fish. I have been told that down in Port Phillip they sometimes get a stray sea mullet, and I have heard it said that the fishermen can always depend on getting 7s. 6d. each for them.

5123. About the oyster fisheries. Do you know anything of their condition at the present time—do you think there is a possibility of the oyster fisheries of New South Wales being further developed? My statement as to the oyster fisheries simply is they are too much neglected. There is no proper supervision. Unscrupulous oystermen collect and destroy without let or hindrance in most of the oyster-beds in this Colony. There should be a perfect system of supervision. It could be easily and cheaply done.

MONDAY, 29 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10.15 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Charles Lyons, fisherman and boat proprietor, Folly Point, Middle Harbour, sworn and examined:—

- Mr. C. Lyons. 5124. *President.*] What is your name? Charles Lyons.
 29 April, 1895. 5125. You reside at Folly Point, North Sydney? Yes.
 5126. What are you by occupation? A boat letter at present.
 5127. Have you ever carried on operations as a fisherman? Yes.
 5128. How long ago? Some six years ago.
 5129. How long were you fishing? About twelve months in Broken Bay, and at different times in Port Jackson.
 5130. Do you consider you have a good knowledge of the fisheries of Port Jackson? Yes, to a certain extent.
 5131. You now carry on the work of letting boats out to people who choose to indulge in recreation and fishing? Yes, fishing parties.
 5132. Do you always see their catches when they return? Yes; when I am there.
 5133. What sort of fish do they catch? Principally black bream, a few schnapper, and jewfish. Red bream are a thing of the past.
 5134. Have you ever seen them with red bream in their possession? Frequently.
 5135. Were they full-sized red bream? No.
 5136. About what would be the weight of the smallest? About half an ounce.
 5137. Caught by amateur line fishermen? Yes.
 5138. Would it be a wise thing to make it compulsory on the part of amateur line fishermen to put these fish back into the water again when they prove to be undersized? Yes, most decidedly it would. I reckon no red bream should be caught less than 8 or 10 ounces.
 5139. Do you think the catching of these small red bream has had an effect upon the supply of red bream and schnapper in the harbour? No, I do not.
 5140. What do you think has been the cause of the decrease? The cause has been the destruction of the natural feed where the schnapper come to spawn.
 5141. Where do they spawn? Generally on the natural feed, on the congewois.
 5142. By what means have the feeding grounds become damaged and destroyed? By the sunken nets.
 5143. Who have used them? Several Europeans, but principally Italians and Greeks. I have seen at least half a ton of congewois hauled in in one haul by the Italians. I think, about three weeks ago, I was down on the Spit with Mr. MacCarthy, and we picked out 103 red bream, not one of them 2 inches long: we picked these out without turning the congewois over; the fish were lying on the top, I do not know how many would be underneath.
 5144. Simply left stranded on the beach with the congewois? Yes; dead, bruised and smothered.
 5145. What is your opinion of these sunken nets,—should they be discontinued? Yes; it is the whole cause of the harbour being depleted.
 5146. Are there any other instances you can mention where great destruction of fish has taken place? Yes; in Mr. Noble's bight, close to my shed.
 5147. Have you seen other classes of fish destroyed by the same means? Yes; many other classes of fish get destroyed,—blackfish, black bream, and the silver bream in particular.
 5148. What nets are used in Middle Harbour at the present time? There are five men fishing in Middle Harbour at the present time.
 5149. What nets do they use? James Riddell, senior, has a sunken net; I think it has a 2 inch bunt. His takings for this week were 11s.; two of his sons are fishing in boats of his own; one made 2s. 6d. and the other something under £1; they each catch their fish and sell them about North Sydney.
 5150. Has his sunken net a cod or purse to it? No.
 5151. As far as the mesh being 2 inches, it is only what he told you? I did not measure it myself.
 5152. Do they use hauling-nets? Yes.
 5153. Do they use the garfish net? Yes; one son had a garfish net.
 5154. Have you ever known any fish destroyed by the garfish net? No; not with a floating garfish net, it will not destroy any ground fish, not anything like the sunken nets.
 5155. Would you limit the depth of a garfish net? No.
 5156. Why? They cannot work them over 300 meshes, it would be too heavy for them.
 5157. Are you aware that garfish nets are used most extensively as hauling nets? Yes; in all cases they are, I know now where a sunken net is used in Middle Harbour.
 5158. Do you think it a desirable net to have in Middle Harbour? I think it most desirable to stop it.
 5159. Do you think that if Middle Harbour was closed and a meshing net only allowed in it, it would come back to its old condition? Yes, I am sure of it; it was closed some years ago for two years, and at the end of five months you could catch a feed of bream anywhere.
 5160. After the closure? Yes, after the closure.
 5161. What mesh would you think desirable to have for a meshing net for Middle Harbour? Not less than 4 inches.
 5162. Do the sea mullet visit Middle Harbour in any quantity? No, not in quantity; they have no chance to get up the river, they are all caught before they get there.
 5163. The sea garfish make their way there? Very often.
 5164. Do you think it would be desirable to close Port Jackson for a period, so as to allow of the fisheries becoming resuscitated? Yes, I am thoroughly of that opinion, but it is no use closing it as they have had it closed above the Spit; the fish have not a chance to get above the Spit, there are always fishermen on the watch at Balmoral and Grotto Beach.
 5165. Is the bed of Middle Harbour below the Spit a breeding-ground? Not to any extent, it is nearly ali sand. 5166.

Mr. C. Lyons.

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5166. Are there breeding-grounds above the Spit? Yes; beautiful breeding-grounds.
5167. Is any portion of Middle Harbour closed at the present time? No.
5168. How long has it been open? Five years.
5169. And have you noticed during your experience there that all classes of fish frequent those waters? Yes; the mullet, garfish, and whiting. It is one of the best breeding-grounds I know along the coast.
5170. Can you tell us if there is much congewoi bottom? Nearly all congewoi bottom above the Spit.
5171. I understand plenty of schnapper have been caught in Middle Harbour? Yes; they catch one or two occasionally now.
5172. Have any been caught lately? Mr. Reid caught two on Saturday last, 20th April.
5173. What was the weight of the fish caught by Mr. Reid? Nineteen pounds, I believe.
5174. Have you known of any larger schnapper being caught there? Yes; either 32 or 35 pounds.
5175. Are you patronised much by amateur line fishermen? Not to a very great extent, principally by picnic parties.
5176. Do you think if the harbour were closed you would be patronised more extensively? Yes; if there were more fish in it.
5177. Do you think the amateurs should pay a small license fee to defray the cost of supervision of these waters? It would not do any harm; you would have great trouble in collecting it. The fishermen themselves are in favour of Middle Harbour being closed. I have a petition in my shed with about 700 signatures to it in favour of closing the harbour against net-fishing. I think the petition requests the closure from Middle Head to Grotto Point, the fish have not a chance of getting into the harbour, they cannot get in to breed.
5178. Have the Newtowns signed that petition? No.
5179. To whom is that petition to be presented? To this Royal Commission.
5180. Will you send that petition to the Commission to-morrow? I will.*
5181. Are any set lines or long lines used in Middle Harbour? I have not seen any, there were some years ago but not of late years; there are too many sharks there.
5182. *Mr. Thompson.*] In respect to the prohibition of sunken nets, in case these were prevented how would you catch those large prawns? You would have to do away with the prawns.
5183. If there were certain prescribed waters in which those nets might be used—small areas which prawns are known to frequent—would that allow of their capture without much damage to the fishing interest? Yes; they could be caught to a certain extent, but how are you going to limit that.

BOTANY AND GEORGE'S RIVER FISHERIES.

THURSDAY, 25 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 11 a.m.]

Present:--

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. John Duncan Grant, Assistant Inspector of Fisheries, Botany and George's River, sworn and examined:--

5184. *President.*] What is your name? John Duncan Grant.
5185. Where do you reside? Shipwright Bay, Blakehurst.
5186. What fisheries do you supervise or control? Botany, George's River—in fact, all parts of the Colony.
5187. I mean particularly? Botany and George's River.
5188. How long have you been stationed on those fisheries to control them? Since 1882.
5189. Are you the Inspector Grant who gave evidence before a Select Committee in 1889? Yes.
5190. Does the date 1882 mean that that was your first appointment to the Service? Under the Fisheries Department, yes.

Mr.
J. D. Grant.
25 April, 1895.

5191.

* NOTE (on revision):—The petition is as follows:—"Whereas the Commissioners of Fisheries for New South Wales have reported that the natural supply of fish in our harbours and rivers has become exhausted to such a degree, through the constant scraping and disturbing of the beds and bottoms of the same, through the perpetual dragging of nets across the same, and as it is to these beds and bottoms that the fish of our coast come to deposit their spawn and feed; We, the undersigned, fear that in a year or two, unless firm measures be adopted without delay, that Port Jackson and its arms and tributaries will be utterly depleted of one of our most healthy and essential foods; And whereas, as His Excellency the Governor of the Colony of New South Wales, in pursuance of the provisions of the Fisheries Act of 1881, and with the advice of the Executive Council, may by his proclamation, declare that the whole or any defined portion of any tidal river, inlet, estuary, lake, lagoon, or arm of the sea, shall be closed against the use of fishing nets. Now, therefore, we, the undersigned, pray that that portion of Port Jackson, known as Middle Harbour (from Grotto Point to Middle Head), in the County of Cumberland, may be closed for a period of three years against net fishing; We would point out that Middle Harbour, on account of its waters being comparatively undisturbed by the busy traffic which churns up the other estuaries of Port Jackson, and by its deep and sheltered bays; its long sweep of sand and mud banks; its non-pollution by sewage and other foreign matter; is peculiarly adapted to be the premier breeding ground and nursery of our rapidly dwindling and valuable asset, in the shape of our fishing industry; We, the undersigned, are men of long experience in this particular branch, and see only too well that in a few years even the once famous Middle Harbour Fisheries will be void and destitute of fish unless the relief prayed for is granted; Trusting His Excellency will grant the prayer of this petition, and we, the petitioners will ever pray."

[The petition is signed by J. P. Abbott, of St. Leonards, and 185 other petitioners.]

Mr.
J. D. Grant.
25 April, 1895.

5191. Is your residence conveniently situated for the supervision of the fisheries of George's River and Botany? Perfectly central.
5192. Have you to pay house rent? I have bought the bit of ground my house is built on. The Commissioners do not pay my rent.
5193. What salary do you receive? £140.
5194. Is that the same as you were appointed at? No; the appointment was £128, as acting assistant inspector and boatman.
5195. Have you been in receipt of a higher salary? Yes; in 1884 I received £150.
5196. How do you account for the reduction of £10 per annum? I cannot answer that question; they reduced it at the time of the retrenchment.
5197. Did the Commissioners give you no reason? No; they gave no reason, only the reduction of salary right through, and dismissed many hands.
5198. So that after thirteen years' service you are receiving £10 less salary than you did three or four years ago? Yes.
5199. Does your supervision as an inspector extend any further than Botany Bay and George's River? Wherever the Commissioners wish to send me. I have been in the Myall Lakes, Port Stephens, and in all parts.
5200. Have they on any special occasion used your services to report on other fisheries? Yes; to visit the other fisheries, and to report whatever I might see.
5201. Would that imply that you have an extensive knowledge of the fisheries throughout the Colony? I would not like to say that it is for that reason they sent me; I think they sent me to see if illegal fishing was going on.
5202. Can you tell me how many licensed fishermen there are in George's River and Botany, respectively? I cannot give it to you just now. Last year there were fifty-one licensed boats, and about 150 men.
5203. In both places? Yes, the whole district, Botany and George's River.
5204. Do they appear to you to earn a decent living? No, the majority do not; a very poor living, many of them.
5205. How do you account for that;—is it because the fish supply is limited, or because some of them are lazy? I do not think they are lazy. Taking the average of fishermen you will find them a very hard-working and sober class of people, in my district especially.
5206. Are you supplied with a boat? Yes.
5207. Is that the most convenient means of getting about for carrying out your duties? It is the only way in my district.
5208. Do you find you can get about fast enough to exercise proper supervision in the boat? As far as lays in my power. One cannot take a boat in all the different sorts of weather I have in my district.
5209. Do you think a small steam launch would suit your purpose better? Our work lies in too many flats for a steam launch; they would see the launch before I could get at them.
5210. Do you think a steam launch might be used to advantage in connection with many of the other fisheries? Places like Port Jackson it would suit, but not Botany.
5211. What was the total number of baskets of fish sent from Botany and George's River during 1894? I cannot say for a certainty; as near as possible, to Woolloomooloo Market, 7,800 baskets; Redfern Market, a rough average of 3,500; and local consumption, over 3,000.
5212. Do these quantities compare favourably with the fish supply in the years previous to that? Yes, I think so, but they are more distributed now. There were only seventeen boats years ago, but now there are so many boats. There are fifty licensed men, but dozens and dozens of men who are not licensed, and you cannot get at them—line men. They get fish, but you have got to prove the sale.
5213. Is that a defect in the law, that sale of fish has actually to be proved before proceedings can be taken? Yes; you must prove that they catch them for the purpose of sale, both with the line and the net.
5214. Do they fish within territorial limits? Yes; for little bream. I call them schnapper.
5215. What would you consider the value of the consignment of fish from Botany Bay and George's River for 1894, roughly? I could not value them. I do not know anything about market prices.
5216. Would you consider the fisheries of Botany Bay and George's River are keeping up their regular condition as to supply? As far as mullet goes; but as to whiting, schnapper, and river garfish there is a great falling off.
5217. To what do you attribute that falling off? The public and the amateur line fishermen who fish for pleasure and many of them sell them.
5218. It is not due to the operations of the net fishermen? To a slight extent, but nothing to what the public kills. I have seen seventy dozens of schnapper, weighing from 2 oz. to 4 oz., come in from the mouth of George's River.
5219. What would prevent the destruction of young fish? Any person who had a schnapper under 8 oz. in his possession, whether he found it, bought it, or otherwise, should be liable to a penalty. That is our best fish. Schnapper and whiting will be a thing of the past in George's River. I have seen fifteen dozen of whiting come into a boatshed; ten dozen of them would not go 1½ oz. weight. There is no remedy; we cannot interfere.
5220. Do you think the licensing of amateur fishermen would tend to control them? I think every person who uses a long line, or a net, should be licensed.
5221. Supposing we made a regulation preventing the use of certain sized hooks which would be capable of catching the small schnapper, would that minimise the destruction of the schnapper? I think not. They could put six or seven hooks on a line and jag them.
5222. You think that a stringent provision preventing the capture or being in possession of under-sized fish would meet the case? I think so.
5223. What classes of fish are sent from Botany and George's River? All sorts—the sea garfish, mullet, blackfish, and bream principally, and a great number of jewfish.
5224. What time of the year do the sea garfish show themselves in shoals? They come in in February.
5225. Do they remain long? February, March, April, May, and June, five months. I have seen them in July, but not in quantities.

5226. When do the sea mullet show themselves first? In November they start to travel out of one river to another. Mr.
J. D. Grant.
5227. Is it your opinion that the so-called sea mullet breed in the inlets? I believe they drop their spawn when they are travelling in the mouths of the river. They travel as soon as they drop their spawn. They lie dormant until the spawn makes again. I do not think any fish spawn in the river; I think they spawn in the mouths as they are travelling. 25 April, 1895.
5228. How do you account for the presence of the young fry in the upper reaches? I think as soon as they come to maturity they take up those places for protection. Last season I could not tell you how many tons of mullet there were staked up in wire netting; in the finish it was a mass of young fish like mullet. I took the fish for mullet.
5229. Were those fish caught in an ordinary seine? Yes; they were confined there for about thirteen weeks—nine weeks for a certainty.
5230. Did that insure a fresh supply of fish being sent to the market? Yes; in my days we did not think of such a thing. I have seen 30 to 40 tons lying rotten on the Frenchmen's Beach. We dragged them ashore. Now they save every fish.
5231. Where is Frenchmen's Beach? La Perouse; I lived there about twenty years.
5232. Do they use these so-called paddocks extensively? Only this last two or three years. They buy the wire every year expressly for it.
5233. Do they keep any other classes of fish besides the mullet? No; I do not think they would do. I have kept bream in Lake Macquarie, but they all went blind and bloodshot.
5234. Was it the rubbing of the fish that caused this blindness? I cannot say.
5235. Was it for want of shelter from the sun? It might have been; I will not say.
5236. Do the black bream and whiting travel the same time as the mullet? With the hardgut you generally get a few whiting and bream travelling. We always expect them to leave the river about November when the roe is in them.
5237. Where do the black bream spawn? I think in the mouths of our inlets; they drop their spawn when they are travelling.
5238. Do you think quantities of the bream that frequent some of the inlets are the result of spawn deposited in the so-called nurseries or lakes? I think it is nearly all in the entrances. As they travel they deposit the spawn. Sometimes when you catch a fish travelling you will find the spawn coming from him.
5239. Comparing the lake system with the entrances to the rivers and inlets, would you consider the lake system a better place for producing fish life; would it be more prolific than in the entrances;—do you think they make for the lakes as natural breeding-grounds? I think when they are travelling they never go up our lakes any distance until the spawn is completely gone from them, and then they take up the head of the lakes and rivers and lay there dormant until the spawn makes again. They get the biggest hauls of whiting in the winter, because they are lying asleep and easily killed. When in roe they are much livelier.
5240. How do you account for the difference between several of the same species of fish; do you think the feeding-grounds alter their character; for instance, in the black bream—the sea bream is a whitish colour like silver, but the black bream caught on the flats, probably further up than the entrance, will be found to be darker and more solid in flesh? I suppose there are two sorts of bream; but they all travel at times. If they stop in the river any length of time I think they get dark, but get bright again when they travel, like a mullet.
5241. Is there any supply of soles or flounders coming from George's River or Botany? They are getting very scarce. The spearing has killed most of them. In the mouth of Cook's River they used to get twenty or thirty pairs many years ago—any boat that cared to go out for them.
5242. Do you consider the fisheries of Botany Bay and George's River good breeding as well as feeding-grounds? Yes.
5243. Taking the waters as a whole—Botany Bay and George's River—what extent of water is available for the fishermen to haul at the present time;—is there sufficient? Yes, there is sufficient water, but not sufficient fish for the number of fishermen.
5244. Do you think there are too many fishermen for the supply of fish? Yes; they get the fish, but they do not get the class of fish that they did; there is not fish enough.
5245. Have you any closures? Yes; many miles of them, from Como to Liverpool, closed by proclamation; but fifty men can go in with their nets, and unless I can swear I have seen them hauling I cannot touch them.
5246. Would you like to see the Act more stringent in that respect? Yes; I think any person found in that water with his boat is there illegally.
5247. Are there many portions of those waters naturally closed by the existence of weed and rock? In the summer months there is no occasion for so many closures as the winter;—the blubber, and the length of weeds in places will stop men from doing any great damage. In the summer months all fish are more lively.
5248. As to the closures which have taken place, have you, as local inspector, been asked to report on the necessity for making these closures? Yes, once; the last time they were closed.
5249. Do you mean by that, that closures have been made when you have not reported in favour of the closures? Yes.
5250. Have you ever reported against a closure being made, and have you found after that that the Commissioners have made that closure? I recommended the closing of our river down to Tom Ugly's Point, for six months, during the winter months, and it was closed for two years. I am a great advocate for closing the whole of our rivers in the winter months.
5251. Would it be a good idea to limit the number of fishermen on the different fisheries? Well, they would fish then and would not pay a license.
5252. Provided you could find fields for every professional fisherman that cared to become a licensed man; would you be in favour of allowing, say, only fifty fishermen on the waters of Botany Bay and George's River? I would not like to say; I would rather restrict them to size and the mesh of the net.

- Mr. J. D. Grant.
25 April, 1895.
5253. Have you ever heard the fishermen complain of not having sufficient water open to them? A few.
5254. Considering the number of men that are licensed fishermen in Botany Bay, and George's River, do you think they really have sufficient water open for them? Not in the summer months.
5255. What nets do the fishermen use; is there any difference between the nets they use in Botany Bay and those used in George's River? Nearly all use garfish-nets right through for general working.
5256. Are they always trying to catch garfish in a *bona fide* manner? Well, they say so; but we know they cannot catch them—they are not there to catch,—they may get a peck in a week.
5257. It is a loophole which allows them to use the garfish-net with a small mesh? That is it.
5258. Are any other nets used? Prawn nets, and the general hauling-nets; but nearly all garfish-nets and the meshing-net. Years before the Fisheries Act came into force nobody carried a garfish-net but for garfish only; but since the Act they carry it for all kinds of work.
5259. How do you account for that? Because there is not enough $2\frac{1}{4}$ -inch net in the general hauling net.
5260. As to the hauling-net, do you think its length is sufficient for those waters? In many places it is; in George's River they could not use more than 150 fathoms; but there are places on the big flats on the river where they might use 200 or 250; but, as a rule, 150 is large enough.
5261. As to the mesh of the hauling-net, do you think that is satisfactory? I think it ought to have 100 fathoms of $2\frac{1}{4}$ inches; make the net 200 fathoms, with 50 fathoms in each wing; by giving them that, it would do away with the garfish-net seven months in the year.
5262. So that you would only allow them to use a garfish-net during the periods when the garfish show themselves in shoals? Yes, inside; let them use what they like outside.
5263. Have you ever noticed any of the young schnapper become meshed in the $2\frac{1}{4}$ -inch? No, it is very seldom they can reach the young schnapper, they are right out in the channel, they are very scarce now.
5264. As to the depth of the hauling-net, there is no limit under the Act; do you think there should be a limit? I do not see what for, a man will not use a deeper net than necessary.
5265. Do they haul the garfish-net to shore? Yes, they can always leave the wings, they can bunt up the fish if we are there; as a rule there are very few fish killed by fishermen and left on the shore.
5266. Do you think they use due care to protect the young fish? A good deal.
5267. As to the meshing-net, do you think the length and mesh of that net are satisfactory? It is not more than a third long enough, and the mesh is too big.
5268. What would you suggest as a reasonable alteration? Not less than $3\frac{1}{2}$ inches, and not more than 150 fathoms in length, and set as a meshing-net, one end fast only to the shore, and not on any flat less than 3 feet at low water.
5269. You think that at the present time a quantity of marketable fish escape through the 4-inch mesh that might be caught in the $3\frac{1}{2}$ -inch? Tons of mullet; our schedule weight is 8 ounces; it takes a $2\frac{1}{2}$ -inch net to pick it up; all they can get is the large bream and blackfish in that; they only get the big sea mullet.
5270. Is there any harm in allowing the use of a net of the dimensions you have just mentioned in closed waters? I believe in closed waters being closed waters. In my opinion, the closed waters are all waters south and north of the railway—north of Newcastle and south of Nowra should be closed in the summer months. I was in Port Stephens this year; I saw fish brought on board the steamer with a bit of ice at 10 o'clock in the morning, in the middle of the summer. They were taken to the Sydney market; they are right enough while they are on the flags, but directly they fetch them out they are rotten, the dealers will give the men 1s. for a heap of large bream worth 4s. or 5s.; they know they can only sell one or two, but they make their money. Look at the supply of fish you would have here in the winter time if those waters were only open in the winter; as it is now, the fish in those places where they are so plentiful are wasted in the summer months through going bad on the voyage.
5271. You would open the home fisheries, or the fisheries adjacent to Sydney in the summer months? Portions; I would close the Woronora River; I would close it and never open it winter or summer; it is a great place for small fish to go in; I would give them a portion of George's River in the summer months.
5272. Is the Woronora River closed now? Yes; it is a part of the waters of George's River.
5273. Are many prawns caught in George's River and Botany Bay? Yes, it is one of the greatest prawn places in the Colony.
5274. Did you include in the returns you previously stated, the number of baskets of prawns? I can only give a rough guess; prawns are caught on Lady Robinson's Beach from the latter end of February up to the end of June; I have known 50 hampers to be caught in one haul, and the largest prawns to be seen.
5275. Are they caught at night or in the day-time? In the day-time on Lady Robinson's Beach; they are caught at other places at night.
5276. Are the mesh and length of the prawn net satisfactory? The mesh is right enough, but I think they ought to have 20 fathoms.
5277. That would give an extra 5 fathoms? Yes.
5278. Have you noticed whether there has been much destruction of fish by the net fishermen in the waters over which you have control? No more than possible. The garfish and prawning nets must destroy fish.
5279. Do you think it would be a good thing to prohibit the use of the garfish-net, except for the *bona fide* purpose of catching garfish? Yes; and only use it for five months in the year, and *bona fide* for garfish only.
5280. Do you think, instead of having the law as it stands, regulating the lengths and meshes of the several nets, that it would be a step in the right direction to allow the administrative authority to prescribe by regulation what nets should be used in certain waters? Kissing goes by favour; where nets could be used they might be used.
5281. I am going on the assumption that political influence, or any other influence is to be dormant, as far as the administration of the fisheries is concerned;—would that not work well then? I could not recommend it. I cannot see how the influence would be stopped. It would be a very good thing if it could be done straightforwardly. I approve of the principle.
5282. I think you stated you would not allow any nets to be used in closed waters? I cannot say it.

5283. Do you know whether the fishermen include in the supply of fish that are supposed to come from Botany Bay and George's River any that come from Port Hacking? I cannot say that decidedly.
5284. Do you know Port Hacking well? Yes, well.
5285. Do you think there would be any harm resulting in allowing the fishermen to catch the shoals of fish which frequent the entrance to Port Hacking, that is, in the waters to the eastward of the spit? No; I do not think it would hurt Port Hacking one bit, so long as they are not above that spit.
5286. Do you not think that whatever fish they catch there would be migratory? Yes.
5287. The waters that I have just mentioned as those which might be left open to the fishermen at Port Hacking are for all purposes sea waters, are they not? Yes, sea water; it is on the bar.
5288. Do you think that if a provision was made preventing fishing boats going beyond a certain point with nets in them, that would meet the case of fishermen breaking the law? Yes; they could not go up without being seen.
5289. Did you not say they use set-lines in the waters of George's River and Botany Bay? Yes.
5290. Do you consider they are destructive to fish life? No, I do not think so. They are evading the law. Those who use those lines say they are getting fish for their own consumption, but they are principally for sale.
5291. Have you ever seen large shoals of fish making their way from the southward to the north outside? Yes, many.
5292. What kinds? Mullet, salmon, tailor, bonito. I really cannot think of all their names.
5293. Have you ever seen any of the herring species? Once; they came right into Botany. That was two years ago. I took a sample into the Fisheries Office. They are something like the small Scotch herring.
5294. Could you identify it from a diagram? I might. [*Two diagrams were shown to the witness, who identified it as the "Clupea Sagax."*]
5295. Have you seen any evidence of the southern herring travelling? Never. I have seen a few caught, but not many.
5296. Have you ever seen any anchovies caught? I do not know what they are. The only anchovy I know of is what the Chinamen caught with a prawn net; they used to get boat-loads of small prawns and put them in a cask until the stench of them was very bad; they potted them and sent them away.
5297. Have you ever seen any of the fry of the herring or pilchard in any of the bays? No; not to my knowledge, although I have seen a great quantity of small fish in Botany Bay, with thousands of mackerel and tailor feeding on them.
5298. Would it be possible they would be anchovy? I would not like to say.
5299. Have you, in observing these fish travelling, noticed the extent of the shoals at all? I have seen acres of them.
5300. How far off the coast? Within a stone's throw, and 6, 7, 8, and 10 miles off; yes, 12 miles off.
5301. What was the appearance of the water after the fish had passed—was there any oily appearance on the surface? We took it to be spawn; there was a scum like spawn, or something small.
5302. Not oily? I would not say that;—more like seeds, only finer.
5303. It would not be the whale brit? I cannot say, but I have seen it when there have been no whales about.
5304. Have you any experience in deep-sea fishing? No, only under the Government supervision, with the trawl.
5305. How long ago was it since you tried with the trawl? I cannot say for a fact—five or seven years ago.
5306. Did you make your experiments in Botany Bay? Well, we were under the supervision of Mr. Glading, Assistant Inspector of Fisheries. We tried Jervis Bay and the coast from there to Bird Island Point.
5307. Had you proper gear and steamer? I think we had the "Ajax."
5308. Had you any chart to guide you? No; I had surveyed the coast very well myself for schnapper. I went clear of rocks, and where we were clear of rocks we dragged the trawl.
5309. Do you think the experiments you made were sufficient to induce people to come and enter into the industry by expending their money in the purchase of trawls and equipment? My opinion is that the trawl will never catch any fish that I know of, without there is fish in the ocean that I know nothing of.
5310. Have you had any past experience in trawling? Only that time. I know that all our fish will bolt from the front of the net.
5311. Is that the result of your experience during the trawl you made? In Jervis Bay the net was down three hours, and in the bow of the steamer I could catch flathead as hard as I could pull them in. When we picked up the net I had a good many on my line; you could have caught them in thousands with the line, so they either ran in front of the net or are buried in the sand. On the coast we tried it both night and day. We got one good fish down off Stanfield Bay—that is pretty deep water; we had to keep off the rocks. All the fish I know off on the coast stick to the reefs, except the surface school fish that travel on the top; I know nothing of them.
5312. You state you have never had any experience in trawling? No; I know nothing about it.
5313. Have you had any experience in well-boat fishing? I was a few trips in the Hobart boat, I think it will be a success.
5314. Do you think it would lead to a greater development if the well-boat system were brought into more general use? Yes; I do.
5315. Do you know anything of the way the business is conducted at the Woolloomooloo Market? No; nothing at all.
5316. Have you ever heard the fishermen complain of the manner in which matters are conducted there? Yes; many a time.
5317. Do you think it is centrally situated? No; a market somewhere about the Haymarket would be the most central; I think the Woolloomooloo Market is out of the way altogether.
5318. Have you any crayfish fisheries in your district? Nothing to speak of.
5319. I suppose they get them when they are in prime condition, when they are in roe? There is no trouble for them to get them with a spear in Botany.
5320. Do you think they are the same as the Port Stephens' fish? I do not think so.

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- Mr. J. D. Grant.
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5321. What size do those at Botany attain? I never saw one more than 2 lb.; I did not weigh them, I am guessing at the weight.
5322. Do you think we should have a close season for crayfish? Yes, I think there should be; they catch them generally when they are full of roe.
5323. Do you think it would be a good thing to prevent the capture and sale of the female fish when in roe. Would they know what they were catching till they did catch them? If they were forced to let them go again it would be a good idea. I do not know much about crayfish.
5324. Do you know anything about oyster fisheries? A little.
5325. Are they in any quantity in your district? The 15th section of the Act has ruined the river, together with the disease.
5326. Is that the section that allows of small areas being taken up? No; it is the section that allows the public to take bags by the thousands, if they like to say they are for their own consumption.
5327. You have a knowledge of the system under which the areas are leased at the present time? Yes.
5328. Do you consider it a satisfactory system? No.
5329. Do you think it would be a good thing to allow the leasing of an arm of a river, rather than continue the present system? I think that arms and bays let to one person by bulk would be far better than the present system, at a very small rental, with a royalty on their oysters. If they had a failure in the crop they would have nothing to lose—say a little bay of 4,000 or 5,000 yards; let them have it for £2 or so, with a royalty of 1s. a bag.
5330. Would you make the lessee subject to stringent provisions for efficiently working the fishery, and proper supervision? Yes.
5331. Have you any small leases of 100 or 200 yards in George's River? Not now, they are all done, I think 500 is the smallest.
5332. Have you ever heard of any pilfering of oysters taking place? Oh, a great deal; it is done every day.
5333. Do they steal them from Crown lands as well as the adjacent leases? It is the 15th section which ruins the Crown lands.
5334. Is it a fact that people who hold leases go on to Crown lands and steal those oysters for sale, and not for their own consumption? You have to prove that, and it is an impossibility to do so.
5335. Have you not a suspicion that it is done? It is the men who never get leases, that live on the Hawkesbury, and my river as well, they take them and open them.
5336. Would you suggest that a provision be made so as to prevent the possibility of things occurring which can only occur under the 15th section of the present Act, and only allow of them eating the oysters on the spot? I would recommend that there should be good large areas of public oyster reserves, Crown lands, not leased, not to be touched by any person, and all persons that get a lease to have power if they caught any person stealing oysters to give them in charge if they do not know their names. At present a person may hold a lease, and if a dozen men go on that lease and steal his oysters, and he does not know them, he cannot give them in charge, and they take the stuff away in spite of him. There is no law permitting him to give them in charge; he is to report to the Commissioners and wait till they give him power to prosecute for stealing his own property.
5337. Have you any public oyster reserves in your district? Yes; there are public oyster reserves at Como, on both sides of the river.
5338. Is George's River a breeding-ground for oysters? At the present time we have the mud disease and the worm in it. It has been one of the greatest reserves in New South Wales; the best and the largest oysters come from there.
5339. Are they natural deposits of oysters? Yes.
5340. Have the beds been dredged at all? Oh, yes; but the principal work is with the diver. There are beds that get dredged, but more by the diver than anything else.
5341. Is it possible that the beds were overworked? No; it is the disease, the mud, and the worm.
5342. As to the foreshore deposits, do they seem to thrive well on the foreshores? Yes; and they afford a living for hundreds by selling these oysters and disposing of them in bottles. I have tried my best to obtain a conviction by trying to prove sale, but I cannot swear that they are the same oysters.
5343. How long does it take an oyster to become a marketable oyster from the time it is laid down in the spat stage in George's River? I have a wall I have built alongside my boatshed; in two years from building there were large oysters on it. I was keeping them to fetch in a bag to show the Commissioners, but someone took them away.
5344. Have not experiments been made by putting down layings of New Zealand oysters in George's River? Yes; in Gawley's Bay and different parts up the river.
5345. Did they do well? They took the disease.
5346. Can you tell us how many leases there are in George's River? At the present time only two.
5347. Are they foreshores? Yes; natural oyster-beds leased. They are cut up, or cancelled for non-payment of rent, or something of that sort; the foreshores are the thing for the oysters in our district.
5348. Have any oyster lessees been summoned for arrears of rent? I think not.
5349. Can you tell us whether on any occasion the Fisheries Commissioners have visited Botany Bay and George's River fisheries officially? Yes, they have; a few times.
5350. How long since they were out last? I think something like three years ago; Messrs. Campbell, Hyam, and Hill came to test the river, to get a part of it opened.
5351. How many other times prior to that have they been there officially? Previous to that I think the President, Mr. Hill, and Mr. Hyam; we were trying the trawl in Botany Bay.
5352. What for? Trying for fish.
5353. Not shells? No; fish. The lead-line of the trawl had a chain along it which got round the propeller, and they had to leave and go to Sydney. This was a mishap. I dived under and got it clear; it was a beastly job. Dr. Cox, since that, has been up as far as Liverpool nearly.
5354. Officially? I believe so.
5355. Did he ask you to accompany him? Yes. We had the Fisheries' steamer. It is many years ago. That is the last time.
5356. What did Dr. Cox do? He had a look up and down the banks of the river.

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5357. Did he experiment or inspect? No; he went to the Branch. We got fast at Rocky Reach and pulled up, and the Hon. W. Long was there too.

5358. Did you receive any official communication giving you information that they were going to visit that district? I had notice they were coming, but the subject matter, which was giving them consideration was not mentioned to me. On the last occasion it was to test the river; it was mentioned then.

5359. Did you test the river as to the supply of fish? Yes.

5360. Did they cast a net? Yes; three or four times, in the open waters. We caught very little. In the closed waters they caught enough to satisfy them that there was plenty of fish there. Through that they recommended part of the closed waters to be thrown open, from Tom Ugly's Point to the bridge.

5361. Was this action taken spontaneously, or was it the result of several deputations that waited upon the Colonial Secretary, asking that more waters might be made available for the fishermen? I cannot say that; I do not know.

5362. How long did they remain on those different visits? All day on the visit I was speaking of last.

5363. Did they remain at any time longer than a day? Never.

5364. As to the issue of licenses, do you think it would be a good idea to put the issue of licenses into the hands of the local inspectors, rather than compel the fishermen to go to the nearest Clerk of Petty Sessions? I am centrally situated. The fishermen who live at Botany would have to come 8 miles, and men up the river would have to come the same distance. Many of them would, perhaps, prefer getting it done at Sydney rather than come that distance. It would be a great thing in one way, as I would know who had licenses, and who had not. At the present time I have had to chase after a few to find out.

5365. You think then, speaking generally, it would serve very well? Yes; but how about the money—should I be answerable for the money? I have no place to keep it safe from burglars. Suppose I took £50, and my house was broken into, I should have to be answerable for this money.

5366. Do you think that, instead of issuing fishermen's licenses in the form of a piece of paper, it would be a good idea to substitute a medal which could be tacked on the boat? Yes; that is a good idea. It is impossible to keep their licenses as they are, and they are under a penalty.

5367. What do you think of the fees charged for the fisherman's license and for the boat license;—are they too high? I do not think the fishermen, as a body, think them too high, but there are really many that cannot afford it.

5368. Is that because they get so poor a return for their fish? Yes.

5369. In point of fact does the middleman get the money they ought to have? I cannot answer that. In the northern and southern rivers you will find the most trouble to get the money, and that is because their fish goes to the dealers.

5370. But taking into consideration the price the consumer has to pay for the fish, do you think the fishermen get anything like a fair price for their fish? No; there are only a small quantity that remain good and are sold.

5371. Have you ever known of fishermen getting account sales of the sale of their fish, and, although these fish arrived fresh in the market, and were sold, they have been returned in debt? I have heard it said so, but I cannot say.

5372. Do you think it would be an advantage to send the fish to market gutted and cleaned? A good idea.

5373. *Mr. Thompson.*] Do you approve of oyster-gathering by divers? In places at George's River you would never get the oysters otherwise. I would also like to say that all persons who sell oysters, by the bottle or otherwise, should be licensed.

5374. They used to be got otherwise? With tongs.

5375. Do you not think the process of getting oysters by diving might be made a means for completely demolishing the beds without the knowledge of the inspector? Yes; we cannot have knowledge.

5376. Would you require aliens to be naturalised before granting them a fishing license? Yes.

5377. Would you license amateurs—I mean, of course, at a nominal fee? I would impose the same fee on every person that had a net or a long line.

5378. I mean amateur line fishermen? No; no license for amateur line fishermen.

5379. About your facilities for inspection;—you object to a steamer because you cannot get on the flats? Yes.

5380. If you could get one that would go on the flats, do you think that would help you in your supervision of your waters? Yes; if I could get one drawing 6 inches of water.

5381. When do the garfish show in Botany? February, March, April, May, and June.

5382. And the river garfish? They are not worth mentioning.

5383. The prawns at Lady Robinson's Beach—are they caught by Italians in deep water? There are only 14 feet of water where they shoot in. They can be caught without the diving-nets.

WEDNESDAY, 1 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 10.30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. James Edwards, fisherman, Kogarah Bay, George's River, sworn and examined:—

- Mr. J. Edwards.
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5384. *President.*] Your name is James Edwards;—where do you reside? Kogarah, George's River.
5385. How long have you lived there? Thirty years.
5386. How long have you been a licensed fisherman? About fifteen years.
5387. Do you hold a boat license? Yes.
5388. How many men have you in your employ? Two.
5389. In the evidence which you are about to give before the Commission to-day, do you think that your views will be shared by most of the fishermen on George's River? Well, that is a very hard thing to say. It is a hard thing to make a law to suit all men. They seemed agreeable for me to come to give what evidence I could as a representative of them.
5390. Have you confined your operations to George's River? Yes; chiefly.
5391. Have you had any experience in fishing anywhere else? In Port Hacking a time back, and at Nowra, and at the other side of Port Stephens, just the other side of Newcastle.
5392. Comparing the state of the fisheries of George's River at the present time with that of fifteen years ago, would you consider the fisheries of as great a value now as then? No; I do not think so.
5393. Has there been a decrease in the supply of fish? Yes.
5394. Can you form any idea of the causes of the decrease? I think mostly through working so many boats, the line fishermen, and so much fish being taken.
5395. What market do you send your fish to? Chiefly to Woolloomooloo and Redfern.
5396. How do you send your fish? By cart. I sell a great many of my fish.
5397. Where do you sell them? Round Kogarah and Hurstville.
5398. What classes do you catch in George's River? Mullet, garfish, whiting, and bream.
5399. Any flathead and blackfish? Yes; at times, silver bellies.
5400. Your having direct communication with the Woolloomooloo Market would prevent the complaints arising which have taken place of fish having been stolen from you? Yes.
5401. Have you ever lost any fish at the markets? Not that I am aware of.
5402. Do you entrust your fish to an agent to sell for you? Yes.
5403. Are you satisfied with the return you get for the sale of your fish? No; we get a very low price.
5404. Do you think, considering the prices the consumer has to pay, the fishermen should get a fairer return for their labour? Yes.
5405. Have you compared the prices that you obtain in the Woolloomooloo Market with the prices you receive in the other markets? Yes; we have compared our prices sometimes.
5406. Which market do you get the best returns from? I think the Woolloomooloo Market.
5407. Do you approve of the way the fish are displayed in the Woolloomooloo Market? No; I do not.
5408. Do you think it would be better to have raised tables? Yes; or to sell them by hampers, the same as I have heard is done at Melbourne, in half and quarter baskets. That would be a great improvement.
5409. Do you think there should be more than one sale a day? Yes; a sale in the afternoon.
5410. Do you think there would be any harm in having the market open all day for the sale of fish? No; there would be no harm in it, I am sure.
5411. Do you think if the fishermen were brought into more direct contact with the consumer better prices would be realised;—if the fishermen were allowed to sell their own fish in the market would they be able to do better? I would hardly like to say. I do not know how that would be.
5412. Do you realise a better price by hawking your own fish to the general public than by sending them to the Woolloomooloo Market? Yes; by hawking them round. I am sure of that.
5413. Do you think if auxiliary markets or branch markets were established it would be a step in the right direction? Yes; I do. I am in favour of that.
5414. Is the Woolloomooloo Market centrally situated, or would you prefer to see a market established on another site? On another site. I was one of the first to propose the market at Hudson's; I thought it was far more handy for the fish coming by railway, and would save cartage to Woolloomooloo.
5415. What nets do you use? Our chief net is the garfish-net. We use a mullet-net—2½-inch net—at times, and a meshing-net.
5416. Are you satisfied with the length of the hauling-net? No; we are not. It is one of the greatest difficulties we have.
5417. Would you like it extended? Yes.
5418. What length? Not under 300 fathoms.
5419. Could you haul 300 fathoms in George's River? Yes; not everywhere—in many places we could. My idea is that it is a great mistake to give a man small tools. I think short nets are a great destruction to fish. They drive them clean off our grounds, as they cause us to make as many as thirteen and fourteen hauls. This worries the fish and drives them away. With the long net it is only necessary to make one haul.
5420. Why, then, do you use the garfish-net, which is shorter? To catch the garfish and the whiting.
5421. You want a net of 300 fathoms of garfish meshes? No; in our chief work we use the garfish-net, but we want 300 fathoms, with a bunt of 2 inches.
5422. You are not satisfied with the mesh of the hauling-net? No; reduce it to 2 inches.
5423. And what size in the wings? Three inches in the wings.
5424. Have you ever noticed young fish of the bream kind get meshed in the 2½-inch bunt? No; an odd one or two get meshed, but they are easily taken out if you do not haul them up on the dry beach.
5425. Do you haul your net right on to the shore? Very seldom. At times we cannot prevent it.
5426. Supposing there was a smaller mesh in the bunt, would that prevent these young fish getting meshed? Yes.

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5427. Do you generally empty your net in a certain depth of water? Yes, we bunt them up in the water, take out the good fish and drag the bunt out, and turn it inside out; it is to our own interest not to kill the young fish.
5428. As to the garfish-net, are you satisfied with the length of that? No; we want 150 fathoms.
5429. So as to give you an extra length of bunt? Yes.
5430. Are you satisfied with the mesh of the garfish-net? I think it ought to be allowed to be worked down to an inch.
5431. Do you think many marketable fish escape through the mesh? No; we cannot half wear our nets out, for they come down to an inch, but the small garfish-mesh in that, and in getting them out, it pulls the gill off them; they mesh in from $1\frac{1}{2}$ to $1\frac{1}{4}$ inches; it is an eyesore to see those fish hurt and destroyed.
5432. You say the smaller the mesh the less destruction to small fish? I am certain of it.
5433. Could you haul 150 fathoms of garfish-net in George's River? Yes; almost anywhere.
5434. As to the meshing-net, is the length of that satisfactory? No; it is one of the greatest farces in the world.
5435. What would you like that extended to? There should be no limit to it; it catches nothing but full-grown fish.
5436. Do you think the mesh is satisfactory? I think 4 inches would suit most fishermen; as far as that goes some say the 3-inch meshing-net would be big enough on account of meshing flathead.
5437. Do you think $3\frac{1}{2}$ inches would be a fair compromise? Yes, I think it would suit all.
5438. Is it not possible that with the present mesh many marketable fish escape? Yes.
5439. Fish that could be caught with a $3\frac{1}{2}$ -inch mesh? Yes.
5440. Do you use a prawn net? No, I do not.
5441. Are you satisfied with the length of that net? I do not think anyone is satisfied. I think it is a farce to give a man 15 fathoms of a net. There are generally two or three men handling that, and it disturbs the fish.
5442. What length would they like? I think 50 fathoms.
5443. With the same mesh? Yes; I think they are satisfied with the mesh.
5444. Are any sunken-nets used in George's River? For prawns, and hauling, too.
5445. Those used for hauling, are they what they call the diver-nets? Yes.
5446. Is that means adopted for the purpose of escaping the blubber? Yes.
5447. Are the lead lines very heavily weighted, or just sufficient? Hardly a dozen weighted at all; if they have new lines they weight them.
5448. The prawn nets, are they heavily weighted? Some weight, some do not.
5449. The lead line is not necessary for prawn fishing? Not weighted.
5450. You say there are some that do weight their foot lines? On account of having new lines; the light net would float for an hour before it would sink.
5451. Are there any foreigners fishing? A few prawning on the beach.
5452. Are they the people who use the heavily weighted nets? Yes; I think they are the foreigners.
5453. Do you think it a proper thing to allow the use of these heavily weighted nets? I do not know that weights do any harm to the fishing.
5454. I am speaking more particularly with regard to the sunken net, which is so heavily weighted that it drags along the bottom and crushes everything it comes in contact with;—do you not think the breeding and feeding grounds get hurt by this constant hauling? I do not think weights make one bit of difference. You can haul your foot line to cut a foot under the bottom, and a team of bullocks could not bring it in. By hauling your lead line tighter it makes it cut into the bottom; it draws it narrower.
5455. Can you see any harm in using a meshing-net in closed waters? It would take the protected fish out of the water.
5456. Supposing there was a provision to allow the use of meshing-nets in closed waters, would there be any injury to the fish supply or breeding grounds of the young fish? No; no detriment to the young fish, and the provision would be hailed with satisfaction by the fishermen as giving them an extra concession.
5457. Do you believe in the confiscation of nets for breaches of the Fisheries Act? No; I do not.
5458. Do you think it would be better to fine a man heavily, or imprison him, rather than take his tools of trade from him? I think he should be fined.
5459. Do you believe in half the fine being awarded to the inspector? No; I do not.
5460. Do you think by that means persecution may take place? Yes.
5461. What would you think of a provision like this: that the fishermen should be allowed to use a net of any length up to 300 fathoms, and any mesh they like, provided they were compelled to empty their net in a certain depth of water (say) not less than a foot, and there was a stringent provision as to the sending of under-sized fish to the market? That has always been my motto. I have always had that in my head.
5462. Do you think that if the fishermen were trusted they would be as anxious to protect fish life as the Government? Yes; I think the general class of fishermen are very anxious to protect the young fish.
5463. Do you think that breaches of the Fisheries Act should be dealt with as soon as possible after they occur, instead of allowing time to elapse, which might deprive the fisherman of the use of his tools of trade? Yes, as soon as possible.
5464. As to closed waters, have you much closed water in George's River? Yes; about two-thirds of George's River are closed.
5465. In your opinion, are those closures justified? No; I do not think they are.
5466. Why do you think they are not justified? They are there for the purpose of breeding. I do not think the fish breed where they are closed.
5467. How do you arrive at that conclusion? We always wait for them coming out in Botany Bay. We wait for the bream; we wait for the whiting and mullet. They come out of George's River and go to sea. They go down in large schools. I think they come from the river and go to the sea.
5468. Does that not strike you as being sufficient evidence that they breed in the rivers, and that your contention is lost;—do they breed when they couple? I think most fishermen are under a mistake as to breeding.
5469. I want you to explain;—are those fish you catch at the mouth of George's River of local production—are they bred in George's River, or do they come from the sea, and are returning to the sea again? I am of opinion they are river fish, and go to the sea to deposit their eggs along the sea beaches.

- Mr. J. Edwards.
1 May, 1895.
5470. You do not think the ova is deposited in the river at all, but that the fry are hatched on the sea beaches? Yes; on the sea beaches.
5471. And that the river grounds are simply feeding grounds and not breeding grounds? Yes.
5472. Are the closures that have been made in George's River of long duration, have they been long closed? Three years at a time, two years, and one year.
5473. Have you ever approached the Commissioners of Fisheries, asking that more water should be given you? Yes.
5474. Did you prove successful? In one case we got from Tom Ugly's Point to Como Bridge given us.
5475. Do you know whether the local inspector was asked to report as to the necessity for those closures or not? No, I cannot say—asked by the fishermen?
5476. No, by the Fisheries Commissioners? I cannot say.
5477. Would you be prepared to say that when those closures were made the supply of fish had become exhausted? No.
5478. You think the fishing ground was maintaining its regular fish supply when those closures were made? Yes, in many cases.
5479. When do the whiting make their appearance in any numbers in the river? About April; first comes the trumpeter whiting.
5480. The black bream? I can hardly say what months they come. I cannot remember months.
5481. Would it be February and March? Just about a month before Christmas is a great time we have to look after them, and then again in the winter months.
5482. When do the garfish make their appearance? They begin to come about April.
5483. And the sea mullet at about the same time? Yes.
5484. As to the presence of shoals of fish on our seaboard, have you ever noticed them passing along the coast? Yes.
5485. What kinds? Salmou, blackfish, mullet, sea garfish, and trevally. These are the principal kinds we watch for.
5486. Have you ever noticed a species of the herring? We have a herring here, but I have never noticed it on the coast. It is what we call a river fish.
5487. Would it be the southern herring? I could not tell you; they are so scarce we do not take notice of them; they would not pay cart-hire in sending them to market, and they were never very plentiful; we just know they are there, and that is all.
5488. Have you ever heard anyone say they have seen schools of maray travelling along the coast? Yes; I have often heard that; we had a school of pilchard herrings come here once.
5489. How long ago? About five years ago. There was a telegram about a captain coming out to this country who sighted a shoal of pilchards, and he thought they would strike Port Jackson, which, I believe, they did. I saw them; they were strange fish. We went out for them and cast the net, and got about fourteen baskets. We did not know what they were; we sent them to market, and they did not know them; they sold at about 6d. a heap. [*The witness identified this fish he spoke of as the "Clupea Sagax."*]
5490. Have you had any experience in deep-sea fishing? No.
5491. Any experience in trawling? No, never.
5492. Any in well-boat fishing? No.
5493. During the whole of the time you have been connected with the George's River fisheries, do you know of any occasion when the Commissioners of Fisheries, or any one member of that body, officially visited your fisheries? Yes.
5494. Who were they? Mr. Campbell, Mr. Hyam, Mr. Hill, and somebody else.
5495. How long ago would that be? Four or five years ago.
5496. Do you know of any visits since then? I could not say.
5497. Can you tell us what is the general opinion amongst the fishermen as to the advisability of continuing the present authority that administers the Fisheries Act? They are of opinion they should be discontinued, and a new body created.
5498. They are not satisfied with the manner in which the members of that body have conducted the business? They are not.
5499. Do they think many reforms might have been brought about had these gentlemen taken sufficient interest in their work? Yes.
5500. Have the fishermen on occasions approached the Commissioners with a view of getting their grievances redressed? Yes.
5501. Have they always got them redressed? They never got them redressed except at that time when they came to see and got a portion of waters opened.
5502. Do you think the fishermen should have representation on whatever board is created for administering the Fisheries Act and controlling the fisheries? Yes.
5503. Do you think those boards should be local boards, or do you think it would be wise to continue the present Commission and appoint a fisherman on the present Commission? I should think it would be better to have one man appointed who would have a good acquaintance with the fisheries of the Colony, and who would be a practical man. Let him be appointed as head of the fisheries; local boards should be established to advise that gentleman, and on those local boards fishermen should have representation.
5504. Do you think there would be any difficulty in getting a fisherman to act on the local board? No, I do not think so; they would be only too anxious to do so for their own benefit.
5505. Do you think it would be a good idea to give power to the local boards to advise as to the number of fishermen who should be allowed on a certain fishery; that is, to limit the number of fishermen on a certain fishery? Yes, I do; I think it would be a good thing. I would be glad to leave myself if there was no more fishing for me, and I think it would be a good thing if it could be regulated.
5506. As to the oyster fisheries in George's River, do you know much about them? Yes; I worked in a diver for seven years.
5507. What is their present condition? I could hardly say about the deep works; as far as I can see, at low water they are in a bad state.
5508. Is that owing to the disease? No; I think it is owing to the public being able to get oysters just as they like. The under work you can say nothing about without a diving suit to see it.

5509. They used to be considered splendid oyster fisheries, did they not? Yes; I have got as many as fifty-seven bags a week with a diving suit.

5510. Are there many leases in George's River? No; I do not think there are many.

5511. Do you know the system under which the leases are issued at the present time? At so much per 100 yards; £1, I understand.

5512. Are you in favour of continuing that system, or would you grant leases of large areas instead of such small areas? Not to allow 100 yards?

5513. Not less than 1,000 yards? I believe in nothing less than 1,000 yards; the oysters would be improved by it. I think the 100 yards are taken up for pilfering work.

5514. Instead of the lessee paying £1 per year for 100 yards, would it be better for him to pay by results, for every bag he got off his lease? No; I do not think so.

5515. Not to pay any rental at all? No royalty.

5516. I do not mean in addition to the rental? No; I do not think so. I do not think it would work well.

5517. Why? Because a man might think the more he improved it the more rent he would be under.

5518. It would be a dual advantage—while the State was getting an extra return the lessee would be also getting an extra return, and providing the royalty was made a reasonable sum there would be no objection? Not if the royalty was made reasonable.

5519. There are some leases where it takes four years before they get any return; are you aware of that? No; I am not. I know men can hold them back for four years; but oysters are not four years coming to maturity. [The President, considering the witness did not fully understand the nature of the foregoing questions as to the leasing of areas on a larger scale and payment of royalty, here explained the subject to the witness, who, after the explanation, said that the matter now being presented to him in a different light, he thought the system suggested by the President would be reasonable, and that he would like to take up a large area under the same conditions if he could get it.]

5520. How many fishermen are there at George's River and Botany? I cannot tell you, I have no idea; it is according to the school fish—some days we are four-handed, and sometimes two-handed.

5521. *Mr. Thompson.*] Have you thought out any means for eradicating the disease in oysters? No, never.

5522. Not given it any attention at all? No.

5523. Do you think the present form of license could be improved by substituting a metal ticket which would be practically indestructible? Yes, it would be far better; we have to carry it, and cannot keep it dry.

5524. Aliens—would you require them to produce their naturalisation papers before allowing them a license? I think they should not be licensed until they are naturalised.

5525. *President.*] Is there any other information you would like to give the Commission? Yes; I would like to speak about closing rivers far off in summer time, lakes and places above where the railway can get. I think their being caught too far away is a cause of great destruction of fish, as they are not brought to market fresh. I think there should be some means adopted to close these waters in the summer, and open them in the winter.

5526. You would like the home fisheries open in the summer months, and the more distant fisheries closed? Yes.

Mr. Sampson Colbran, fisherman, Kogarah Bay, George's River, sworn and examined:—

5527. *President.*] Your name is Sampson Colbran;—how long have you been a licensed fisherman? Ever since the Commission was in existence, and have been fishing all my lifetime.

5528. Have you fished the whole time in George's River and Botany Bay? Yes.

5529. You have a pretty extensive knowledge of these fisheries? Yes.

5530. Do you speak on behalf of the fishermen of George's River? Yes.

5531. You have heard the evidence of Mr. Edwards, given before the Commission to-day;—do you agree with that evidence? Yes.

5532. Is there anything else you would like to add to the evidence given by Mr. Edwards? Yes, one point; when he mentioned about the destruction of fish, owing to the closing of the waters for two years, I approve of them being closed only for six months in the year. In the month of May, every year, there is a flood or two, and the fish are driven out by the floods to sea. I consider the public might as well have the fish as let them be driven away to sea. In any river I believe they are driven out by the flood—bream and whiting. On Good Friday morning there were over 100 baskets of bream and whiting condemned at the Woolloomooloo Market.

5533. Where did that fish come from? Different parts of the lakes.

5534. Far off places? Yes.

5535. Do you think that fish could have been sent to market in the winter time in a prime condition? Perfectly.

5536. You think it is too much to expect fish to arrive from those far-off fishing grounds in a fit condition for consumption in the summer months? I am sure of it. You can see how many baskets there are condemned in the summer months: the primest of fish, whiting and schnapper of a great length; it is a perfect sin; they are the parents of fish.

5537. In regard to closed waters, supposing, instead of allowing you to fish in closed waters for six months in the year, you had the privilege at all times, under certain conditions, of putting a 3½-inch mesh in closed waters for the capture of marketable fish therein; how would that suit you? Very well; but how about the whiting?

5538. Would not that be met by allowing, in the whiting season, the use of a mesh that would capture them? Yes.

5539. *Mr. Thompson.*] Is there any difference between the rock oyster and the drift oyster? No, I do not think so; the only difference I can see is the spat from the rock floats about until it fixes to some substance; a drift oyster has always got hold of something whatever that spats on.

5540. Will you tell me if the same applies to the spat from the drift oyster? It is just the same.

5541. Do you think the spat from the drift oyster is comparatively heavier, and not so liable to float? I do not see any difference.

Mr.
Edwards.

1 May, 1895.

Mr.
S. Colbran.

1 May, 1895.

- Mr. S. Colbran.
1 May, 1895.
5542. How do you account for the difference in the excellence of the deep-bed oyster, over the shore oyster? Mostly by lighting on different things, and the heavy tides; and it dips down into deep waters, and as it spats it might not fly away straight at once.
5543. Do you believe it is mostly the result of more favourable conditions? Only by the oyster being down deeper under the water, it makes them grow larger.
5544. How do you account for the occurrence of the deep beds? The difference is, that between these beds there is nothing for them to light on.
5545. Suppose between those beds there is ground which would be suitable for oyster culture, why do not the oysters light there? I do not know if there are any in our rivers.
5546. Have you any other information you wish to give us about oyster culture? The disease years ago was the same as now; it was a little black insect. My opinion is, the state the river has been in of late years has had a great effect upon the oysters;—there is so much slime now in the river, and when the oyster opens to feed at young flood, this slime—which is a kind of mud floating on the surface—goes in. You can open the oyster and see the mud in it.
5547. Have you seen any worms in the midst of the mud? No, I have not.

MONDAY, 13 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 10:30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Charles Smith, fisherman, Botany, sworn and examined:—

- Mr. C. Smith.
13 May, 1895.
5548. *President.*] What is your name? Charles Smith.
5549. Where do you reside? Botany.
5550. How long have you lived there? I was born there; about fifty years now.
5551. How long have you been engaged in fishing operations? All my life time.
5552. In what fisheries have you carried on your calling? Different parts.
5553. Will you mention them? Port Hacking, Botany Bay, Tuggerah Lakes, and Lake Macquarie is about as far as I have been.
5554. Principally, I understand, your fishing operations have been confined to Botany Bay and George's River? Principally, yes; I was two years, in the winter months, at Tuggerah.
5555. Have you been a licensed fisherman since 1881? Yes.
5556. Did you receive a note from Mr. Stephen asking you to give evidence before this Commission? No; Mr. Duncan received one from Mr. Stephen, and he showed it to me and asked me if I would attend. My name was not mentioned in the note; I did not receive any note before I received the summons.
5557. Have you any Fishermen's Association at Botany? There is one in Sydney.
5558. Is it a going concern at the present time? Yes.
5559. Who is your president? Mr. Fitzgerald.
5560. Is he an agent? Yes.
5561. How many members belong to the association? Between sixty and seventy.
5562. Does that association embrace representatives from all the fisheries in the Colony? No; I do not think so; I am not sure;—there are Lake Macquarie men in it, Tuggerah, Botany, and George's River are included.
5563. How long has that association been in existence? Between three and four years, to the best of my belief. There was one before that of which Mr. MacFadyen was president.
5564. Has that association ever had under consideration proposed new legislation in respect to the fisheries? I do not think so.
5565. Have they ever asked for redress of their grievances from the Colonial Secretary? Yes, I think they have.
5566. Do you know whether they ever got them redressed? Not that I know of. We got up a petition a little time ago to get Port Hacking opened, and we never got an answer to that.
5567. About how many fishermen are there at Botany and George's River? I believe over fifty licensed boats in Botany, some having two, and some four men in a boat.
5568. That would mean the employment of about 150 to 250 men? Yes.
5569. Have you ever attended any representative meetings or conferences of fishermen held in Sydney to take into consideration the development of the fisheries? I have not.
5570. Do you own one or more boats? I own two, my son works one.
5571. How many men have you? I have one with me, and my son has three in addition to himself.
5572. What is your average catch per week? It is very difficult for me to tell just now; sometimes nothing at all, sometimes a little. Last week I only had a basketful all the week, and the week before about twenty-two baskets.
5573. An average of about fifteen baskets per week? Yes.
5574. It all depends on the class of fish you endeavour to catch? Yes; school mullet you only get a basket now and then.
5575. Do you fish principally for prime fish? All kinds.
5576. Where do you send your fish to? Principally to Woolloomooloo; I have sent twice to Redfern.
5577. Do you send them by cart? Yes, my own cart.
5578. What classes of fish do you generally send? Garfish, whiting, blackfish, bream, mullet, pretty well all kinds except schnapper. We very rarely catch a schnapper.
5579. Are you satisfied with the returns you get from the Woolloomooloo Market? Well, we cannot do better. I am well satisfied at times. I am always there, or my son, and I put a reserve on them, and I never lose any of my fish; when I was down at Tuggerah and Lake Macquarie I had to put up with what returns I could get.
5580. Did you lose a good many fish then? Well, we always fancied we did. There is no doubt there is a good deal in a man looking after his own goods.

5581. Supposing you could sell your fish direct to the general public, would that be a better system for you? We could not do that very well; it would be very difficult to catch and sell too. Mr. C. Smith.
5582. If that system is carried out in other parts do you not think it is possible it could be carried out here? Yes; it could be carried out. Catching is one thing and selling another; you could not carry out the two. 13 May, 1895
5583. I mean, rather than trust to an agent, would it not be better to send one of your own men, instead of being confined to certain agents? You would benefit a lot by it, I believe myself.
5584. Do you know whether the fishermen as a body are satisfied with the prices realised for their fish in the market? I do not think so to hear them talk.
5585. Are you satisfied with the market accommodation and the system of displaying the fish in the Woolloomooloo Market? As far as I am concerned I am. I think they cannot find much fault with it. Some find fault with the auctioneers.
5586. Would it not be an advantage to have the fish displayed on raised tables? They would look cleaner and nicer.
5587. It would remove a prejudice in the public mind? Yes.
5588. Do you think the market should be open all day for the sale of fish? I do not think it would benefit us a great deal.
5589. Would it benefit the far-off fisheries if they had an extra sale or two a day? I do not think many dealers would attend.
5590. Do you think it would be a good thing to establish branch markets at Newtown, Burwood, Paddington, and other places? Yes; I think it would.
5591. In preparing to catch your fish, do you arrange so that you will have them caught in time to arrive at the early sale in the morning? As well as we can. We like to get the early sale in the morning.
5592. Supposing you cannot catch the first sale, what do you do with your fish? Well, if we cannot sell them on the floor, we put them in the ice-house.
5593. Have you practised any of the means of keeping fish alive by erecting paddocks at Botany? Yes; I was about the first to do so.
5594. How long have you tried that? I have had them eight or nine days.
5595. How long have you adopted the system? Fifteen or sixteen years ago.
5596. Has the system worked well? Yes, splendidly.
5597. It ensures a fresh supply for the market? Yes; you can keep them alive, and they are not sacrificed at the market.
5598. Have you noticed any deposits of spawn from the fish kept in these paddocks? No; I have not.
5599. The sea mullet are generally full-roed when caught? Not always; when full roed they are generally done. We do not expect any more mullet now; there may be a few.
5600. Do you consider the Woolloomooloo Market conveniently situated for the sale of fish? I always thought so; but it would have been better situated at the Haymarket. Woolloomooloo was right enough before the railway came into existence.
5601. You have sent some of your fish to Redfern, was that to Hudson's Market? Yes; one lot.
5602. Were your dealings more satisfactory? It was not satisfactory at all the time I sent there, it happened to be a glutted market.
5603. Supposing that the system of gutting your fish were brought into vogue, and they were sent to the market, would you get a better price? There are some schnapper sent gutted, and they do not seem to sell as well. Some of the people think they are stale. We have done this for some time at Woolloomooloo, and they do not sell as well on the floor as the others.
5604. Have you ever sent any fish into the interior? No.
5605. Do you think if the Railway Commissioners were disposed to place a refrigerating car on the line for the use of the fishermen, it would be availed of in sending fish to the inland towns? I think it would open the fish trade up a bit.
5606. How do you bring your fish to market? Mostly in baskets, barring the big mullet, which when we have any we put loose in the cart.
5607. When do the sea mullet first show themselves in Botany as a rule? Sometimes it is a bit earlier than others on account of the wet weather, we had mullet in March this year; April is generally the month for sea mullet—it is a little earlier on account of the wet weather this year.
5608. As for school black bream, when do they show themselves? About a month before the mullet, and right up to the mullet; I have noticed roes in the bream at different times this year.
5609. Do you think they spawn twice a year? The whiting do; I do not see why the bream should not.
5610. What do you think is the object of these fish in entering the harbours? Simply travelling; in the cold weather they begin to get into roe a bit and travel along the coast, and where they go or what becomes of them we cannot tell.
5611. Do you not think they enter the inlets for the purpose of spawning? I cannot say, it is an impossibility to tell; we never catch any quantity of them without the roes. At Lake Macquarie, in July, we were getting mullet full roed.
5612. Was that the lake mullet? Yes, the same as ordinary sea mullet.
5613. They do not breed at sea? No; they all breed in the harbours and bays; they go along the coast; we have had shoals come in from Port Hacking.
5614. Is it the hardgut? The hardgut and the sea mullet are the same in my opinion, the hardgut mullet is the white-roed mullet or melt.
5615. You do not think the sea mullet spawn at sea, but at the mouths of rivers? Yes, as they go along; they do not stop, as soon as they lose their roe we lose them.
5616. You think the same explanation applies to black bream; they spawn simply in the mouths, and do not enter the upper reaches to spawn? Yes, black bream and blackfish, nearly all travel except the river garfish; they do not often go to sea, all other kinds do; blackfish, bream, and whiting travel from one part to another. I do not think the river garfish do.
5617. You very seldom catch any schnapper? Very seldom; odd ones with the net, that is all.
5618. In Botany Bay? Yes.
5619. In full roe? Not that I know of.
5620. Where do you think they spawn? I have not the slightest idea; I used to catch a few in Lake Macquarie with a net.
- 5621.

- Mr. C. Smith. 5621. In hauling your net have you ever caught many of the small schnapper? Yes; a good few of the red bream at times.
- 13 May, 1885. 5622. What net do you use? All kinds—as close up to the Act as we possibly can. We buy our mullet-nets $2\frac{1}{2}$ inches centres, and $2\frac{1}{2}$ and $3\frac{1}{4}$ inches in the wings; the garfish net we have got down to $1\frac{1}{2}$ inches.
5623. Do you use a meshing net? No; I have had my hauling wings, and meshed with it.
5624. Do you use a prawn net? Yes.
5625. As to the hauling-net, do you think it is long enough? I do not think it is long enough. I do not see the use of a man making two hauls where one will do, neither with a garfish, mullet, or prawn net. We have got prawn nets at Botany 15 fathoms, and there are fifteen or sixteen boats altogether driving after these prawns. If the men were allowed to use a little more net they would get the same prawns with half the labour.
5626. As to the mesh of the hauling-net, are you satisfied with that? Pretty well satisfied with the mesh of the hauling-net; there is not sufficient 2-inch stuff in it to kill whiting. The garfish net allows 30 fathoms of each; the 2-inch net is only 50 fathoms. Fifty fathoms of 2-inch is not enough to catch whiting, I mean $2\frac{1}{4}$ -inch. Whiting is about as stiff a fish as we have got. It is the first fish that will come to the net.
5627. Do you contend, then, that the mesh of the bunt of the hauling-net should be smaller? Not in the $2\frac{1}{4}$ -inch, but in the wings.
5628. The wings should be reduced from 3 inches to $2\frac{1}{4}$ inches, the same as the bunt? Yes, for 100 fathoms.
5629. And then give you 200 fathoms more net—100 fathoms on either side of the bunt, making in all 300 fathoms of net? Yes.
5630. Do you think you would be able to haul a net of that length in Botany Bay? Yes.
5631. In George's River? Yes, it could be used, and has been used more than once before there was any Act.
5632. And after the Act, too, I suppose? Well, it has.
5633. Do you haul so that your fish become stranded? Some do; we haul our net right to the shore.
5634. Do you take the necessary precaution to protect the young fish? We do the best that we possibly can. If you have a lot of large and small fish the small ones very often get crushed.
5635. I suppose the destruction of young fish is inseparable from indiscriminate netting? Yes; most of the fishermen generally return as many young fish as they can.
5636. As to the meshing-net, do you think that is long enough? I do not know much about the meshing-net myself.
5637. Supposing you were going to engage in that class of fishing, would you think 60 fathoms sufficient? Yes, I think so. They use them round the rocks, and can have as many of these nets as they like. They just shoot them round the rocks where the fish are crossing; but I would not like to say much about it.
5638. Do you think the mesh is satisfactory, 4 inches, or do you think it should be larger, or smaller? I think it is plenty large enough. They can always have it bigger, but not smaller.
5639. Is it not a fact that plenty of marketable fish escape through the 4-inch mesh? Yes; I think there are.
5640. Would there be any injury in reducing the mesh to $3\frac{1}{2}$ inches? No, I cannot see that there would.
5641. As to the garfish net, are the fishermen satisfied with the length of that? No, no fisherman. You will not find one satisfied with the length of the garfish-net. Ninety fathoms only suits the sea garfish and if you put a garfish-net in all night, you want to get all kinds of fish to pay a man for his work.
5642. I conclude, then, you would like the garfish-net longer;—what length would you like? I think one net should be as long as another.
5643. As to the mesh? As far as I am concerned I am satisfied with the mesh.
5644. You would like to convert the garfish-net into a hauling-net? It is a hauling-net; it is not a set net.
5645. I know it is a hauling net; you would like to use the garfish-net all the year round, with a longer length? We only use a garfish-net when it is a benefit to us. When there are no garfish to be caught we do not use it. It is a heavier net to work.
5646. As to the mesh, you think it is satisfactory;—if you would like to use the garfish-net all the year round for the double purpose of catching garfish and hauling it for other fish, do you think there would be more destruction of fish by the use of that net than by the use of the hauling-net? No, I do not; except garfish, they must be very small to get hurt in the net.
5647. As to the prawn net, are they satisfied with the length of that? No; I do not think they are.
5648. What would they be satisfied with? Fifty fathoms is little enough. If a man was using 50 fathoms it would not all be small mesh.
5649. You would alter the character of the prawn net altogether? Oh, yes; I would have wings.
5650. What do you think of a provision like this: that the central authority, or authority charged with the administration of the Act, should have power to allow the use of nets of whatever kind, where suitable for particular waters,—not having so much regard to the mesh of the net at all, but only to the matter of preserving the young fish; and in order to do that, to have a stringent provision preventing the sending to market of undersized fish; and also, that the nets should be emptied in not less than a foot depth of water;—would that be satisfactory to the fishermen? It would be very uncomfortable, on the cold nights, to have to empty your nets.
5651. I understood your flue was allowed to remain in a foot of water? If you were landing just at daybreak, you would feel that you would like to get to the shore; and sometimes you would get into shallow water.
5652. Do you think it would be a good idea to allow the administrative authority to prescribe that certain nets should be used in certain waters, instead of having all these complications as to the mesh and lengths of these different nets and so on; would it be better if a strict rule was laid down by the person administering allowing the use of this, that, and the other net, of whatever mesh you like, as long as it does not exceed, say, 300 fathoms, and that you would respect the provision as to sending of undersized fish to market;—do you think that would be more satisfactory? Yes; but not to be confined to any months in the year. The inspectors should not make any particular months for garfish.
5653. Supposing that was left open to a local board, or the inspector of fisheries, to determine, would that be satisfactory;—that whenever these garfish did appear, you could make an application, and could have

a right to use it? They are here to-day and away to-morrow, and there is no inspector can name the months these garfish come in. I have had thirty-five years experience, and I do not think any inspector has had as long as that, and I could not name the months.

Mr. C. Smith.
13 May, 1895.

5654. Do you believe in nets being taken and confiscated? No, I do not; I am very much against it.
5655. You think a man's tools of trade should not be taken from him? I think they should not; it is taking the bread out of his children's mouths.
5656. Would it be better if he were fined heavily or imprisoned? I do not think it crime enough for a man to be put in prison. I know families that have gone hungry through the nets being taken. There are a lot of people fishing that can get nothing else to do, making so many of us; and if they cannot get the fish at one place they resort to the closed waters.
5657. Do you think there would be any harm in allowing the use of a meshing-net in closed waters? Well, I would not altogether approve of a meshing-net being used in closed waters.
5658. Have you sufficient water open to you for net-fishing in Botany and George's River? Not for the quantity of fishermen. There are fourteen or fifteen boats right close against one another.
5659. Do you think the closures in George's River have been justifiable? They have made George's River worse than ever it was. There are less fish in and less goes out of it through the closures. All our small fish are killed by the lines; we are not allowed to kill them. Look at the trumpeter whiting we used to get at one time?
5660. Do you think the closures have been of too long duration? Yes.
5661. Do you think that the floods have a disastrous effect as far as the fish are concerned? Yes, nothing worse; it drives the fish out. We have George's River closed for two or three years, and it has only been opened for a day and been closed again.
5662. Have you approached the Commissioners of Fisheries with a view of getting more waters? No.
5663. Have you approached the Colonial Secretary on occasions, and asked him to grant more waters? No; we tried Port Hacking and some of the fishermen have as to George's River.
5664. Do you believe in half the fine being given to the informer for catching a person fishing in closed waters? I can hardly answer; it is immaterial to the men caught to whom the fine goes.
5665. Do you think it acts as a sort of inducement to the informer or inspector to take proceedings against men and act harshly? Well, it does certainly.
5666. Do you believe that all these cases that arise under the Fisheries Act should be dealt with expeditiously, instead of keeping fishermen waiting sometimes for a month? Yes, I do. I think it would be a good thing. They keep them a long time, and keep their nets, which they do not get back very often.
5667. Do you believe in a provision that would limit the number of fishermen in different waters? No, I do not.
5668. Not even if the surplus men could be provided with grounds to go and fish in other parts? No; for every part is getting overrun now. There are a great many forced to go at it that cannot get anything else to do.
5669. Have you had any experience in oyster culture? No, I have not.
5670. Have you had any experience in well-boat fishing? No, I have not.
5671. Have you had any experience in deep sea fishing? No.
5672. Have you noticed any of the shoals of fish coming along our coast from the south to the north? Only the salmon.
5673. Any of the maray or herring tribe? No; I have not.
5674. Have you ever heard they do go along the coast in shoals? I have heard old sailors say so. Sometimes a few of the salmon come into our harbours.
5675. What fish frequent Port Hacking? All kinds of school fish.
5676. Do they go past the Spit? They nearly all go past the Spit. They cross up the river. Whiting, mullet, and sea garfish go right up the river for shelter. You will see the bream school down the river, and the whiting too.
5677. If these fish do make their way up the river it would not do to allow fishing operations at Port Hacking? They make their way up and down the river in accordance with the weather.
5678. You think they have nothing to do with the local production? Some of them stop.
5679. Do you think any harm would result from opening up Port Hacking as far as the Spit? I think it is a great pity it is not open. There is no spawning ground below the Spit in Port Hacking. It is all school fish below the Spit.
5680. So that if these school fish, which are of a migratory kind, are not captured by the fishermen, they go out to sea and are lost? Yes.
5681. What are the classes of fish that go into Port Hacking? Mullet, garfish, bream, whiting, and blackfish are the main kinds.
5682. Would the fishermen be satisfied if they were able to catch the school fish, without attempting to take the garfish at all? The bream travels just the same as the mullet. They school, and so do the blackfish and the whiting.
5683. You do not think there could be any injury to Port Hacking if opened as far as the Spit? No; it would not injure it at all.
5684. Would the fishermen be satisfied with that? Yes; if it was opened to the Spit, and allow them the school fish.
5685. Do you know whether any of the Commissioners of Fisheries have visited Botany Bay and George's River officially, to inquire into the circumstances and conditions of the fisheries? I do not.
5686. Speaking as a representative fisherman, what is the general opinion expressed in regard to the present Commissioners of Fisheries;—are they satisfied? Very dissatisfied, one and all.
5687. Do they ask that a change should be made? Yes.
5688. Have they stated in which way they would like a change? Some of them. They have not had any meetings to that effect. You can hear them discussing their grievances when they get together. Just fancy fifty boats in Botany; there are no waters for them to knock about in. George's River, up to the Pond, is monopolised; there are so many living there.
5689. Do you think it would be a good idea to give the fishermen representation in connection with the administration of the fisheries? I think it would.
5690. Supposing local boards were established—say, a board to consist of three, and the fishermen to have one representative on it, would that be satisfactory to the fishermen? Yes; I think it would.

- Mr. C. Smith.** 5691. Simply to have the boards established as boards of advice to the central authority; and would you have the central authority composed of a Commission, or say, one man at the head of the whole affair?
13 May, 1895. I hardly know which would be best.
5692. In having a Commission composed as it is now there would not be much difference in the way the fisheries are managed? No.
5693. Would you favour the appointment of one man at the head of the Fisheries Department, a man with a practical knowledge of the fisheries? Yes.
5694. Do you believe in licensing amateur fishermen? I think there are very few amateurs; I think all nets should be licensed.
5695. I mean line fishermen? Yes, I believe I would; our schnapper men are licensed, and they are line fishermen, and why should not the amateurs be licensed? Every man that uses a line should pay a license; they are more able to pay than the fishermen.
5696. Are you aware that these amateur line fishermen destroy a tremendous lot of young schnapper? All kinds of fish as well as young schnapper; you will see a dozen of them any day of the week down on the pier; they do not catch any red bream just now, they did some time back.
5697. As to the license which is issued to you, would it be an improvement to issue a metal medal for you to tack on to your boat, instead of the paper license? Yes, it would be an improvement.
5698. Have you any objection to the license fee which is charged? No, I have not; if it is put on all the line catchers—to serve all alike.
5699. *Mr. Thompson.*] As to aliens, would you refuse a license to them until they are naturalised? I would not like to say so; but I think it would be a very good thing.
5700. Is it your opinion they ought to be naturalised before they are licensed? Yes, that is my opinion.
5701. As to the shrinkage of the nets, would you advise that the twine should be tanned once or twice before it is made up into netting? It would not benefit us a bit; we are continually tanning, and if the twine was tanned up before it was made it would have more lay in it, and would make it harder; I would not favour the previous shrinkage.
5702. Respecting the weights of fish, if we give you a list of those which we might propose to include in any new legislation, will you state against them the weights at which you consider they should be declared marketable? Yes.

Mr. James Duncan, fisherman, Botany, sworn and examined:—

- Mr. J. Duncan.** 5703. *President.*] How long have you been a licensed fisherman? Ever since they have been giving the license—about thirteen years.
13 May, 1895.
5704. So that you have a good practical acquaintance with the fisheries of George's River and Botany? Yes; I have done more fishing there than anywhere else.
5705. Do you send your fish to the Woolloomooloo Market? Yes; not always—I send some to Hudson's.
5706. Do you consign to an agent? Yes.
5707. Are you satisfied with the returns you get? Yes; I am like Mr. Smith, we are pretty nearly the only two that watch our fish from beginning to end. They have not much chance to get to windward of us; I have not seen much wrong.
5708. You have heard the evidence given before the Commission by Mr. Smith;—do you concur in the evidence which he has given, or would you like to make any amendments or additions? There are a couple of matters in which I differ with Mr. Smith; that is about the meshing-net being allowed in closed waters.
5709. Do you believe in that? I think it would be a very good thing; I have seen an instance of it in George's River. There could have been a great catch of whiting by doing the same thing, and I think that allowing the use of the meshing-net in closed waters would be an improvement and a benefit.
5710. You think it would enable fishermen to catch fish which otherwise would be driven to sea by floods? Many a time they could do a week's work by using the meshing-net. In the length of nets I have always been opposed to a long length of net; I think 150 fathoms of 2-inch net is sufficient for any man. In the garfish net I approve with Mr. Smith. It ought to be allowed 150 fathoms as well as the 2-inch net; I approve of that.
5711. You speak more particularly as to the use of nets in George's River and Botany, not as to their use in the lakes? In the lakes 300 or 400 fathoms would be better. The more fish that go into the market the less money for all fishermen, if one uses a long length in the lakes they will all use it.
5712. You mean under existing circumstances that it does not matter if there is a large or small supply, you get the same prices; but supposing means were adopted for distributing the fish not alone in the suburbs, but throughout the country, and there was the demand, would it be a proper thing to give them the length of line? Under the rules carried on now it is an every-day occurrence to see fish in tons left on the Woolloomooloo Market floor.
5713. What is done with those fish? Sometimes we put them in the freezing-room; many a time we leave them on the floor, because it is not worth while to preserve them as it would only glut the market the following day.
5714. What becomes of those that are left? I believe they are destroyed.
5715. Tons of them? I have seen tons of them.
5716. Are you of the same opinion in regard to the altered conditions in the administrative authority in any new Act that may be framed? I am.
5717. You think the Fisheries Act has not been administered satisfactorily? I do.
5718. And the fishermen would hail with delight a change in that direction? Yes.

EVIDENCE OF THE FISHERIES COMMISSIONERS.

MONDAY, 1 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10.15 a.m.]

Present:—

FRANK FARNELL, ESQ., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

James Charles Cox, Esq., M.D., President of the Fisheries Commission, sworn and examined:—

5719. *President.*] You are the President of the present Fisheries Commission? I am.

5720. How long have you held that position? I have held it since 1882 or 1883—somewhere about that. I was appointed after the late Sir William Macleay resigned.

J. C. Cox, Esq.,
M.D.

5721. Were you one of the first members appointed to the Commission? No; I took Sir William Macleay's place. 1 April, 1895.

5722. How many gentlemen are associated with you on that Commission at the present time? There are the Hon. S. H. Hyam, the Hon. W. R. Campbell, Mr. J. R. Hill, and Dr. Ramsay.

5723. How often are you supposed to meet? Once a week. Wednesday is the regular Board day. We meet at other times as may be arranged.

5724. Have all the Commissioners attended pretty regularly? All except Dr. Ramsay. He has been ill for a long time. We asked him to resign in consequence of his not being able to attend.

5725. Have you, as a body, made any representations to the Government with a view of bringing about legislative reform in respect to the fisheries of the Colony? Yes; we have sent in two Bills. The first Bill we sent was in 1883. It accompanied the Annual Report for that year. The Commissioners then consisted of Messrs. G. F. Want, J. H. Geddes, F. A. Thomas, E. P. Ramsay, and myself as president. Then we sent in a second Bill.

5726. Accompanying the Report for 1890? Yes.

5727. Did the Government act upon your recommendations as contained in the Report of 1883? They never took the slightest notice of those recommendations.

5728. Did they act upon your recommendations as contained in the Report submitted to Parliament for 1890? No; we went deputation after deputation. I used every possible personal influence with Sir Henry Parkes, and with the late Sir Alexander Stuart particularly and Sir George Dibbs; the extraordinary thing is, that while those Bills have been absolutely ignored by the Government for these past eleven years, they have passed I think it is four Bills connected with the Fisheries through the House. The Port Hacking Bill and the Amended Port Hacking Bill, the Inland Fisheries Amended Bill, the Length of Nets Bill, and the Sunk Nets Bill—no less than five Bills. These have been passed in the Assembly since the recommendations of 1883.

5729. Was the Bill submitted in connection with the Report for 1883 the same as the Bill submitted in connection with the Report for 1890? No; the Bill was very much improved. We found important defects in the first Bill which were removed in the Bill of 1890.

5730. You have stated that you urged the Government to proceed with the 1890 Bill in order that it might be passed into law? Yes; not only personally, but frequently by deputations from the Commissioners.

5731. You are, of course, aware of the provisions of the present Fisheries Act;—in what direction, if any, would you like to see the present Act amended? Take the 11th section of that Act. The defect in this section is that there is no penalty for improper length. A man may have any length of net, but it must not be less than the respective dimensions, no limit is given to the length of the wings of a garfish-net. A man can actually have any length he likes. That is a very serious defect. It has been practised to a fearful extent.

5732. Was that defect remedied in the Bill you submitted for the approval of the Government? Yes. In section 12 it says:—"Every net" and so on "shall be deemed to be an unlawful net, if the mesh of such net shall measure diagonally when prepared for use," and so forth, "less than 3 inches in any part thereof"? Yes; this section was not repealed in the Inland Fisheries Act, which gives 4 inches; so that we have two different sizes of meshes for the inland-fisheries net. In section 13 it says, "Nothing in this section contained shall apply to a *bonâ fide* meshing-net having a mesh not less than 4 inches ascertained as aforesaid, and not exceeding 60 fathoms in length, when set as a meshing-net." Well, 60 fathoms is not long enough for a meshing-net. Meshing-nets should not be permitted to be used for stalling. I would not object to see a meshing-net a mile long if used in large waters, such as Lake Macquarie; by that means we could catch large whiting, and mullet, and good-sized bream. But I say do not allow the meshing-net to be used for stalling purposes.

5733. As to the meshing-net, should it be reduced or lengthened? The meshing-net should be lengthened, so as to allow of its being used in shoal waters.

5734. What length would you suggest? I would recommend about 88 fathoms, and not less than 4 inches in the mesh.

5735. Is it not likely that a good many marketable fish escape at the present time owing to the use of the 4-inch mesh? I have no doubt about it. But what you want to get in these meshing-nets is fish that do not frequent the shoal waters. There is no limit apparently to the depth of these nets. We have been very anxious to put a stop to the sunken-net business, but through nets not being limited as to depth the Legislature put in the words, "Not having a cod or purse." The result was that it legalised the very thing we wanted to stop. What did the fishermen do then? They cut off the cods and purses, and they killed more fish than ever, through attaching the lead-line to the cork-line, but leaving a space, fastening up the ends of nets, and dragging them as a great bag along the bottom. I want you particularly to look at the 14th section of the Act; it says:—"If any person shall sell, or consign, or expose for sale, or have in his possession or on his premises, any fish of any of the species mentioned in the second schedule hereto of a less weight than that set opposite the name of such fish in such schedule," and so forth. Under this section we cannot prosecute. Prosecution can only be effected when fish are offered for sale. The offenders get out of it by saying the fish found in their possession are for their own consumption, and are not

J. C. Cox, Esq., not intended for sale. Now take the 16th section:—"It shall not be lawful for any person to catch or attempt to catch prawns by means of a net, or by any other mode of capture, during the months of June, July, August," and so on. These months are absurd. This ought to be left to the discretion of the Commission. The law was made for the Hunter River, but these months are not suitable. It should be, "That the Commissioners can declare it unlawful to catch prawns during certain months;" but the matter should be left to the discretion of the Commission.

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5736. You would give power to the Commissioners to make closures when they thought fit to do so? Exactly, for fit and proper reasons.

5737. Have you any suggestions to offer in regard to the prawn-net;—do you think the length and mesh are sufficient? It is a very destructive net at present. It has 15 fathoms of 1-inch mesh; that is the regulation. My impression is that as a prawn-net it is small enough.

5738. Do you think it would be better in the interests of the fisheries to forbid the use of the prawn-net altogether;—are not certain classes of fish deprived of their food supply by the use of that net? Prawn-fishing is a great industry. My advice is to leave the prawn-net as it is. Then again, in the 17th section:—"It shall be lawful for the Governor from time to time to declare, by proclamation to be published in the *Gazette* and in some newspaper circulating in the nearest police district, that the whole or any defined portion of any tidal river, inlet, estuary, lake, lagoon, or arm of the sea shall be closed against the use of fishing-nets for such term, not in any case to exceed two years, as the Governor shall think fit." That should be:—"It shall be lawful for the Governor, on the recommendation of the Commissioners, to declare that the whole or any portion of any water shall be closed for such term as the Commissioners shall think fit." The fact is, we may like to close waters for twelve months. I think if that section were made to read "as the Commissioners shall think fit" it would be better all round.

5739. You do not want the period of thirty days to be allowed to elapse before you issue your proclamation? No; it is better for us to have the power to keep these waters closed for as long a time or as short a period as we may think right. That portion of section 17 which says "such proclamation shall only be issued when the Commissioners shall report to the Governor that the natural supply of fish in the waters proposed to be closed has been exhausted by net-fishing or otherwise" does not extend to the use of prawn-nets in those waters.

5740. Have you had a test case upon that question? Well, I am sick and tired of it; it is not net-fishing; it is prawning. They have got out of it over and over again; my advice to you is to wipe out the thirty days between the expiration of one proclamation and the commencement of the other. Section 18 says, "If any person, after the expiration of thirty days from the date of any such proclamation or extended proclamation, and during the currency thereof, shall cast, haul, stake, fix, or place any net of any kind whatever, for the purpose of taking or capturing fish within the limits of the tidal waters or area defined in such proclamation," and so on. Now, we have often caught men using prawn-nets in those waters, but we cannot touch them. Our young fish are being ruined by it; we cannot touch them. Section 19 refers to the boats used, or intended to be used, for catching for sale any of the varieties of fish, whether marine or fresh-water, enumerated in the first schedule. This should be the first and second schedules, and there should be a third schedule including prawns. You will also see that in this section it says, "Every boat licensed under this section shall have painted, in legible letters, in such conspicuous place as may be prescribed by the regulations, the name of her owner and the words licensed fishing-boat." I want the man's name, his surname, and his initials or his number, and the letters L. F. B. painted on the boat in 4-inch letters. If this were done anybody could go and see what boat was poaching in closed waters. Section 20 is as follows:—"Every person employed in catching for sale, fish, lobsters, or prawns, in or upon any tidal waters, shall pay an annual license fee of 10s. to the Colonial Treasurer." As a result of this section, all those men who catch those enormous numbers of fish, crayfish or lobsters in our inland waters give us no revenue. The section says "in or upon any tidal waters." It should be "tidal and inland waters."

5741. So that the fishermen who fish in the Murray River, and reside on the Victorian side, pay nothing to the Government for catching fish? They do not. Section 22 says, "It shall not be lawful, by the explosion of dynamite or any explosive substance, or by means of any poisonous or noxious thing, to destroy or take fish in any tidal or other waters in New South Wales." I want the Commission to insert the words "to attempt to destroy" before the word "destroy," in order to prevent the destruction of fish. Section 24 says, "Every person who shall be found using a fishing-net of any kind whatsoever in any waters in New South Wales," and so on; that ought to be, "In any tidal or inland waters." Further on it says, "Shall on demand give his true name and residence to any inspector, Justice, officer of police, &c." I think the word "Commissioner" ought to be inserted before the word "inspector" in that section. I have seen men over and over again fishing illegally, and I, as a Commissioner, could not touch them. In the same section I would also advise that the words "or over which they ebb and flow," after the word "waters," should be expunged. In section 25 it says, "Any inspector, officer of police, or constable," &c., "may at any time enter any premises or dwelling," and so forth. I would like the words "Customs officer" inserted after the words "officer of police," and I would like the word "place" inserted after the word "premises." Men have evaded punishment several times by saying they have not got their nets on their premises; but at the same time the nets may be in a place which may be some place on their own grounds. I think we ought to have power to go anywhere. At the end of this 25th section it says, "And every net so seized shall be taken before a Justice, who, on inspection thereof, shall, if satisfied that the same has been so used as aforesaid, or is an unlawful net, order the same to be forfeited to Her Majesty." Now, how is a man to be satisfied with that?—he has to be seen using the net. I would suggest you omit the words "if satisfied that the same has been so used as aforesaid" without having seen it used. Then, as regards the private fisheries, my views are embodied in the Bill accompanying the Report of 1890.

5742. Do you recommend that these fisheries be retained, or that provision be allowed for the carrying on of private fisheries? I have nothing to suggest further than what is contained in the Act.

5743. You think that although the provisions have not been availed of they may be later on? Yes; I would leave it open; I am inclined to advocate these industries.

5744. Do you consider the provisions of the Oyster Fisheries Act sufficient to meet the development of the oyster fisheries of the Colony? No, I do not. I have found practically that the processes under the Act are comparatively a failure.

5745. You refer to the system by which the leases are taken up—the small areas? Yes.

5746.

5746. Would you suggest that larger areas be made available? I would suggest that power be given to the Commissioners to lease large areas. This 100 yards business is an absolute fraud. I think myself it would be better if the Commissioners had power to let such places as Port Stephens, Gosford, the Manning, the Richmond, the Macleay, and other rivers, to have the option of either leasing them as a whole or one side of them. I believe it would be a good principle to let them by tender or by public auction.

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5747. Do you think the system of payment by results would be better, providing you let the larger areas, requiring the lessees to pay a royalty, under certain stringent conditions as to working the leases properly? Yes; I think that would be a good thing.

5748. Has the supply of oysters increased during the last twelve months? The increase in the number of bags of oysters taken from our beds in 1894 over the previous year, was about 2,250. In 1894, 7,523 bags were taken off our beds; in 1893, 5,265 bags; the figures are approximate in our case. In all there were 6,776 bags of oysters imported into New South Wales in 1894, against 7,355 for 1893.

5749. Where did those imported oysters come from? There were about 3,208 bags of oysters from New Zealand in 1893, and about 2,550, in 1894. South Australia sent 254 bags in 1894, as against 76 in 1893; Victoria, 52 bags in 1894, as against 8 in 1893; Queensland, 4,061 in 1893; and 1,536 bags in 1894. In 1894, 328 bags of oysters came to Sydney from Port Stephens; in 1893, 465 bags came from the same place.

5750. Is it your opinion that the bags of oysters sent from Port Stephens came altogether from the leases, or do you think the Crown lands have suffered? I think the Crown lands are simply becoming denuded. I find there has been an increase in the output from some of the leases, but the increase from others must be looked upon with great doubt. It is evident that the increase has been caused by overstripping the leases and robbing the Crown lands adjacent thereto. This abuse has increased considerably since we had to retrench in the Fisheries Department. The Commissioners are aware of this great robbery and injustice which is being done to Crown lands, and they issued a circular cautioning all lessees against it. This is as far as the law will permit us to go. According to the present Act the leased beds must be denuded of oysters before the Commissioners have power to put the law in motion. I desire to put that very strongly to the Commission. The result is that when they have exhausted their leases they ask for cancellation, and these exhausted lands are thrown back on the hands of the Fisheries Commission, and they are useless for some years to come, and we have no power to stop it. Others take up leases, wilfully neglecting the cultivation of oysters, and systematically robbing the adjacent Crown lands. In fact, the piece of 100 yards they have taken up has been only made the excuse for getting a footing into the magnificent Crown lands and other leases that contain good oysters, which they stripped. If a man is caught taking oysters from Crown lands he simply says the oysters are for his own consumption. In this way the 15th section of the Oyster Fisheries Act is availed of. There is another objectionable thing that goes on: We lease a moderate area; a man has a number of those leases; he is in the midst of a magnificent Crown land area of oysters. He takes the oysters off the Crown lands, boats them to his own 100 yards lease, bags them, and then brands them with his own lease number, and in that way they get into the market. I find by experience that a number of lessees make application to be released from their leases under the excuse that the oysters on them are destroyed by worms. The real fact is that the lessees have stripped every oyster off their leased area and as many as they can off the adjacent Crown lands, and then they throw the thing up and pretend it is no good. It is the man worm that is the trouble; it is not the ordinary worm. In this way Crown lands suffer most fearfully. I beg to impress upon the Royal Commission the importance of putting down this villainous destruction of our oyster-beds.

5751. Under the present Act there is a provision which allows people to go on to Crown lands and take oysters for their own consumption;—do you think that should be so amended as to prevent them from carrying oysters away from Crown lands? My advice is to embody in your Bill a provision stipulating that no one be allowed to take oysters away from those areas. Let each person eat as many as he can, but it is quite enough destruction for them to walk over and trample on the oysters without taking them away in bags.

5752. As to the conveyance of oysters to market, do you think there should be more stringent provision made in respect to the marking and branding of bags of oysters? I think it should be as stringent as you can possibly make it.

5753. Are you of opinion that if a stringent provision to that effect were embodied in the Act it would be the means of finding out some of these oyster-stealers? Yes; but I think if the small areas were abolished that would remove the whole difficulty. The fact is this, within my knowledge, that a man taking oysters off Crown lands has borrowed the branded bags of a lessee and got the stolen oysters to market by that means.

5754. You told the Commission that lessees have pleaded the destruction caused by the worm disease as an excuse for asking for the cancellation of their leases;—can you say whether the worm has been destructive to those oyster-beds? Fearfully destructive to a number of the areas taken up. The Hunter River has been terribly attacked, and so has the Hawkesbury and other places. Other places, on the contrary, seem to be quite free from the disease. I have here an exhibit showing the enormous growth of young oysters. [*The witness here produced an oyster shell taken from a bed at Camden Haven which was literally covered with spat.*] We have found out that one great cause which now prevents the oysters from taking to the rocks or the foreshores is that the surfaces of such rocks and foreshores have, in consequence of navigation and drainage, become so slimy that the young spat cannot affix to them. If you place clean shells or pieces of slate or even clean broken stones in any locality where the oysters are spatting they are immediately covered with young oysters.

5755. In cases such as you have mentioned in which lessees desire to throw up their leases, owing to the ravages of the worm, would not the system of paying by results relieve them and the Government altogether from any obligation? Yes, if the areas were large areas.

5756. Can you tell us whether the areas taken up in 1894 have increased as compared with 1893? There has been a greater demand for areas for oyster culture during 1894 than there was in 1893. In 1894, 4,650 yards of foreshore were applied for. About 1,100 yards of this were applied for on the Clyde River, 500 in Wallis Lake, 500 in Botany, 500 in Twofold Bay, and the balance in small scattered areas.

5757. How do you account for the application for 500 yards of a lease in Botany Bay, when it is understood no leases have ever been taken out in that place before? I fear that it is to gain residence and access principally to the shores of the bay.

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5758. And not with a *bonâ fide* intention of carrying on oyster culture? No; in my opinion that is so.
5759. What do you consider the best known grounds for the development of the oyster? I think Cape Hawke is one of the best; Port Stephens, the Clarence, and the rivers to the north.
5760. During your experience which waters have you found most congenial to the development of the oyster;—that is, in which waters have they made the quickest growth? The beds in the river north of Port Stephens.
5761. How do you account for the quicker development in the northern rivers than in the southern rivers? I suppose there is more feed for the oyster in those rivers.
5762. Have you ever noticed any evidence of deep sea oyster deposits on our coast? I have not. I went out with the "Challenger" dredging. I have been out several times dredging, but never came across what I call a genuine bed of oysters. We did come on them occasionally in small numbers.
5763. Have you ever heard of a deep sea bed having been discovered at Jervis Bay? Yes; outside you mean. I think it was in the mouth of the bay. It was a long time ago; I have not paid so much attention to these things lately.
5764. Do you know whether experiments have been made in trying to propagate the Stewart Island oyster in New South Wales? We have placed them in different positions on several occasions, but they were stolen by the men; that was in former years, not recently. I am of opinion that the Stewart Island oyster is merely a variety of the mud oyster found on the New South Wales coast, and on the coasts of Victoria and South Australia.
5765. The Stewart Island oyster is a deep sea oyster, is it not? Yes; it is, but it is a bad oyster to carry.
5766. Can you give the Commission any information with regard to the number of fishermen's and fishing boat licenses issued in the Colony for 1895? I have the list for February, 1895; the number of fishermen's licenses issued was approximately 133, and the number of fishing-boat licenses was approximately about sixty.
5767. Can you give us an idea of the quantity of fish received at the Woolloomooloo Market in 1894? In 1894 there were 42,272 baskets of fish received at Woolloomooloo and sold there. In 1893 there were 41,024 baskets, showing an increase in the number of baskets of fish sold in 1894 by 1,248 baskets. At the Redfern Market there were 20,000 baskets sold at fair prices in 1894. Of the baskets sold at Woolloomooloo in 1894, 1,076 were condemned as unfit for human consumption, whereas, in 1893, only 753 baskets were condemned. In 1894 twenty-eight baskets of fish were sent to charitable institutions as they were undersized. Of the schnapper, which were sold by dozens in 1894, 4,711 dozens of schnapper were sold at the Woolloomooloo Market, whereas in 1893, only 2,585 dozens of schnapper were sold in the same market, showing an increase of 2,126 dozens of schnapper for 1894. This is exclusive of red bream, which totalled 7,000 dozens sold at Woolloomooloo, so that in all 11,711 dozens of schnapper, large and small, were sold in 1894 at that market. During the same year 9,021 dozens of flathead were sold at Woolloomooloo, while, in 1893, 2,921 dozens of the same class of fish were sold, showing a big increase for last year. The number of whiting sold in 1893 was 5,031 dozens; in 1894 it was 8,181 dozens. In 1893, 1,244 dozens of flounders were sold, and, in 1894, 1,746 dozens. In 1894, 1,095 dozens of kingfish were sold, whereas, in 1893, the number sold only totalled 409 dozens. Jewfish, 1893, 6,895 dozens; 1894, 17,529 dozens; sea mullet, 1894, 12,494 dozens. The number of baskets of prawns sold at Woolloomooloo in 1894 was 5,678; in 1893, 3,949 baskets were sold. Although there is a general increase in the quantity of fish sold, the market revenue for fish disposed of in 1894 was only £25,368, whereas, in 1893, the fish sold, although the quantity was smaller, realised in market revenue £29,647. Thus, 42,270 baskets of fish in 1894 brought less than 41,024 baskets in 1893 by £4,279; therefore, I consider the fishermen are out of pocket to that extent.
5768. Do you think that as a consequence of the greater supply during 1894 the consumer received his fish at a cheaper rate? Certainly not. I live at North Sydney, and it is simply scandalous the prices we have to pay for fish. The prices paid to the hawkers are simply scandalous.
5769. The fish you refer to as having been sold during the periods specified, where did it come from? 11,574 baskets came from Lake Macquarie, 13,888 baskets from Tuggerah Lakes, 5,740 from the Hawkesbury River. Port Jackson takes fourth place. There was a large increase both in fish and prawns from Port Jackson during 1894. The number of baskets sold as coming from Port Jackson in 1894 was 6,938; in 1893 it was 3,923. During 1894 Lake Illawarra sent 5,188 baskets of fish to Sydney, and 1,000 baskets to the Wollongong district generally. This is a decrease of 936 baskets from Lake Illawarra as compared with 1893.
5770. About the Murray River fish, are you aware whether many consignments of fish leave New South Wales for Victoria? Yes; an enormous quantity leaves this Colony, much more than is forwarded to Sydney. In 1894, 28,806 lb of fish were sent to Victoria *via* Moama, and 25,582 lb. *via* Koondrook, an increase of 3,312 lb. on the previous year.
5771. Of course that would be the fresh water fishes? Yes.
5772. Are you satisfied with the manner in which the Woolloomooloo Market is conducted? I am not, and I never was. I am of opinion that the fish, from the time it leaves the fishermen's boats until it is sold in the markets, should be placed in charge of the Commissioners, and they should be responsible for it to the fishermen. I know as a fact that the fishermen are not only robbed of their fish in transit, but the commissions they have to pay are so heavy that they do not receive anything like an adequate return for the fish they catch.
5773. Do you think if the fishermen received one-half of what the consumer pays for fish he would have a fair return? I really do; but I think they ought to receive more than that.
5774. Would it be advisable to bring the fishermen into closer contact with the consumer? I think it would.
5775. As to the number of sales which should be conducted in the Woolloomooloo Market, would you approve of greater facilities being afforded for the sale of fish, in order that the public might have a better opportunity of obtaining supplies? I would recommend that there should be a sale of fish early in the morning and another in the afternoon, that is by public auction. The fish market should be opened all day for the retail of fish.
5776. Would you allow the fishermen to sell direct to the general public? I would have no objection to that; let them take a stall in the market; I think they might be allowed to sell from the stall.
5777. Do you recognise the necessity for having auxiliary markets? I do; I recommend that there should be a market established for the sale of fish in each of the principal suburbs of Sydney; for instance, North Sydney, Balmain, Paddington, Waterloo, Newtown, and other places. 5778.

5778. Are you satisfied with the manner in which the fish are displayed in the Woolloomooloo Market? J. C. Cox, Esq.,
I am not. I think it is simply revolting to see the manner in which they are placed on the floor; they
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are sometimes trodden on, and men occasionally spit on the floor. I think they should be exhibited on
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raised trays. I say it to the credit of the Fisheries Commission that they have waited as a deputation on
the Mayors of the City, particularly Sir William P. Manning, when they heard that a new market was to
be built down in Paddy's Market so as to have better provision made for the sale of fish and in order
to point out that it was necessary to have cool chamber accommodation provided for the storage of fish.

5779. Would you advocate the sending of gutted fish from the different fishing grounds to market?
Yes; I think that is a most important matter. If I had anything to do with it as a Commissioner I would
insist upon all the fish being gutted prior to their leaving the fishing-grounds. It is because this is not
done that the weight of fish in the baskets forces out the contents of the intestines of the fish in the
baskets and causes decomposition. I exhibit a red bream weighing 6 ounces, not gutted, which I
obtained from the market this morning, and it is now unfit for human food.

5780. Do you consider that the different species of edible fishes found in the New South Wales waters
compare favourably with fishes found in other parts of the world? Our edible fishes are not to be com-
pared with the edible fishes of New Zealand, but if you include Lord Howe Island, which is a province
of New South Wales, that is one of our most valuable and I will say one of the most neglected of our
fisheries. The fisheries of Lord Howe Island, which is nearly 400 miles to the eastward of our coast,
swarm with good edible fishes. Those fisheries ought to be largely developed.

5781. I notice from the returns you have given us that there was an increase in the supply of prime
fish in 1894 as compared with 1893? Yes.

5782. Can you account for that? I think it is in this way: A good class of fishermen apparently are
taking up the fishing industry, and there is evidently an increase of fish coming from outside of the
harbours. It is in the line fishing particularly that the increase is apparent.

5783. Do you know of any neglected branches connected with the fishing industry in New South Wales?
In my opinion there are several of our fisheries that are quite neglected. I should be very glad indeed
to see this Royal Commission commence proceedings to investigate this matter either immediately or in
the future. In the first place we have a number of true herrings on the coast of New South Wales and
in the fresh waters. There is the maray, the *Clupea Sagax*; this is a pilchard which should be due off the
coast before this present time. It is a fish which might be turned to very valuable account; indeed, a
very valuable industry might be created in connection with its capture and cultivation. It is an excellent
eating fish, and I would recommend strongly that the habits of this fish and everything connected with it
be investigated, if possible, by this Commission. Then we have an enormous herring here. I got three
of them this week; they were 15 and 18 inches long; they were caught in a drift net off Botany. I refer
to the *Megalops Cyprinoides*, a magnificent large herring. From what I have observed I think it
generally precedes the great shoals of maray which frequent this coast. It is a fish found more
abundantly in the Indian Ocean. We know scarcely anything of its habits on this coast. Then we have
another beautiful clupea on this coast very like *Clupea Sundaica*, which, if it could be caught in shoals,
would be of very great value for tinning purposes; we have also a beautiful fish like our fresh-water
herring, called *Diplomystes Sprattelloides*. This is a fish described by Mr. Ogilby. We do not know any-
thing as to its real habits. It is seen frequently down about Maroubra Bay, a little earlier than this;
some have been found on the shores lately, as if they were merely an offshoot of an immense shoal. We
have also the herring called *Clupea Novæ Hollandiæ*, existing in great abundance in our fresh waters.
I think this fish would be good and of great value if preserved as sardines. There is another herring,
Sprattelloides Delicatulus, which has been recently caught in great abundance on the shores out at
Maroubra Bay, but it is absolutely discarded by the fishermen, I presume because they do not know
its true value. In addition to this we have a beautiful fish on this coast the *Engraulus*. This is a true
anchovy, and I believe, if studied, it might be turned to great commercial advantage. I have some
specimens here in a bottle; these specimens were obtained at Maroubra Bay; they were thrown up in
considerable quantities on the beach. We do not know their habits in these waters, but the habits of this
fish is very ably worked out as it exists in the Mediterranean. On one occasion while netting with the
late Sir William Macleay, a little east of Clontarf, in Middle Harbour, a net was shot, and it came up
absolutely loaded with these anchovies and other fish. It was the greatest haul I have ever seen. It only
shows us that there is a neglected industry connected with these fishes.

5784. Have we any whitebait frequenting our coast or the inlets? Not that I am aware of; a large
quantity of whitebait is brought in a frozen state from New Zealand. It is a true *Galaxias*; it is a
delicious fish. I do not think we have them on our coast, but we do not know. We have *Galaxias* in
great abundance in the rivers of New South Wales, but we do not know that they have ever appeared
in sufficient quantities to permit of the establishment of an industry in connection with their capture and
preservation.

5785. Can you tell the Commission of any other neglected industries in connection with our fisheries?
Yes; I think there is a fair prospect of the sponge industry being developed on the coast of New South
Wales; this is a matter which should not be neglected. There are upwards of 400 species of sponges on
our coast, and the sponges here seem to develop and live quite as well as in any other part of the world.
We have no fine samples of the domestic sponge, the *Uspungia Officinalis*, which include the fine sponges
and the coarse sponges. We have many large soft cup-shaped sponges on this coast, which might be
made of commercial value if properly treated. We have discovered there is a magnificent sponge now
found at Fiji, nearly as good as the Mediterranean sponges when properly treated. If these sponges
exist and thrive on the coast of New South Wales; as we know they do, I see no reason why sponge
gardens should not be established here by the importation of the better forms of sponge from the Medi-
terranean. It would be an easy matter to import them, and I think it would be worthy of consideration.
It might be a good thing to send an experienced man to the Mediterranean to study the growth and
development of the sponges in that part of the world, and to bring out several different varieties with
him for growth in our own waters. There is an excellent dissertation on the sponges in the *Encyclopædia
Britannica*. The sponge is of enormous value; the value of the sponges used in England alone is
astonishing. I understand from what I have read that the *Uspungia Officinalis* has been imported to the
southern parts of California, where it is now successfully propagated, and forms a thriving industry.

5786. At what place would you suggest the establishment of a sponge garden—what place do you consider
best

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best suited for the propagation of sponges? I believe Port Stephens could be transformed into a most admirable garden for the cultivation of sponges, and I would very much like to see an experiment in that direction made by the Government in the waters of Port Stephens. You do not want deep waters, you want clean peaceful waters; as far as I have seen Port Stephens would be the best place for a sponge garden. A large portion of Port Stephens could be specially reserved for these experimental purposes.

5787. About the whaling industry, can you give the Commission any information regarding the possibility of the revival and development of that industry? That was a very valuable industry; it should come under the control of the Commissioners of Fisheries; there has been for years an indiscriminate destruction of whales from the south of Tasmania to New Zealand, and on the Australian coast. We have evidence beyond doubt that the whaling industry was of immense importance in bygone years. I would strongly recommend this Royal Commission to consider the propriety of having one universal law throughout the Colonies regarding the capture and destruction of whales in the adjacent seas. I think the revival of the whaling industry is a matter that might well engage the attention of this Royal Commission.

5788. As to the capture of turtles, can that be prosecuted with any success in our waters? I think not in New South Wales waters. I do not think they would propagate sufficiently to make it worth our while to protect them. We might back up the efforts of the Queensland people in carrying out the laws made for the protection of turtles, and seals also. The sealing industry should have consideration, although we are not so much interested in that as probably some of the southern Colonies are, but it is an industry that should be placed under one general law, in order that the seals may be protected.

5789. The seal found on our coast;—is it of commercial value? Do you mean the seals found at Seal Rocks? 5790. Yes? No. The seal that is of commercial value does not frequent too warm waters. Some of the seals found on our coast we sent to the Fisheries Exhibition in 1883, and the people in London were astonished to find out that that seal had never been seen in England since Captain Cook's time.

5791. With respect to the development of the crayfish fisheries on the coast, are those fisheries as prolific as they were? I should say not. The destruction of the crayfish just now on some of our best grounds is very great. Broughton Island is absolutely taken possession of just now by numbers of foreigners who have not taken out licenses. We do not know what destruction is carried on there, and we have no power to stop that destruction. I believe the crayfish industry on the coast is being very much abused.

5792. When do the crayfish spawn? I have not paid special attention to that. I would not venture an opinion.*

5793. Do you think the administrative authority should have power to close certain waters in order to allow crayfish to breed? Yes, I do. I would prohibit fishing in certain places where they breed in abundance. On one occasion I was at Kurnel, near Botany, and I saw people catching young crayfish in hundreds and killing them. I was astonished at the destruction going on. I would punish people who have crayfish under a certain size and weight in their possession.

5794. I suppose under no circumstances would you allow crayfish to go into the market while in the berried stage? Well, I will hardly say that, because if crayfish have cast their spawn they are watery and distasteful. I think the public likes food of that class to be of a good character. If certain portions of the coast are protected during their breeding season, that would meet all requirements.

5795. Are the crayfish found in Sydney Harbour the same as the crayfish found in Port Stephens, and do they develop to so great a size? The crayfish in Sydney Harbour, Botany Bay, and Port Hacking are not nearly so fine as those found in Port Stephens, but I think they are only varieties of each other. Mr. Whitelegge, of the Australian Museum, would be able to afford the Commission information regarding the crustaceans and sponges.

5796. Regarding the development of our deep-sea fisheries, has any experiment been tried by the Fisheries Commission in trawling? We engaged the "Rachel Thompson," a well-boat, to go south to Jervis Bay and catch schnapper and fish of that class. She got a very large number, and brought them to Sydney in very excellent order. It was a most successful experiment as regards conveying fish alive in well-boats to Sydney. When the fish got here the Commission thought they would sell them, and we sent them alive to the market for sale, but we were absolutely boycotted, and dealers would not buy one of them. I had to get drays and send them round to the hotels giving them away.

5797. Have the Fisheries Commission made any experiments in trawling? I went out two or three times in the "Challenger." We trawled from Broken Bay to Woollongong. The trawls were badly damaged and they did not catch many fish. I fancy they would have caught fish, but the trawl was destroyed owing to their not knowing the grounds over which they could use the trawl with safety. The waters along our coast were not so well mapped out then as they are at the present time. The experiment made by the "Challenger" in trawling was not successful, for the reason I have stated. The Fisheries Commission attempted to do some little work, as much as they could get money for, outside. They met with moderate success, considering that they did not know actually what place to trawl over. We got a new flathead, a fish we had never known of before; we got this flathead in abundance. Among other fish that came up in abundance was nannegai, very fine specimens; they were got off Botany. I am quite sure that the trawling industry may be developed if due care is taken in the matter, and particularly if the bottoms over which the trawl can be drawn are mapped out. It is not likely anyone will try experiments in trawling, and risk valuable gear until the bottoms are mapped out. A very extensive trawling was tried on this coast years ago by the late Sir William Macleay. He chartered a sailing vessel, the schooner "Peaben," and had her trawling for fish and other marine products from Port Stephens down south. As a result of his experiments he obtained a very large assortment of marine fauna. His experiment was not altogether a success as regards fish; it was more successful as regards other marine products.

5798. Are you of opinion that the Government should make an experiment in trawling before people can be induced to enter into the trawling industry? I am of that opinion. I think two things should be done; one should be to induce the Admiralty to make a good map of the surfaces on this coast for about 3 miles or more, and then the Government should authorise experiments in trawling, to ascertain what success would attend the starting of the industry in these waters. That is my firm opinion. I do not believe in anybody pooh-poohing this thing, and concluding that trawling will not be a success on account of the comparative failures of the experiments hitherto tried.

5799. Do you think the fisheries of Lord Howe Island could be made of value to this Colony? I do. I most particularly emphasise upon this Royal Commission the advisability of giving this matter their most serious

* NOTE (on revision):—July and August to the north, and later to the south.

serious and earnest attention. I look upon Lord Howe Island as the best fishing-ground we have in connection with the coast of New South Wales. Fish life is excessively abundant there, and all the best qualities we have on this coast are to be found in the waters surrounding that island. I believe the fish, if obtained, could be brought up to Sydney and to other markets in well-boats or in cool chambers. I would like to see the laws which govern the New South Wales fisheries extended to Lord Howe Island, in order to place those fisheries under proper control. Elizabeth Reef, some distance from Lord Howe Island, is also a very valuable fishery.

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5800. As to the administration and control of the fisheries, has your staff been sufficient for the proper supervision of our fisheries? Not recently. We have had a staff sufficiently large to place the fisheries under proper control.

5801. Who is responsible for such a state of things as that? The Government.

5802. Did they curtail the vote for the Fisheries Department? Yes; to a very serious extent.

5803. Did the Government simply reduce the amount, and leave the Fisheries Commission to make the best arrangements they could? They simply told us we must reduce it by a certain sum.

5804. And the result of that action has been the want of supervision of some of our fisheries? Yes.

5805. You have had a long experience in connection with the administration and control of the fisheries of the Colony as President of the Fisheries Commission, and you have taken an active interest in regard to those matters;—do you think that the Commission as a body could be improved upon? I do. I think it ought to be absolutely changed.

5806. What would you suggest? I think the Fisheries Commission should be an absolutely independent body, free from all political and other influences, and it should be the object of the Fisheries Commission to make the Department self-supporting. My feeling is this—it is not the feeling of others with whom I am associated—my recommendation would be to form a Board, and that there should be a head man over the fishing industry. I would pay him well, give him a good salary, and place him over the fisheries of the Colony. I think it would be better to place another person over the oyster industry, and give him a good salary also, and in addition to that I think there should be one or two good business men, perhaps three good men, placed on the Board, men who would take an interest in the industry, one of the three to be chairman. These gentlemen should receive remuneration for their sitting. I do not see, myself, why gentlemen who give their time and attention to an important industry of this sort should do so without some remuneration.

5807. Would you give the fishermen any representation on the Board you suggest? I would not put a man on the Board unless he was a man of intelligence and independence. I think it might be dangerous to put a man on the Board who gets his livelihood by fishing or oyster culture. You can always consult them.

5808. In respect to fish acclimatisation, have you been assisted by the Government in carrying out that branch of the industry? Yes; they have assisted us for the last few years in introducing the fry of trout in particular.

5809. Would it be possible to stock many of our rivers which at present contain no fish life with different varieties of fish? Yes; particularly the waters of the Monaro district, the heads of the Snowy River, the Murrumbidgee, and all the New England waters, and also the heads of our other rivers that are fresh and cool, I think we might stock them successfully with fish.

5810. Do you think we could successfully propagate some of the best specimens of our fresh water fishes, and liberate them in waters where they do not now exist? Yes, I do; the last consignment of trout we obtained came from Ballarat. The trout were about twelve months old, and I hear they have the appearance of being ready to strip very soon. They are out in ponds at the Prospect Reservoir, and it will be a very interesting experiment, and will form an answer to your question. The fish we have at Prospect have lived and thriven well; they have grown enormously; and I am led to believe that they are progressing towards the reproduction of their species.

5811. Would it be a wise thing, from a national standpoint, to establish a fish hatchery on a large scale in order that the several inland waters of the Colony might be stocked with suitable kinds of fish life? It would, and I recommend that it should be done. I strongly recommend that; I wish it had been carried out long since.

5812. Is it advisable that the Government of New South Wales should take joint action with the Victorian Government with a view to preventing the depletion of the Murray River fisheries? It is, and I think very active measures should be taken, not only to protect the fish in the Murray and other fresh waters, but also to propagate them.

5813. Would the stocking of rivers, lakes, and creeks at present containing no fish life tend to purify the waters? Yes; I believe a good class of fish such as the trout would very materially help to purify the waters supplied to town and cities. That very question came before me some time ago. We know that the water supply of the city of Sydney is at times swarming with shrimp life, so much so that it becomes a serious block to the drainage and the strainers, and as a consequence the pumping-gear suffers. I think the Water and Sewerage Board were of opinion that it would be advisable to introduce a fish that would put a stop to that class of life, and if that were done it would be a benefit to the community. I think the question of stocking our waters with suitable fishes is one that should engage the attention of the Government and the Commission.

James Richard Hill, Esq., a Member of the Fisheries Commission, sworn and examined:—

5814. *President.*] Your name is James Richard Hill, and you are one of the Fisheries Commissioners charged with the administration of the Act of 1881? Yes.

5815. How long have you been a member of that Board? Seven or eight years.

5816. You are not one of the original members of the Board? No.

5817. I understand you have given a great deal of attention to the administration of the Act, and also taken considerable interest in the Department? I have taken a fair interest in the whole of these things, not more than others; if giving proper attendance to one's duties there, and trying to work according to one's lights constitute attention, I have done that. I have done no more probably than others.

5818. Would you call yourself a regular attendant at the meetings of the Board? Unquestionably; I think I have only missed about four or five times altogether.

5819. Does the same reply apply to all the members of the Fisheries Commission? I would rather let every man speak for himself.

5820.

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Esq.
1 April, 1895.

J. R. Hill, 5820. Have you attended on occasions when a call has been made, and you have been the only one present? Very rarely; I think such a thing might have happened. I daresay it has happened more than once, and I have gone away immediately it has happened.

Esq.

April, 1895.

5821. Do you know whether it has happened that two members only of the Board have attended a meeting? Yes, frequently.

5822. Has business been transacted on such occasions? No business of importance has been done at such meetings for the last few years, ever since the Parliamentary inquiry. There has been no business transacted, except what might be termed formal business, laying papers on the table, and diaries, and such like, and paying accounts.

5823. Did you give instructions at a meeting composed of two members to ignore an order of Parliament for the production of returns? Never; the very opposite. I should think on all occasions when an order of Parliament came it was filled up and returned with alacrity.

5824. Do you remember a return being moved for by myself in October, 1893, asking for information, and do you also know that that information has not yet been given? I do not know what you refer to.

5825. I will tell you, if you will give me your attention; I will read the series of questions I moved in the House to which I refer:—

MR. FRANK FARNELL to move, That there be laid upon the Table of this House, a Return showing,—

(1.) Which tidal waters in New South Wales have been inspected and reported on by the Chief Inspector of Fisheries or by the Commissioners of Fisheries or by the (so called) Travelling Inspector of Fisheries, or by any officer of the Department located at head quarters.

(2.) Which of the Commissioners, or which officer of the Department, made the inspection (if any) referred to, giving date of each inspection and the result of the inspection.

(3.) How many Commissioners' minutes, instructing the Chief Inspector of Fisheries to visit waters under the control of the Commissioners, are on record.

(4.) How many of those instructions have been carried out, and how many have not.

(5.) The names of all the tidal and oyster-breeding waters that are at present without local supervision.

(6.) If any officer of the Department has been instructed to inspect and report upon the oyster fisheries of the Colony since 1st January, 1890, giving name of officer, and date of inspection (if any).

(7.) If any application for area for oyster culture has been refused since the 1st January, 1890, because there is no officer of the Department located on that particular oyster-bearing water, giving name of applicant and area applied for.

(8.) The possible revenue lost to the country through leases for oyster-culture having been refused to applicants, giving names of applicants, locality, area applied for, and rent payable for the fifteen years under the Oyster Fisheries Act.

[Passed October, 1893.]

That is a return moved for and passed by Parliament. It was sent on to your department for you to fulfil your part. That return has not been forthcoming. I would like to ask you whether any instructions were given, at any meeting at which you were present, that that return should not be complied with? The very opposite. I know of no reason why the return should not be given. I suggest you should call for the books. The books are a faithful impress of what is done at the meetings. Never, under any circumstances, has there been the slightest disinclination to give information asked for by Parliament.

5826. Supposing any member of the Commission gave instructions that that return was not to be prepared, would the Secretary to the Commission be justified in carrying out the directions given him? Certainly not. He would bring the matter before the Board. I do not believe it would be done.

5827. In connection with your Annual Report for 1890, I understand there was a Bill accompanying that Report which was the outcome of some consideration given by the members of your Board;—do you remember the lines on which that Bill was framed? I cannot remember the details of it. We submitted a Bill to the Government which we had given consideration to. Mr. Thompson had taken notes as to various questions and defects, and this Bill was the correction of those defects, and it embodied other things necessary or desirable. A great deal of consideration was given to the Bill.

5828. Did your Commission make any attempts to urge the Government to proceed with the necessary legislation? I think some members of our body—I was not one of the deputation—interviewed Sir Henry Parkes on the question.

5829. And has anything been done as the result of that interview? Not that I am aware of.

5830. Do you consider the provisions of the present Act are all that could be desired? No; I think it a very faulty Act.

5831. Do you think you, as Commissioners, have sufficient power given you to administer the fisheries properly? No; I think the Act is very defective in many points. I think, from recollection, there are many points which are very defective.

5832. In regard to the matter of hauling-nets, or nets generally, do you consider the provisions for the use of nets are satisfactory? No; very unsatisfactory.

5833. Do you think the length of the hauling-net, as given by the amending Act, is sufficient—that is, 300 fathoms? Yes; it is ample for some places. I would not like to say it is sufficient for other places, like Lake Macquarie—probably it is not sufficient for Lake Macquarie—or some portions of Tuggerah. The length allowed by the principal Act, 150 fathoms for a hauling-net, is quite ample for Sydney Harbour and Botany, I think.

5834. As to the mesh, is there room for any alteration? No; not for the hauling-net. It is a very good mesh.

5835. As to the meshing-net, are you satisfied with the length of that? I think there is so little meshing done it is immaterial. The 4-inch mesh is a very good-sized mesh. I think, from recollection, that is a meshing-net.

5836. Supposing it is found necessary to use that net more extensively, can you see any harm in extending that net to 150 fathoms, providing the mesh is retained? My opinion is that the length of the net should be in the hands of the Commissioners, who would have the power then to be able to lengthen or shorten it as circumstances may be. Under existing circumstances that can only be done when the Governor and the Executive Council agree to it; all these alterations are made not by the Commissioners, but by the Government on the recommendation of the Commissioners.

5837. Can you mention an instance where the Government have ever refused to carry out the recommendations of the Commissioners? No; but an occasion may arise where the Government may send a recommendation back to the Commissioners in the case of an agitation arising against the recommendation.

5838. Would it not be better to vest sole control in a body such as you are, rather than to have the interference of the Government, which might mean political influence? Since I have been on the Board political influence has had no effect.

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5839. Perhaps it was never attempted? I do not think it has been until lately, but the Commissioners have not moved from their position.

5840. Can you tell the Commission in what way political influence has been attempted? Various members of the Legislature have approached the Colonial Secretary with reference to certain matters, but we have not moved from our purpose.

5841. Was that in regard to the oyster leases? Yes, and other matters; we have not been swayed by political influence, and if all the Members of Parliament in the country were to ask us to close a thing against our determination we would not to be influenced *per se*, because the men were Members of Parliament. We might be influenced by the arguments they used against ours; if they showed us reasons we would certainly take them into consideration.

5842. I suppose you do not object to Members of Parliament being the mouthpieces of individuals who have grievances? We cannot object; but I think it is wrong for Members to be the mouthpieces. I will give a reason: My reason is that the Commissioners will always do what is fair and right, according to their lights, without any outside influence of any kind.

5843. What is your opinion about the garfish-net, as now used? I think it is a very good length—90 fathoms—30 fathoms bunt, and 30 in each wing. I hold the opinion that if the mesh were smaller it would kill less fish; and further, I would not object to its being a smaller mesh. I would take very great care to see it was emptied in the water before it was hauled to land. I have noticed hundreds of very valuable fish—whiting, and small fish of that kind—meshed in the garfish-net. If the mesh were smaller that would be obviated.

5844. Would not that argument apply with equal force to the mesh of the bunt of the hauling-net? Yes; but you cannot well empty all these hauling-nets into the water before you get them to land, and if you apply it on the same principle you would have to bring them down to three-quarters of an inch mesh. They would not use that; they could not haul the net in.

5845. In respect to the prawn-net, is that destructive to small fish? No doubt it is.

5846. Would it be a good thing to discontinue the use of that net altogether? I do not think it would be fair to the consumer. I should confine the use of the prawn-net to very limited areas, as is done now.

5847. Would you like the Commissioners to have power to decide upon what closures should take place, at what time of the year, and so forth? The later Act, I think, gives power, because we have closed prawning. We can, under the "Sunken Nets Act," restrict those nets to certain localities.

5848. Would you like to have discretionary power as to closures for prawn-fishing? I think we have it in the "Sunken Nets Act," the better kinds of marketable prawns are always caught with sunken nets.

5849. On the whole, then, you do not think there is any great necessity for making any alteration in the length and meshes of the nets at present in use? I do not think there is. I would stop the use of sunken nets excepting in those localities for prawn-fishing that are specifically laid down during certain months of the year.

5850. As to the matter of closures, you have had, as a Commissioner, to agree on many occasions to the recommendations for closures in certain parts of the Colony? Yes.

5851. How were you actuated in making those closures—by the reports of the local inspectors? And our own knowledge.

5852. Do you mean knowledge gained by visits to those fishing grounds? Sometimes, yes. Many of us have been up Middle Harbour and Parramatta River, when we have closed it, but principally by the reports of inspectors.

5853. Have you visited Lake Macquarie? I was never there in my life.

5854. Have you ever been at Tuggerah Lakes since you have been a Commissioner? No.

5855. Have you ever visited Lake Illawarra officially? Not officially.

5856. Have you ever visited the Hawkesbury River fisheries officially? No, not officially. I know the Hawkesbury River.

5857. Have you visited Brisbane Water officially? Yes, about two and a half years ago.

5858. Was that about the time of the expiration of the proclamation closing those waters? I forget when it was; I think Dr. Cox, Mr. Campbell, and I visited Brisbane Water officially.

5859. What was the object you had in view in visiting Brisbane Water? To see how much of it could be kept open, and how much left closed. It was about two and a half years ago.

5860. Was there an agitation about that time for the waters to be kept closed? I think there was.

5861. What was the result of your visit? I think the result was that we elected to open certain sections of it. We found it teeming with thousands of mullet.

5862. Did you make your experiments in the day-time, or at night? In the day-time.

5863. Do you know whether you recommended that the whole of the Broadwater and the creeks running into it be closed, and that the entrance be left open? I really forget what we did recommend; the books would show.

5864. I suppose you would not know what portions of Brisbane Water are open or closed now? Not without consulting the books.

5865. In all cases where you have asked an inspector to report on the supply of fish have you acted upon his recommendation? As far as I recollect we have.

5866. So that if an inspector reported that certain waters should not be closed, you, as a Commission, would not be a party to a closure without having made either a personal or another inspection? I do not think we have ever closed waters against the opinion of an inspector, unless we have had a higher authority to guide us afterwards. I think there have been occasions when an inspector has recommended a closure, and we have sent a higher authority to examine, and we have followed the advice of that higher authority.

5867. Are you aware that the Commission have made closures at Lake Macquarie, Tuggerah Lakes, and elsewhere? We have made closures at various places.

5868. What was the object of those closures? To protect the fish; to give them a chance to go to the breeding-grounds. If you allow a net man to fish persistently at the entrance the fish do not get a chance to go up into the breeding-grounds.

5869. Whilst you have done that in many cases, are you aware that you have not carried out that policy in Brisbane Water? Very likely, because it is not suitable for net-fishing.

5870. Whilst those closures might have been justifiable, have you always had supervision over them to protect them? As far as we are able.

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5871. Are you aware that the closures at the Tuggerah Lakes have been left without supervision, without any control for several months until lately? Every now and again we sent men there.
5872. Are you aware that the fisheries in the Shoalhaven and Crookhaven Rivers have been left uncontrolled? Very likely; we have not the means of controlling them.
5873. Do you mean by not having the means that Parliament has not supplied you with funds;—has any application been made to the Government for funds for the purpose? The Government have absolutely told us they would only give us so much to carry on the work. A year ago we were told our funds were to be cut down to so and so. We had to get rid of a lot of our men in consequence of that.
5874. About how much did they take off? I cannot recollect.
5875. Do you know how many inspectors had to be dispensed with? I cannot recollect; the books will show.
5876. I should have thought that when there was such an inroad as that you would have been able to remember? I have plenty of other things to think of besides that,—that it is my business to think about.
5877. Did that request come from the Government, or was it a suggestion from the Commission to the Government? If it was made by any member of the Commission I never heard of it.
5878. Of course you are aware of the fact that the services of several of the inspectors were dispensed with on the score of retrenchment? No doubt.
5879. Do you know whether any of the salaries were reduced? Yes.
5880. On what basis were they reduced? I cannot recollect.
5881. Do you know whether salaries under £200 per annum were reduced by the Commission? I cannot say, the books will tell you.
5882. You are of course aware of the fact that some honorary inspectors were appointed? Yes.
5883. Did they receive any allowance? Before this reduction?
5884. Yes? If the allowance means salary, I think, Mr. Bayly was allowed forage for a horse for a limited period. Mr. Bayly used to have 10s. per week; that was for a limited period.
5885. Have his services been dispensed with? Yes.
5886. On what grounds? It created a good deal of dissatisfaction that these men were honorary men; they were looked upon as being spies. There is a good deal of difference between a man doing his duty and a man being a spy—that is my impression.
5887. Was there any complaint as to the want of attention to the duties they undertook to perform? I think Mr. Bayly was indefatigable. I do not think I ever saw him in my life, but if you judge by his reports he was indefatigable.
5888. In regard to the permanent assistant inspectors, do you know that some of them are actually in receipt of less money than when they were appointed? Yes; under retrenchment they were cut down; we thought in the interests of the men it would be better to retain their services at the lower salary, so that if times improved, and the Government gave us more money, these men would still have a decent billet.
5889. What is your opinion of the fisheries of the Colony at the present time, as compared with the time of the passing of the Act;—are they improving? They are very much worse, no doubt about it.
5890. To what do you attribute that? Various causes. I think the fisheries of our harbour have probably been interfered with by the deposits of sewage matter, and by the enormous number of line fishermen who catch immature fish.
5891. Amateur line fishermen? Yes; and by the deposit of silt outside the grounds where the fish feed, and also by the steamer traffic. It is within my knowledge that valuable schnapper-fishing grounds outside are now covered with silt that has been deposited there, and if you put a kellick-stone down and haul it up again, you will find a lot of this black mud, and those places used to be clear feeding grounds for the fish. Then again, where one amateur used to go fishing ten or fifteen years ago, there are probably ten or a dozen now, and the schnapper do not get a chance, when fellows in the authorised fishing grounds in the harbour catch 10 or 12 dozen red bream—the schnapper have no chance of growing, because those red bream would grow into schnapper if they were allowed to remain in the water long enough. I am quite satisfied that the amateur fishermen, the line fishermen, do an immense amount of harm to the fishing industry, and I want to emphasise this statement.
5892. Would you license amateur fishermen? I hardly know; I have given no consideration to that question.
5893. Have you paid much attention to the oyster fisheries? Yes.
5894. Do you believe in the system now in vogue under which areas are taken up? I would prefer to lease large areas by auction. It would be more beneficial to the industry.
5895. Would you lease an arm of a river, or a river, or —? I would take a section of a river, and take into consideration its adaptability for oyster culture. I would take a good large section, and give a good man the chance to cultivate oysters properly.
5896. Would you impose a charge, as at present, so much per 100 yards? I would have a minimum, and I would put it up to auction.
5897. What would you think of a proposal for the lessee to pay according to results, and be bound by stringent conditions to work his lease properly? I think the Government might be done that way. They would remove the oysters at all times, and the Government would not get a fair revenue, and the man would take the view that the better he did by his individual effort, the more he would be taxed.
5898. But supposing we were to provide against that by compelling lessees to brand their bags of oysters? They have to do that now, and we know what a trouble it is to get them to do it.
5899. Supposing it could be worked so as to prevent the Government being got at? I think the principle is wrong. For argument's sake, let us say two men take up 1,000 yards each, paying the Government a minimum rental of £10 for 1,000 yards, and they have to pay a royalty as well on each bag of oysters. One man by his individual efforts secures from that lease 1,000 bags. You are going to make him pay a royalty on that. The other man may not get 100 bags, although each water may be exactly alike—that is, you are putting a tax upon energy.
5900. Leaving out the provision as to the deposit, which I never intended should come into this subject, would it not be more satisfactory to lease a large area, or an arm of a river, and have a system of payment by results? I think the principle is wrong.
5901. Do you know whether any of our oyster-beds have been attacked by disease? Yes.

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5902. What effect has that had on the leases? It has done a great deal of damage, in the Hunter River especially. The oyster disease has been in existence from time immemorial, if you may judge from the oyster shells got inland, which bear traces of the disease.

5903. Have many applications been made to your Commission for the surrender of leases on account of the ravages of the worm? We have had a large number of applications from various causes.

5904. Speaking of the system which has been alluded to in the previous question, do you not think it would be fairer to institute a system of payment by results, rather than to compel a man to pay for two or three years, while his oyster-bed, which has been attacked by the disease, is becoming resuscitated? I think the principle is wrong. A man will not give as much in the Hunter River, where the worm has been, as he would for another place where there is no disease.

5905. But you will admit the Government should receive something for the use of its property? No doubt. I would have a minimum, that minimum to be gauged by the value of the water in the opinion of those who had the gauging of it.

5906. In regard to the system at present in vogue, do you believe in the indiscriminate way in which people are allowed to take up 100 yards of an oyster lease in between larger leases? The Commissioners have set their faces against these 100-yards leases where it is believed they have been taken up for the purpose of injuring other people, and not for oyster cultivation.

5907. You have taken the precaution, believing these areas would be taken up for that purpose, and you would not grant them? The information is given to the Commissioners by their inspectors that certain applicants for leases are night prowlers, who have been taking oysters from other people's leases, and cannot be caught. They want the 100 yards for the purposes of fences, as it were.

5908. Are you not aware that they also take oysters from the Crown lands? Yes; I think one or two have been punished lately for that.

5909. Do you believe in that provision which allows the public to take not more than a peck of oysters from off Crown lands? I think it is abused very much.

5910. Would you allow people to eat what they like, but to take none away? Yes.

5911. Now, in regard to the closures in the Parramatta River and Port Jackson? My opinion is, that if you close it against net-fishing it should be closed against line-fishing also. I am quite satisfied that the line fishermen do an immense amount of mischief, and that very few net men do much mischief. I have watched hundreds of nets being drawn to shore, but I have not seen many valuable fish destroyed. I have heard that such is the case, but I have not seen it. I have, on one or two occasions only, seen little red bream landed. I saw an Italian bring some in once, and I expostulated with him as to the impropriety of what he was doing. Very rarely has it happened that I have seen net men destroy young fish—I am speaking of the result of my personal observation—but I have seen line men catch young red bream ten and twenty dozen at a time. They do mischief to the schnapper fishing.

5912. You contend, then, that not much credence can be given to the statements made that bushels of young fish are seen on the different hauling-grounds? I give the results of my own observation.

5913. Are not sunken nets largely used by foreigners? Nearly all by Greeks and Italians.

5914. Do you know whether the question has been asked of them, when they apply for a fishermen's license, whether they have been naturalised or not? I do not know.

5915. Do you think we should grant a license to aliens? A very broad question is involved in that—it is hard to say.

5916. You refer to one matter which you think acts detrimentally to the fishing grounds of Port Jackson, that is, the emptying of silt within a certain distance of the Heads? I am quite satisfied it is.

5917. Could that be avoided by the punts going further out to sea? Yes; I have seen them empty silt in fine weather miles nearer to the shore than it should be emptied.

5918. What would be a fair distance to take the silt out in order to prevent the destruction of the feeding grounds? Eight or 9 miles at least. There is always a big southerly current in summer time, and northerly current in the winter. It is a scandal that they should be permitted to empty the silt so close to the Heads.

5919. You have had experience in deep-sea fishing? Yes.

5920. Do you know anything about well-boat fishing? I have seen some very fine well-boats in New Zealand.

5921. Did the system work satisfactorily? No; it was a commercial failure.

5922. Why was that? I cannot say; yet they had the proper class of boats from Tasmania, and so forth.

5923. Was it because of the want of a proper demand for fish? Probably it was.

5924. Do you know anything of the system as it is pursued in Tasmania? I have been in Tasmania, but I have never seen the system there. I never examined the well-boats, or went out in them; any knowledge that I have is theoretical.

5925. Would you be surprised to know that the price obtained for live fish in the Hobart market is 60 per cent. more than that obtained for dead fish—that it makes a difference of 60 per cent. to the fishermen? Very likely.

5926. If the well-boat system of fishing is conducted satisfactorily and successfully in other Colonies, is it not quite likely that it would be successful here? I only know it was tried twenty-five years ago here, and it was a dead failure commercially. I think it was tried six or seven years ago, and it was a failure.

5927. Did they take the proper precautions twenty-five years ago to keep the fish alive? I think so, as far as I recollect.

5928. Would it surprise you to know that there are well-boats trading on our coasts at the present time, and that the well-boat system in being conducted profitably? On our coast?

5929. Yes? I was not aware of it.

5930. Do you not think it would be a step in the right direction to get schnapper from the distant fishing-grounds and bring it alive to the Sydney Market? No doubt about it.

5931. Have your Commission ever experimented in trawling? Yes; once or twice we did. We experimented in Botany; we got nothing worth having. Before I was a Commissioner I believe they made other trials outside.

5932. Do you think a sufficient trial was made to warrant a proper trawl survey being made of the coast? I think the coast should be surveyed first, and then you can trawl afterwards.

5933. Did your Commission ever recommend the Government to purchase a proper trawling steamer for experimenting on the coast? No, not in my time. I think we never made any recommendation of that sort.

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5934. Supposing I show you the recommendation? I do not think so.

5935. I have here the Report of the Fisheries Commission for the year ending December, 1888, would you mind reading the paragraphs I have quoted:—

The Steam Launch.

“The small steam launch now used by the Department is, we regret to say, altogether unfit for the various services she is required to perform, and which, because of her unfitness, are necessarily much circumscribed. In spite of repeated efforts to improve her speed and stability, this launch is still a slow and dangerously unstable vessel; nor can she carry coal or water sufficient for even a short trip to the upper waters of the Hawkesbury. Against a very moderate head wind she is unable to make any respectable headway, and it has been found impossible to bring her from so short a distance as Botany or Broken Bay to Sydney, unless in exceptionally calm weather. She is altogether unequal to any experiments in trawling, except in smooth water, and even then she can do nothing with a moderately heavy beam trawl. She is too small to carry even a dingy on her decks, and her accommodation in wet weather for the single engineer who composes her crew is practically limited to standing room, as her small cabin is generally required as a supplementary coal bunker. We strongly recommend the Minister to direct her to be sold or converted to some other purpose for which, possibly, she may be found suitable, and that a vessel be built for the Department capable of fulfilling the various and, in some respects, exceptional requirements of a serviceable fisheries tender. Such a vessel should be of at least 70 tons (builders' measurement), and should be so designed as to allow of at least four or five days' coal being stowed in her bunkers; to give deck room for two useful fishing boats; to be masted and otherwise fitted so as to provide the means of trawling and shooting drift nets and purse-seines at sea; of allowing ample storage for oysters and fish, and especially for the safe carriage of young fry for purposes of acclimatisation. A high degree of speed would not be necessary. What is of more importance is that the vessel should be a good sea-boat, capable of ensuring a passage to and fro between the home fishing stations, and of providing the necessary accommodation for the services to which she could be devoted so beneficially. Such a vessel could be employed on the ordinary towing and other departmental services when not specially employed on duties connected with the Department of Fisheries.

“Without such a vessel we do not hesitate to give it as our deliberate opinion that none of the important benefits, experimental and protective, expected by the fishermen and the general public from this Department can even be attempted, much less effected, by those upon whom the Legislature has cast the grave obligation of developing the fisheries of the Colony.

“We do not make this recommendation lightly, or without having given due consideration to the cost which the character of vessel indicated would entail; nor have we forgotten that, for reasons given in an earlier part of our report, the Department of Fisheries is no longer self-supporting. But we are constantly being reminded, both in Parliament and in the Press, that much more is expected of the Department of Fisheries than it has yet been in a position to accomplish or even essay, and we are made painfully conscious of the weakness and limitation of our efforts by the nature of the material with which we have to work. In the entire equipment of our Department, feeble and insufficient as it is in many respects, there is nothing which so denotes impotence as the vessel with which we are supposed to carry out the duties connected with the periodical closing of fishing-grounds and the protection of fish for reproductive purposes in waters known to be their natural nurseries, while, in connection with the oyster fisheries, this vessel has never been, and can never be, of the slightest use?”

That is quite right.

5936. It is very clear for all purposes? But it was not intended to be used as a trawler.

5937. I suppose we should be perfectly correct in concluding that your Commission were of opinion that experiments should be made in trawling? No doubt, if we had the means of doing it. I recollect certain places were said to be very good trawling-grounds, and if we had a vessel capable of carrying a beam trawl we should be able to carry out experiments without any great expense; but we had no idea of building a steamer for trawling alone. We wanted a steamer for the purposes of the Department.

5938. Do you think we have fishing-grounds outside that might be trawled over? I would not like to say. We can only tell that by making a proper examination of the coast. The result of the experiments made by the “Challenger” do not show we have any good grounds.

5939. These experiments were made on behalf of the Admiralty? Yes; but she did trawling.

5940. Did the “Challenger” make a complete survey? I cannot say.

5941. Do you know where we can obtain a report of the experiments made by the “Challenger”? At the Public Library, I should think.

5942. Do you remember that some time ago Parliament voted £100 in order to allow experiments being made by your Commission? I cannot recollect it.

5943. However, nothing was done? I cannot recollect exactly the circumstances. If it be in my time it may probably have reference to our requesting the Government of the day to induce the Admiralty to give their opinion about the grounds outside. I think you will find in the archives of our Department that it has been stated that the Admiralty had some very valuable charts which we could get if we applied for them through the then Prime Minister. We did apply through the then Prime Minister to the Admiralty for the charts containing the information with reference to the bottoms, but we never got them. There are some very valuable charts in existence. Mr. Thompson will probably recollect the circumstance. I have a distinct recollection of the Prime Minister of the day being asked to obtain for us some very valuable charts, which gave the soundings and the bottoms right along the coast for a considerable distance. I think we asked the Government of the day to get a survey made from Newcastle to Shoalhaven, so that trawling could be tried. There would be records of this in the Fisheries Department.

5944. Did the President of your Commission ever bring under your notice a proposal to properly equip the “Thetis”? Yes; he did.

5945. Well I may inform you that it was in connection with that, that the £100 was voted. Yes; but I think Mr. Thompson went and examined some boats; they were found unsuitable; I think, before the Commission could go in for trawling they would think it necessary to have charts showing the bottoms.

5946. In regard to the question of fish acclimatisation, do you remember a sum of money, £750 in all, being voted on the estimates for fish acclimatisation? I do not recollect that particular sum; we have had several.

5947. It was for the purpose of establishing a fish hatchery at Berrima—has anything been done towards establishing that hatchery? I do not think so.

5948. The Commission have been the means of distributing a lot of trout fry in various parts of the Colony? Yes; that is so.

5949. As a rule have the reports received from the different districts in which the fry were liberated been satisfactory? My experience of that is that you do not know much about it for years. I have seen a great deal of that sort of thing in New Zealand. Although we turned out fish by the hundreds of thousands the results were not appreciable for years afterwards. I think we should not look for results for years, especially in big rivers like some of the rivers in this Colony in which we have liberated fry.

5950. Still I suppose you have every reason to believe that your experiments have turned out successfully in the Snowy River? If you may judge from the two or three trout that have been caught I think in the

the Snowy River, you may be assured that some of the rivers in New South Wales are admirably suited for that fish. If you will permit me to make a suggestion, I would say that Mr. G. A. Murray, of Mittagong, has done more in the way of acclimatising trout in this Colony than any other person I know of; he will gladly give you any information in respect to the question.

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5951. You have been compelled, owing to the limited area at your disposal, to liberate the fry at an age when they should not be liberated? No doubt; but if you are going to carry them a long way, the smaller fish will do well.

5952. About the crayfish industry, have you noticed that large consignments of crayfish go to the market? Yes.

5953. I believe they are in prime condition when they are in roe? When it is inside; unfortunately they are brought here for sale when they are in the egg state. When the coral is inside they are best, but when the eggs are outside, attached to the tail, they should not be killed.

5954. Would you favour a provision in an Act preventing the sale of crayfish when in that condition? I would most unhesitatingly. They do an immense deal of harm by taking them in that state. At Broken Bay crayfish used to be found in tens of thousands, but they are almost cleaned out now; it is the same at Port Stephens; they killed them when the eggs were attached to the tail, and they are nearly cleaned out there.

5955. I believe you have paid frequent visits to the Woolloomooloo Market? No; we have nothing to do with the markets, that is a matter for the Municipal Council.

5956. Have you watched the mode of procedure in connection with the sale of fish at that market? I have seen it; but I look upon that as a matter outside of our Act.

5957. Do you think the market is centrally situated for the conduct of business? I think it is a very bad place.

5958. Do you think the system of throwing the fish on the floor for sale is a good one? A very bad one.

5959. Do you think matters might be improved upon by holding two sales a day in the market instead of one? There should be a sale at 2 o'clock or thereabouts, so that people could get fresh fish, especially in the summer-time. In company with some of the Commissioners, I went with a deputation to the Mayor, Mr. Manning, and asked him, in carrying out the design in the new markets to be erected in George-street, to have a place set aside for the reception of fish, a place where the fishermen could retail their fish if they liked, and keep them in a cool chamber. In that way people could go and get fresh fish at any time.

5960. Then you would favour the adoption of some means by which the fishermen could be brought into closer contact with the consumer? Yes, unquestionably; I think it might be done in the George-street markets. They could have a cool chamber in the basement where fish could be kept ready cleaned, and the public could go and purchase when they liked. I do not see why the fishermen should not be able to do what Chinnery does—sell their fish fresh and cool.

5961. Have you ever noticed any shoals of fish on our coast going from the south to the north? Yes; hundreds of times.

5962. Can you tell us what fish they were? Mackerel, bonito, herrings in thousands, mullet, kingfish, salmon, the herrings wider out—much wider out.

5963. The Commission are anxious to ascertain whether it is the true herring that travels on this coast? There is no doubt about it. The people who write about the herring not being on our coast do not understand the question. The herrings are here in thousands beyond all doubt. The week before last I saw a number of boys with a whole string of them in Rose Bay.

5964. Would that be the southern herring? The ordinary herring; on one occasion I was fishing off the South Head, and I caught a big shark there. I disembowelled the shark, and I found between twenty and thirty of the true herring—*clupea sagax*—inside him. That was in recent years.

5965. Do you think these shoals of herrings should be caught and turned into a marketable commodity? I cannot say; I think a herring-net ought to be tried; the experiment ought to be tried at the proper season.

5966. Have you noticed the season at which the shoals of fish make their appearance? Yes, I have; the principal season is about March, April, and May. They have been coming into the market here, I know, during March.

5967. Do you think there is a possibility of a great development taking place in fish smoking, canning, and curing? There ought to be a great field for such an industry if it is properly looked after.

5968. I suppose it simply wants enterprise and practical men to start and carry on such an industry? Yes; enterprise.

TUESDAY, 2 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10 a.m.]

Present:—

FRANK FARNELL, ESQ., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, M.L.C.

The Hon. Solomon Herbert Hyam, M.L.C., a Member of the Fisheries Commission, sworn and examined:—

5969. *President.*] Your name is Solomon Herbert Hyam; you are a Member of the Legislative Council, and one of the Fisheries Commissioners? Yes.

5970. How long have you been a member of the Fisheries Commission? About nine years.

5971. You were not a member of the first Board? No.

5972. During the period you have been acting as a Commissioner have you had a good opportunity of ascertaining the defects in the present Fisheries Act—speaking generally, what would you say of the Act as it stands? I have always held the one opinion, which is, that the Act is, in many respects, defective.

5973. Have you, as a Commissioner, made representations to the Government with a view of having a new Act placed upon the Statute Book? Yes; as one of the Fisheries Commissioners I helped to prepare a new Bill, which was handed over to the Colonial Secretary some two or three years ago.

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5974.

- Hon. S. H. Hyam, M.L.C.
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5974. Would that be a Bill which accompanied the Report of the Commissioners in 1890? I do not know. It was sent to the Colonial Secretary with a request that it should be brought before the House as soon as possible, in order to have it passed into law.
5975. Prior to that, had you taken any action to urge upon the Government the necessity for proceeding with legal reform in that direction? I am not certain; I think we did; not in an official way, but we have, times out of number.
5976. And although you made those representations, no good result has followed? While I was a Member of the Lower House I urged the Government to have alterations effected in the Fisheries Act.
5977. During the time you have been on the Commission have its members attended regularly? Well, I can say for Mr. Hill, Dr. Cox, and myself, we have attended regularly. I have never been absent unless through illness or being away from Sydney.
5978. With regard to Parliamentary returns, when a request has been made for the Fisheries Commission to supply certain information, do you know whether the Commission has refused to supply such information? We never refused.
5979. Do you think it is likely that any one member of the Commission would give instructions that returns should not be prepared without consulting other members of the Board? I cannot say. I know I would not. I would rather that the Commission as a body gave instruction than one individual.
5980. In the Report for 1893 I notice the expenditure is reduced to £3,000;—do you consider that sufficient for the proper working of the Department? I think it is totally inadequate.
5981. Do you know whether the Commissioners recommended that the amount should be fixed at £3,000, or did the Government do so? It was done behind the backs of the Commissioners, in this way. Reduced estimates were submitted to Parliament and passed. The Commissioners felt retrenchment was necessary at that time, and we did not offer any strong protest against the reduction, although we felt it would cripple the Commission a great deal by reducing our staff.
5982. Are you aware that reductions in several salaries have taken place? Yes.
5983. Are you also aware that reductions have been made in salaries under £200 per annum? I cannot say. We may have done so; it is hard to remember.
5984. Have the Commission made any application to the Government, asking them to restore the amount formerly granted, in order that the Department might be worked efficiently? I do not think so.
5985. The Commissioners meet once a week? Yes: on Wednesdays.
5986. Have they ever made any official visits to the fishing grounds in the Colony? Yes.
5987. As a body? Yes. Well I do not say the whole of them, but as an individual Commissioner, I visited the inland fisheries in the Bourke district, the Hay district, the Deniliquin district, and the Albury district. I visited most of the southern coastal districts, and I have been as far north as Port Stephens.
5988. Could the visits you made be termed official visits? Yes; I spent a considerable time in the southern districts, and in the north at Newcastle, Lake Macquarie, Tuggerah Lakes, and the Hawkesbury.
5989. Do you usually notify the local inspector of your intended visit? No; I think it better to go incognito. I have met the inspectors there just casually.
5990. Can you tell the Commission of any occasion you have visited the fisheries when another member of your body has accompanied you? Mr. Hill accompanied me to Pittwater on one occasion, Mr. Hill and Dr. Cox to Botany, Mr. Hill, Mr. Campbell, and, I think, Dr. Cox, to George's River.
5991. How long is it since those visits were made? I think the visit to Botany was about four years ago. We went there trawling. We visited Pittwater about three years ago, and George's River about two and a half years ago.
5992. Do you know whether any of your colleagues on the Commission have made official visits to Lake Macquarie, Tuggerah Lakes, Lake Illawarra, and the Shoalhaven and the Crookhaven Rivers? I think Dr. Cox made an official visit to Lake Macquarie and the Tuggerah Lakes.
5993. Are you sure the visit of Dr. Cox to the Tuggerah Lakes was not of a private character, more of a scientific nature, rather than in connection with the development of the fisheries? That I cannot answer.
5994. Do you remember the last occasion you visited Brisbane Water, what was the object of your visit? It was in connection with the opening of those waters. It was objected to by the Railway Commissioners. I went down by train, got a boat, pulled down. My son was with me, and I had conversation with different people there. The result was I think we did the right thing.
5995. Did you visit that place with Mr. Campbell and Mr. Hill? No, I did not.
5996. You do not know who accompanied them? No; I know they went. There were at Kincumber, I know.
5997. What was the result of your visit, and the visit made by Mr. Hill and Mr. Campbell? We were satisfied that the action we had taken in the past was in the interests of the fisheries, and we did not alter any arrangements that had been made.
5998. In regard to these closures, is it not a rule that the Commission shall receive a report from the local inspector before making the recommendation or acting in such matters? Yes.
5999. Do you know whether a report was obtained in regard to Brisbane Water from the local inspector? I think so; I think we acted upon his recommendation. I saw the Secretary for Railways; he asked us not to be too stringent in our rules, if we could see our way to leave things as they were it would prove beneficial to the railways. That was the reason I went down; I told him I would do what I could to sift the matter thoroughly. I think there were other interests involved as well as the fishing interest.
6000. Do you know the closures at present in existence there? Yes; I spoke about it one night in the House when Mr. Pigott moved to bring in a Bill to have the whole of Brisbane Water closed against net-fishing. I combated that, and successfully too.
6001. Do you believe, as a general rule, in closing the entrance to lakes? I do; I think that should be a hard and fast rule; fish are migratory, so that the fish in entering and leaving the lake should not be intercepted. Continual hauling the net at the entrance to a lake would scare the fish away. It is a wise thing to close the entrance to all lakes. Of course I know the fishermen object to it.
6002. Then, I suppose, in order to make a closure thoroughly effective you think it necessary to have good supervision? Quite so.

6003. Are you aware that on the Tuggerah Lakes the closures have been left without supervision for months and months? Not so bad as that. I know we are very much hampered in consequence of the small number of inspectors. A visit is occasionally paid to the Tuggerah Lakes.

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6004. Are you also aware that the Shoalhaven and Crookhaven Rivers have been left without supervision? They are occasionally supervised by Inspector Benson; he is stationed at Wollongong,

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6005. Do you think the dimensions of a hauling-net are fair and reasonable? Under certain conditions and in certain waters they are not. I had an amendment inserted in Mr. Edden's Bill; the Commissioners approved of the Bill to a certain extent, and the amendment was that the length of net should be increased on the recommendation of the Commissioners; discretionary power was given to the Commissioners.

6006. As to the mesh of the hauling-net, do you think the bunt proves more destructive than the smaller mesh would be? I have done a lot of net-fishing in my time, and I am satisfied that the prawn-net is the net that does the damage. I think the hauling-net is a fair net.

6007. Have you ever noticed that when the net is hauled to the shore the bunt would contain a great number of compressed fish—small fish that were meshed in it? You will find some, especially the immature schnapper—the red bream. I have found mullet and whiting meshed in it; I have noticed young black bream, but not a great many.

6008. In regard to the meshing-net;—do you think we might fairly allow a greater length for that net? I think there might be a danger in that. The meshing-net will not catch the small fish. In meshing harm is done by frightening the fish away. When the meshing-net is put down a good deal of noise and splashing goes on, to induce the fish to go into the net. I think meshing, under certain restrictions and conditions, might be carried on a little more extensively than it is.

6009. Do you look upon it as less destructive than any other net? Certainly.

6010. Would you have any objection to extending it to 150 fathoms? I do not think I would like to do that. I think, under certain conditions, I would extend it a little more.

6011. Would you interfere with the mesh? I would not make it less than 4 inches.

6012. But are you aware that at the present time quantities of marketable fish escape through the 4-inch mesh? Well, although the fish may be legally marketable it is just as well they should escape.

6013. About the garfish-net;—are you satisfied with the length and mesh of that? Yes; although the garfish-net is destructive to immature fish other than garfish, still I do not see how we are to alter it. I think there is a rule that the garfish-net must be emptied in the water, and if that rule is adhered to the small fish and other varieties are thrown back into the water.

6014. You said something about the prawn-net;—would you discontinue the use of that net altogether on account of its destructiveness? Well, it is such a hard thing to do; prawns are a great delicacy. I think a great many places should be closed against prawn-fishing. What I object to most is the way these foreigners fish. I do not think they are a desirable addition to our fishing population, and they are hard men to deal with.

6015. Do you refer to the use of the sunken net? I do. I have always had a great antipathy to the use of the sunken net.

6016. Would you favour the reservation of certain waters for prawn-fishing, and would you give discretionary power to the Commissioners as to when those places should be opened? Yes; I would.

6017. Do you believe in the retention of that provision which gives the inspector or the informer half the penalty recovered? No.

6018. Do you believe in confiscating fishermen's nets—in taking away their tools of trade for a first offence? I have always been inclined to deal leniently with people for the first offence, and I think the Commissioners have shown a disposition to do that on all occasions. I would always give a man a chance. We have an Act given to us, and we must administer that Act as it is.

6019. Do you think the Oyster Fisheries Act is satisfactory? I do not.

6020. Would you be inclined to alter the system under which leases are issued by the department? I would as regards the area. I would not lease land in very small areas, because my experience is that the man who takes up 100 or 200 yards takes his lease up somewhere adjacent to a man who has a large area. I know of my own knowledge that the man holding the small area does not cultivate oysters, he merely takes the oysters from the lease when he takes it up, and he poaches on his neighbour and on Crown lands. The man who has a large lease is the man who takes the most interest in the cultivation of oysters and looks after the cleanliness of his beds, and, as a rule, he is law-abiding.

6021. Would you support the leasing of large areas, such as the arm or the whole of a river? I would; the whole of a river.

6022. Providing, I suppose, there were stringent provisions as to the proper cultivation of the oyster? Yes; certainly.

6023. Would you be inclined to allow that area to be taken up on the basis of payment by results? I do not think I would, for this reason; a man might neglect his lease, and there might be no result from the lease.

6024. But supposing you had a stringent provision compelling him to work his lease, and power were given to the Commission to cancel the lease if he did not work it properly? I do not believe in it. It is an innovation greatly sought for in other branches of industry, but I do not think it would be a good thing.

6025. Are you aware that the ravages of the worm have proved most destructive in connection with many leases? Yes.

6026. Are you aware that those beds have been rendered unproductive by the worms in some cases for a period of two or three years? Yes.

6027. Are you aware also that although that state of things has existed, and no return has been obtained from the leases, the lessees have had to pay the rent due on those leases? I am aware of that.

6028. Then, I ask, would it not be fairer, under those circumstances, the disease being brought about probably by an act of the Almighty, to make those people pay a certain amount per bag, according to results, than to charge them so much per annum per 100 yards? I look upon it as a dangerous precedent to establish.

6029. Do you think it would be better to submit the whole area to public auction? I think that would not be a bad idea; it would be a very fair thing.

6030. Are you acquainted with the present condition of our oyster fisheries;—are they improving? I am certain they are improving in many respects. Of course, in the Hunter River, I must compliment the

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the principal lessee there, Mr. Gibbins, on the way in which he has endeavoured to fight the worm disease. A great many people think this worm disease is new, but I discovered the disease forty years ago in the Shoalhaven. Before now I have dug up some of the kitchen middens, and have dug up oyster-shells which must have been there perhaps 200 or 300 years, and I have discovered traces of the disease in them. When I was in Western Australia they were dredging in Perth water, thousands of tons of oyster-shells, and I looked at some of them and I found this very worm disease had existed in those oysters. The disease is no new thing on the different parts of the coast of this continent.

6031. But there has been an absence of the disease for a number of years, and it has shown itself again? Yes; it is like rust in wheat and other things.

6032. In the Act there is a provision allowing people to go on to Crown lands and take away not more than a peck of oysters for their own consumption;—do you believe in that provision? I would abolish that. It is a thing that can be abused. Let them eat as many as they like while they are on the ground.

6033. What is your opinion generally of the oyster fisheries of New South Wales;—is it possible that all the beds may become resuscitated, and that we may be able to supply ourselves with oysters instead of importing them from other Colonies? I am certain we can do it now. I do not think we want foreign oysters here at all. I do not believe in the system of depositing culch on the beds. I favour the system adopted in France and America, which is tiles, brushwood, and I believe the latest thing is fine wire-netting, and the importance of that is that after the spat fixes itself to the wire-netting the action of the water destroys the netting, and the young oyster is set free without any trouble or labour such as knocking it off the tiles or other substances, which very often injures the oyster and kills it.

6034. The experiments that were made in trying to introduce the New Zealand oyster, were they a success? No; the Commissioners imported some Stewart Island oysters, and we gave them to different people, but we did not experiment with them ourselves. The Stewart Island oyster is a very fine oyster, and I think it belongs to the mud-oyster, or it is allied to the English native oyster. I think it must be very closely allied to that oyster.

6035. Can you say where those oysters were deposited? I cannot say; it is a good while ago. I fancy some were sent to the Clyde River.

6036. Would it be reasonable to suppose that the difference in salinity and density of water would account for the oyster not growing here? Salinity has a great deal to do with the growth of the oyster. Those Stewart Island oysters were taken from very deep water. In 1849 I was in a boat belonging to a whaler at Jervis Bay, and right in the very centre of Jervis Bay they found a fine bed of mud-oysters. They got them in any quantities. They would be in about 10 or 12 feet of water at low-tide. Of course the water is very saline there. I have a theory concerning the presence of those oysters in Jervis Bay. It is this: back from this particular part of Jervis Bay there are a good many little lagoons containing fresh water. Now it is quite possible that the outlet of these lagoons may be in the particular neighbourhood where those oysters were found. My experience goes to show that the oyster does best where fresh water can get to them.

6037. Is that the only instance you know of, showing evidence of deep-sea oyster deposits? I have heard of others.

6038. Do you know if it is a fact that some of the lessees of small areas borrow the bags belonging to the larger lessees, and that if they do not fill those bags from the lease they hold they fill them from Crown lands? I do not know that of my own knowledge, but I have been told it is true, and I have not the slightest doubt it is true.

6039. Have the Commissioners made any experiment in trawling? Yes; I assisted at one experiment made by the Commission at Botany Bay, about four or five years ago.

6040. What was the result? We got a lot of ground-fish of an inferior order and a few soles.

6041. In what depth of water was that? About 16 or 18 feet.

6042. Have the Commission made any actual experiment outside in the offing fisheries? No, we had no appliances; we intended to do so, but found the cost would be too great. I think before anything is done with regard to trawling on our coast a survey should be made of the bottoms to show what grounds are suitable.

6043. Would not an ordinary trawl survey suffice? I cannot say; the Admiralty made a survey, but it was rather incomplete. I think the Admiralty have a lot of ships here which could be very well engaged on such work.

6044. Do you think it is possible that grounds exist off our coast that could be trawled with success? I know there are grounds that could be trawled, but whether successfully or not I cannot say. My impression is that trawling will not be a success in this country if carried out in the daytime, the water is so clear. In dull heavy weather trawling might succeed; I know of extensive grounds—there is the Shoalhaven Bight, and the Bight off Narrabeen, and Manly Bight. A great many of these places could be fished and fished successfully too, and especially the Bight off Lake Macquarie.

6045. Can you see any harm in the Government making an experiment in trawling? Not the slightest; I wish somebody would make an experiment in trawling.

6046. Have you any knowledge of the well-boat system? Yes, I have seen them; the chief fish you can catch on this coast to put into the wells is schnapper, and I am afraid the schnapper is a fish that will not take kindly to the well.

6047. How long is it since you saw a well-boat? Four or five years ago. I have seen them on three occasions.

6048. Do you know there is a process adopted which prevents the possibility of fish knocking themselves about in the well, I mean pricking the fish? When the Dogger Bank fishermen catch fish they prick them; I have not seen it done.

6049. Do you know whether the fish you saw in the well-boats were pricked forward of the ventral fin? I do not know.

6050. Your experience has not been extensive in regard to the use of the well-boats? Oh, no.

6051. If they have proved a success in the other Colonies do you think they might prove successful here? Oh, I think so; I should like to see a well-boat so constructed that the schnapper would live in it a week or two. I think it would be a great thing for the Colony, and a great thing for the fish supply of Sydney. I hold the opinion that the schnapper is one of the fish of the world. I do not think it is possible to beat a good schnapper when it is in real good condition.

6052. Would it not be a great advantage to the consumer to be able to obtain his fish alive? Yes, it would; and I am so satisfied that fish, as we get it now, is so often unfit for use that I seldom eat fish.
6053. Are you satisfied with the manner in which business is conducted at the Woolloomooloo Market? Not by any means, and I am very emphatic in what I say about that—not by any means.
6054. Would you favour the idea of bringing the fishermen into closer contact with the consumer than at present? Certainly I would.
6055. Would you have some improvement made in the method of displaying fish at the market? Yes.
6056. What would you suggest? A deputation from the Fisheries Commission waited upon the Mayor when the new markets in George-street were about to be erected. We suggested a plan whereby the fisherman would be able to take his fish to a cool chamber, and at the same time fish could be kept in the cool and effectively and properly displayed. The consumer could go in and select his fish, and have it sent home as he liked. If that were done the mother of a family, or anyone else, could go and select fish and take it away, or have it sent home. I think fish should be kept in a cool chamber.
6057. Do you favour the system of showing fish upon raised tables rather than of displaying them in heaps on the ground? Yes; putting fish on the ground is a most objectionable plan—a most filthy plan. The tables should be of slate, stone, or marble.
6058. Would you favour more than one sale in the market during the day, or would you keep it open all day? I would have the market open all day. That is one thing I cannot understand. We call it a fish market, and yet fish is only sold there at an early hour in the morning. I would give the fisherman an opportunity of selling his own fish in the open market, and at any time in the day.
6059. Would you favour the establishment of auxiliary markets—that is, taking it for granted we are going to retain the Woolloomooloo Market? Yes; I am in favour of establishing auxiliary markets wherever necessary, in all the big suburbs, such as North Sydney, Balmain, Newtown, Redfern, Waterloo, and other places.
6060. Do you think there is any possibility of a revival of the whaling industry in New South Wales? Well, I give the Commission my own opinion: I do think it is possible that the industry can be revived, and I have thought so for some time.
6061. I suppose you know that the whaling industry was very successfully carried on in this Colony some years ago? Yes; I have seen all the necessary operations for the capture of whales. I have seen the whalers come into Jervis Bay and try out. I have seen vessels catch whales—humpbacks, and black-fish, small whales—in Jervis Bay. I saw two sperm whales about 10 miles off the Heads of Jervis Bay some years ago. I am very glad to see the Royal Commission is taking up the question of the whaling industry. Of course the present Fisheries Commission cannot take it up. It is an industry that could be revived and ought to be revived. Sydney ought to be one of the biggest whaling ports in the world.
6062. You have given some attention to the inland fisheries of the Colony? Yes.
6063. Are you aware that at the present time Victoria reaps great benefit from the Murray fisheries? Yes; I am painfully aware of that. Nearly the whole of the fish caught in the Edwards River at Deniliquin, in the Murray River at Moama, and at different points between Moama and Albury, and the fish taken in the fish-bearing lagoons in that part of New South Wales—and they are pretty numerous—gravitates to the Melbourne market.
6064. What control has the Fisheries Commission over the Murray River waters? The only control that we have is the small closures that have been made, and as to the size of nets and modes of fishing.
6065. Have you not one or two honorary inspectors down there? Yes, we had paid inspectors, but had to discontinue their services on account of retrenchment.
6066. Is it not a fact that there are numbers of fishermen fishing in those waters who reside on the Victorian Border? Yes; that is so.
6067. So that if those people are guilty of any offence against the Fisheries Act there is no means by which the Fisheries Commission in Sydney can punish them? I do not see how we can.
6068. Do you think joint action ought to be taken by the Governments of New South Wales and Victoria in order to take steps for the protection of the Murray River fisheries, so as to prevent the depletion of those waters? Yes, I think so; action should be taken. There should be an agreement between the two Colonies. Something should be done to protect the fish and to prevent the fishermen destroying the fisheries in the way they have done in the past and will continue to do in the future unless some check is put upon them.
6069. I suppose they send their fish to Melbourne because it is the nearest market? Yes; when I was in Deniliquin I saw about forty baskets put into the train at 3 o'clock in the afternoon, and they were in Melbourne at 12 o'clock that night. They go right through; they are never untrucked.
6070. Do you think if the Railway Commissioners were to place a refrigerating car on the Southern Line much of that fish could be brought to Sydney? Yes; perhaps from Albury, Wagga Wagga, and the Darling and the Macquarie.
6071. What varieties do they catch there? Nearly all the edible fishes belong to the perch family—Murray cod and perch.
6072. Do you know what is commonly called the codfish in salt water is identical with the codfish in fresh water? Yes, almost identical.
6073. Is it brought into consumption at all? Yes; I am told it is a very superior fish.
6074. Would it not be possible to introduce the fish found in the Murray and its tributaries into some of the waters in New South Wales that contain no fish life? We have been endeavouring to do this, but the trouble is to get the young fish. We purpose introducing some of them into the upper reaches of the Nepean. It is possible to introduce the Murray cod into waters in which they do not exist now, because they have been introduced into Lake George where they did not once exist.
6075. Then you think something might be made of our inland fisheries—something more than at present? Certainly I do.
6076. Have you ever seen any shoals of fish on the coast? I have; I think I was about one of the first to notice them.
6077. What kinds of fish were they? The fish I know of could be made of great commercial value if proper means of capture were employed—I mean the herring-net. There are shoals and shoals of herrings going along this coast. I think they migrate about March and April. I was outside one time, and I got in the middle of a shoal. They were that thick that we could bail them up with a bucket. The

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fish I speak of is the *Clupea sagax*. I have seen thousands of what I believe to be *Clupea Nova Hollandia* in the fresh water in the Shoalhaven River, just at the foot of the rapids. That fish is a great delicacy, and would preserve well if they could be caught in any numbers. It is a very widely-distributed fish. The *Clupea sagax* makes its appearance off our coast in countless millions. It is allied to the English pilchard. It could be made of immense commercial value, to my mind. When preserved it is one of the most delicious fishes in the world. I have tasted them preserved.

6078. Would they be the same fish as those frequenting the New Zealand coast? Yes; it is a most remarkable thing; these fish make their appearance on the Victorian coast in about March. They come in in immense numbers, and they migrate as far north as Point Danger; on getting there they strike away to the east. I imagine they go east in order to get back to the coast of New Zealand. They are what is known as the celebrated Picton bloater. I have caught them in roe. They make their appearance in Sydney Harbour occasionally, especially when attacked by sharks, porpoises, or birds. As a rule they do not enter the harbours. They are moving northward along our coast for a period of five or six weeks, in immense shoals. Something ought to be done to capture those fish and turn them into a commercial product.

6079. Then there are the shoals of sea mullet? Yes; that is one of the finest fishes in the world for commercial purposes. It is a grand fish, and quite equal, if not superior, to the best American salmon when canned. It is magnificent eating fish when smoked.

6080. Have you noticed that the maray makes its appearance in great numbers as the sea mullet does? Oh, yes; I fancy the sea mullet, as a rule, breeds in the rivers and inlets, and when it is a mature fish it goes out to sea periodically, the same as the black bream, which unmistakably goes to sea.

6081. I suppose you would be fortified in making that statement in regard to the sea mullet breeding, by the fact that you have observed the fry in the rivers? Yes, myriads of them in all rivers and inlets. I have visited the rivers. The sea mullet is essentially a river fish. I have seen the Shoalhaven River absolutely black with them.

6082. Do you say your statement in regard to the sea mullet applies to the black bream? Yes; they all spawn in the inlets and rivers.

6083. In respect to the schnapper, where do they spawn? In inlets like Broken Bay, Cowan Creek, and in sheltered or partially-sheltered bays, although you will find large quantities of the immature schnapper—the red bream—in the Hawkesbury River and the Hunter River; that is, when the water is not too fresh. I have caught them a long way up the Karuah River, in Port Stephens. I am almost sure the schnapper breeds in the different inlets on the coast. I look upon Port Stephens as a great breeding-ground, Newcastle to a limited extent, and the Hawkesbury River, certainly in the river proper, and in the great creeks which are really arms of the sea, and Sydney Harbour.

6084. When do the mullet and black bream begin to show the migratory habit? The mullet in April, and the black bream generally form into schools about April. The black bream is very prime now.

6085. Speaking generally, would you consider the different species of edible fishes we have off the coast, and in the inland waters of this Colony equal to the best species of fish caught elsewhere? I think, for a climate such as we have, our fish are second to none in the world. I think our fisheries are of great commercial importance. The whole of our fisheries should be developed, and made of great value.

6086. Would you, knowing the qualities of our fish, be prepared to state that it is quite possible to have those fish cured either by smoking, canning, or salting, and for them to be equal in flavour to the fish imported from New Zealand and elsewhere, which is now sold in Sydney? I cannot say. In New Zealand they have colder waters. Many of our fish will can well. The tailer will smoke well, and so will the mullet. I think the whiting could be treated in the same way as the Scotch haddock is treated. The mullet is the fish *par excellence* for smoking, canning, and drying. Schnapper, flathead, and mullet, would can well; and most unmistakably the *Clupea sagax*. That is the fish of great commercial value. We ought to can, smoke, and salt them. They are magnificent. I think our fishes bear favourable comparison with most of the fishes possessed by other countries.

6087. Do you think it would be possible to introduce the salmonoids more freely in New South Wales waters? Yes; I would like to see the result of the experiment at the Prospect Reservoir. Different varieties of trout were hatched there under the supervision of the Fisheries Commission, and they are in trout-ponds constructed by the Water and Sewerage Board; some yearling fish from Ballarat were placed in another pond, and the young fry and the yearling fish are doing well. If the experiment is successful in those waters at Prospect, it shows that we can stock many more of our rivers. If we can rear trout and hatch them there, almost any of our rivers will carry trout. There is another fish which might be introduced into this country, especially in the lakes; I refer to the *Guarami*. It is not a predatory fish, it is chiefly a vegetable feeder. It would be a good thing to place them in lagoons and tanks to destroy the sub-aqueous growth of vegetation. This is a good edible fish.

6088. In regard to crayfish, do you think precautionary measures should be taken to save them from the wholesale destruction that is now taking place? I do; it is a great mistake that the fish should be sold here when full of roe.

6089. Should there be a close season for crayfish? Certainly; they should not be allowed to sell crayfish when in roe.

6090. In regard to the destruction of small fish, do you think amateur line fishermen should be licensed? I cannot give an opinion; but I say the amateurs should be brought within the four corners of the Act, so that you can punish them for taking fish under the standard weight. I unhesitatingly say that, because they may destroy scores of red bream daily, and each of those red bream, if let alone, would grow into good schnapper.

6091. Then you would compel them to return undersized fish? Yes, I would.

The Hon. William Robert Campbell, M.L.C., a Member of the Fisheries Commission, sworn and examined:—

6092. *President.*] You are a Member of the Legislative Council, and one of the Fisheries Commissioners? Hon. W. R. Campbell,
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Yes.
6093. How long have you been a Commissioner? About three years.
6094. Would you call yourself a regular attendant at the meetings of the Commission? No, I am sorry to say of late.
6095. Why have you not attended more regularly? I was put on the Board. I am the holder of a station property which I have to attend to occasionally. Of late I have more work to do up there. I have been more worked during the last three months than previously. I proposed to resign, but they would not hear of it.
6096. I suppose you have made yourself acquainted with the provisions of the Fisheries Act of 1881? Pretty well.
6097. De you consider it satisfactory? In many ways it is not. It does not give sufficient power to the Commissioners to execute any ideas they may have. There is no elasticity in the Act that we can discover.
6098. Do you consider it a liberal Act? No, I do not. In which way do you mean?
6099. I mean liberal to the fishermen as well as to the administrative authority? It is not elastic enough.
6100. Do you know of any provisions which operate harshly on the fishermen? Well, I cannot call to mind any on this special occasion. We have received complaints from the fishermen that they would like the net longer in many cases, the mesh smaller, and some of the closed waters left open for fishing.
6101. During the time you have been a Commissioner, do you know whether any attempt has been made to induce the Government to bring about necessary legislative reforms, as far as the control of the fisheries is concerned? We have drawn up a Bill ourselves. It has been printed and laid before the Chief Secretary, not only of this Government but the last Government. We made certain alterations and suggestions.
6102. Do you complain that you have not had sufficient power given you as Commissioners? I do not make any complaint. I think we have objected to the present Act in many ways.
6103. Has no attempt been made to bring about the necessary reforms indicated by you as a body? Apparently not; I think you, Mr. Farnell, know yourself it is a difficult matter to induce legislation of that kind.
6104. Can you tell me how long it has been found by the Commissioners that the Act is unworkable? Certainly before my time. We have had a meeting about it.
6105. But are you not of opinion that when you found you had a defective Act, and no action was taken by the Government with a view of altering it, that it would have been justifiable on your part to resign as a body? I am hardly at liberty to answer a question of that kind.
6106. Well, personally, would you have followed that course? I admit that I wished to resign, not on account of the Act but on account of the way it was worked, but they wished me not to resign.
6107. Do you know whether at any meetings of your Commission instructions were given to ignore the order of Parliament for the preparation of certain returns? No such thing I am quite positive has been done.
6108. Would it be possible for one member of your Commission to give instructions that certain returns should not be forthcoming? It is most unlikely; it would be most outrageous.
6109. Did you ever have placed before you a resolution moved by me in October, 1893, asking for returns regarding certain matters connected with the working of the Fisheries Department. Do you remember such a resolution having been carried, and it having been submitted to the Fisheries Commission in the usual way, in order that the returns might be prepared by that Department? I do not remember it.
6110. Do you remember if instructions were given to the effect that that return should not be complied with? Certainly not.
6111. Have the Commissioners as a body ever visited any of the fishing-grounds in the Colony? I have attended Mr. Hill at Gosford and Botany, and I have been with Dr. Cox to Port Stephens, and I think nearly all the Commissioners, Mr. Hill especially, have taken great interest in the fishing-grounds. Of course Mr. Ramsay has been ill for a long time.
6112. Have you, in company with other members of the Fisheries Commission, ever officially visited any of the fishing-grounds in New South Wales? Yes. I went with Mr. Hill out to Botany, when the fishermen wanted us to open the waters in George's River, and also when the line men wanted us to close waters at Gosford.
6113. Are those the only two occasions you can remember on which the Commissioners officially visited the fishing-grounds? I am only speaking about myself for those two occasions.
6114. Who accompanied you on the occasion of your visit to Gosford? Mr. Hill and some fishermen.
6115. Who were they—were they the Newtons from Watson's Bay? I cannot say. I daresay he did; men were fishing there.
6116. At whose request was your visit made; I mean who made the request in the first instance? I suppose some of the fishermen.
6117. Was it the Newtons? I do not know; I am not intimately acquainted with any of the fishermen.
6118. Did you open the waters the fishermen desired to have opened in Brisbane Water? I think we did. We closed the waters so as to give the line fishermen a little more liberty, as they considered the fishermen were netting too much water. After seeing for ourselves we closed portions of the waters and opened another portion.
6119. Do you know whether the inspectors reported in favour of the line of action you followed? I am not sure whether our Secretary approved of what we did.
6120. You were bound as Commissioners to make an experiment, in order to ascertain whether the fish supply was exhausted before making closures? We were not bound.
6121. You were bound by the Act to have some grounds on which to make your closures? Yes.
6122. What did you do to ascertain the supply of fish? We sent out inspectors, our Secretary, and we went ourselves. We hauled and were satisfied the closure was required.

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6123. Do I understand that you closed the whole of the Broadwater and certain creeks and left the entrance to Brisbane Water open to net fishing? We left some parts open.
6124. Do you believe in allowing the fish free ingress to a lake? Yes, if possible.
6125. Have you closed the sea entrances to the Tuggerah Lakes, Lake Macquarie, and Lake Illawarra? I think they are not closed exactly; it is to prevent the fishermen fishing right in the mouth of the entrance.
- 6125½. Can you tell us how it is you did not close the entrance to Brisbane Water on the same grounds? No; I cannot give you a detailed account of that. There was a great deal of trouble taken for that Brisbane Water closure.
6126. Do you remember a reduction having been made in the staff of your Department? Yes; when the amount voted was reduced by Parliament.
6127. Was it not the wish of the Commission or some member of the Commission that the estimate should be reduced? I do not understand it that way. The Government reduced the amount for the Fisheries Commission; it went before Parliament, and Parliament approved of it.
6128. Was it the desire of the Commission that the department should be reduced as far as the staff and as far as the expenditure were concerned? Certainly not.
6129. Did you enter any protest as a Commission against the Government reducing your annual grant? Nothing in writing. I think several of us did not think it was the proper thing to do; but as a matter of economy we had to suffer.
6130. Do you remember that at that time Parliament directed there should be no reduction in salaries under £200 per annum? Yes.
6131. Do you not know as a matter of fact that you, as Commissioners, reduced several of your inspectors who were receiving very much under £200 per year? We did. I have no doubt we acted in the best manner.
6132. And although you were deprived of the services of several members of your staff you were content without entering a written protest to the Government? I do not think we did send in a written protest; neither do I think it was necessary.
6133. Is it not a fact that several waters were left without supervision owing to the action of the Government in reducing the amount annually paid to you? We have complained about that. We did the best we could under the circumstances.
6134. Taking the condition of the fisheries at the present time and comparing it with their condition before the Act of 1881 was passed, what would you say of them now? I cannot give an opinion.
6135. Do you know whether the Commission have recommended any additions to the inspectorial staff since the retrenchment took place? I am not certain.
6136. Do you know whether any honorary inspectors were appointed? Yes; one or two.
6137. Did they do good work? Most of them did. We have thanked them for their assistance.
6138. Why are they no longer helping you? We did not think it was necessary.
6139. But as a matter of fact are you not aware there are several waters left unprotected and without any control whatever? No; I am not. Our chief inspector constantly proceeds to all those places.
6140. But he cannot travel sufficiently often to be able to exercise proper supervision over those unprotected fisheries? Quite sufficient.
6141. Tuggerah Lakes were left for six months without supervision;—is that proper supervision? They were never left without supervision for six months or six weeks.
6142. Do you consider supervision means a casual visit of a travelling inspector? Yes; and quite sufficient too with our present income.
6143. Do you know whether the Crookhaven and Shoalhaven Rivers have any local supervision? There is an inspector on the northern side; he occasionally goes there.
6144. How often would you say he has been there within the last twelve months;—would you say he has been there once? Yes, I would; he was down there not very long ago.
6145. Do you know whether there is any supervision over Narrabeen and Dee Why at the present time? I cannot say; I have not been in town for two months.
6146. Was not Mr. Paget Bayly an honorary inspector for those lakes? Yes.
6147. Why were his services dispensed with, considering he was receiving no salary, and was doing good work? We thanked him for what he did, and we did not wish to have his services any longer. I disapprove of these honorary men altogether. I think it is the greatest mistake in the world; an unpaid man is not in the same position as a salaried officer.
6148. Do you think the inspectorial staff is sufficient at the present time for controlling the different waters? It is as much as we can possibly afford.
6149. In respect to all the closures that have taken place since you have been a Commissioner, are you satisfied that on each occasion a report was obtained from the proper officer as to the necessity for the closure? No doubt inquiries were made by the proper officer.
6150. Do you know of any occasions when recommendations of the inspectors have been ignored? I only know of one case.
6151. You do not know of any case in which the local inspectors have recommended a certain course of procedure, and the Commissioners have gone directly opposite to that recommendation? I only know of one case.
6152. Do you allow your Secretary in at all your meetings? Yes.
6153. At all times? Yes.
6154. Have you ever known occasions when the officer of your department, acting as Secretary, has been asked to leave the room whilst the Commissioners have considered certain matters? Yes; when the Secretary's salary was under discussion; that is the only instance to my knowledge.
6155. Would it be advisable to license amateur line fishermen? It would be an invidious thing to do. I think in England they pay a license. I know that line fishermen catch hundreds of young fish and destroy them.
6156. Should we not have legislation to prevent the destruction of undersized fish by line fishermen? I would prevent the destruction of small fish as much as possible, but it is a most difficult thing to legislate upon.
6157. Do you believe in closing waters within a convenient distance of a populated area, to give amateur line fishermen an opportunity of having a day's fishing? Yes; so long as they do not interfere with the genuine

genuine fishermen. I have always advocated that the summer-time is the time we should allow fishermen to fish in Sydney Harbour and places adjacent to Sydney, but in the winter when they can go further afield; they should go elsewhere.

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6158. Are you satisfied with the working of the Oyster Fisheries Act? It has not worked very satisfactorily I admit. 2 April, 1895.

6159. Would you make any change in the system of leasing areas for oyster culture? I think the majority of them would favour leasing larger areas and put them up by auction, but then you might not get the best men.

6160. Do you believe in that provision allowing people to go indiscriminately on to Crown lands and take not more than a peck of oysters at a time? They ought really only to take what they can eat; let them eat the oyster on the Crown lands.

6161. Do you think that system is open to abuse? It is abused.

6162. In regard to crayfish, do you believe in providing a close season for crayfish? That is one of the things we really do not understand thoroughly about the crayfish. I personally am not very cognisant of the subject. I would be afraid to give an opinion as to how we should legislate to protect them.

6163. Do you think it would be desirable to have a stringent provision incorporated in an Act to prevent the female fish being brought to market when in the berried or coral state? It would be a very good thing indeed; I believe in that unquestionably. There cannot be any two opinions about that. It could be done easily enough.

6164. Have you ever had anything to do with well-boat fishing? I have seen well-boat fishing in Tasmania, where it has been attended with excellent results. The trumpeter that they catch in Tasmanian waters is a very quiet fish, but our schnapper is a wild fish, and he will injure himself when placed in confinement. Fred Want had some in a well-boat at one time.

6165. Did they prick the schnapper? I do not know whether they did. It did not succeed financially, but the fish were very quiet in Tasmania.

6166. Have you ever noticed any shoals of fish passing along our coast from the south to the northward? Yes; in the olden days, when I was on the coast, I used to see large shoals of fish.

6167. Have you ever seen any shoals of the *Clupea Sagax* on our coast? I have seen them constantly.

6168. At what season of the year did they appear? About May.

6169. Do you think they could be made a marketable commodity of? We have not got the population yet. In Scotland every one helps, from the fisherman down to the youngest child. Years ago people tried to get others to enter into the industry, but the difficulty is the high wages.

6170. Have you devoted any attention to the inland fisheries? Yes; on the Macintyre River we have splendid fishing—what we call the bream. Of course we have the cod and the perch. The perch is a splendid fish with the rod and line.

6171. Seeing that Melbourne draws a great portion of her fish from the River Murray, do you not consider it necessary that joint action should be taken by the Governments of Victoria and New South Wales to prevent the destruction of fish in that river? I am sure Victoria would be only too glad to take joint action with New South Wales in the matter.

THURSDAY, 9 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 10.30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

THE HON. R. H. D. WHITE, Esq., M.L.C. | L. G. THOMPSON, Esq., J.P.

Mr. Frederick William Smithers, Acting Secretary to the Fisheries Commissioners, sworn and examined:—

Mr. F. W.
Smithers.

6172. *President.*] What position do you hold at the present time? Acting Secretary to the Fisheries Commissioners. 9 May, 1895.

6173. What position did you hold prior to your appointment as Acting Secretary? Travelling Inspector of Fisheries.

6174. How long did you hold that position? From 1889.

6175. How long prior to that had you been in the Department? Since 1882.

6176. Had you had any previous experience in connection with the fisheries prior to your appointment? Yes. I was well acquainted with the whole of the fisheries, from Jervis Bay to Port Stephens, for years before I joined the Department.

6177. In what capacity were you enabled to gain a knowledge of those fisheries? Just for the love of the fisheries.

6178. Your duties as travelling inspector extended throughout the whole Colony? Yes.

6179. Have you exercised your authority in connection with the inland fisheries at any time? No.

6180. Have you, as an inspector, paid any attention to the inland fisheries? No, none whatever; only by putting a few trout in.

6181. Have you ever been instructed by the Commissioners of Fisheries to make visits of inspection to the inland fisheries? No, never.

6182. Owing to the extent of the fisheries of New South Wales, I suppose you would be travelling about during nearly the whole of the year? If I did my duty as I ought.

6183. What salary do you receive as travelling inspector? £220 per annum.

6184. And what allowance for expenses? Twelve shillings per day.

6185. Does that include a railway pass? It is exclusive of a railway pass.

6186. Were you appointed at that salary of £220 per annum? I was appointed as travelling inspector at a salary of £200 per annum; that would be £40 underneath subordinate officers at that time—Temperley and G. C. Benson.

6187. Was your salary made up to the same amount as those gentlemen were receiving? No; up to £220, in order to get out of a difficulty. A junior clerk in the office was getting £200, and an assistant inspector of fisheries was getting £200. It was to give me seniority that I got the £20.

6188. Did you suffer under the retrenchment scheme of the Government? Yes; first of all the Government took 10 per cent. off the £20. 6189.

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6189. Did the Commissioners do that? The Commissioners then took off the whole £20. The Government first took 10 per cent. off the £20, and the Commissioners then reduced me by the £20.
6190. Are you aware that Parliament, at the time the retrenchment was made, directed that there should be no reduction in salaries under £200 per annum? Yes.
6191. In connection with the expenses of working the Department of Fisheries, do you think the amount voted by Parliament on the last estimates was sufficient to pay the necessary number of men required to conduct the department properly and successfully? No, far from it.
6192. Do you consider that the salaries received by some of the assistant inspectors are inadequate? I do.
6193. Do you think the fisheries have suffered from want of proper supervision? I do indeed.
6194. Do you know whether it was the act of the Government, reducing the expenditure in the Fisheries Department, or was it owing to suggestions on the part of the Commission that they could work the department on the basis of the amount voted for last year? That I have no proof of; I only heard so.
6195. During your visits as travelling inspector to the different fisheries, have you been satisfied that the inspectors are conveniently placed for the work of supervising the fisheries? No; they are not conveniently placed at all—most inconvenient. We have closed waters on the Parramatta River, and the men who supervise them live at Paddington. At Lake Illawarra the inspector lives at Wollongong, 6 miles from his work. The inspector at Wyong used to live 4 miles from his work; there is no inspector there now.
6196. So that there being no inspector, and the inspectors having their residences so far away from the fisheries, it is quite possible that closures are intruded upon by the fishermen? Yes; they cannot be more than half supervised, and owing to the inspectors not living on the water's edge it does not afford a means of trying experiments.
6197. Have you found all the inspectors in the service of the Fisheries Commissioners practical men? Well, they are quite practical enough, in my opinion, for their duties.
6198. As to the honorary inspectors, do you know why their positions were abolished? Yes; the one at Narrabeen, Mr. Bayly, he seemed to carry out his duty in a haphazard way, and the one at Lake Macquarie, Mr. Gorrick, he was altogether too severe upon the fishermen. There is practically no control over honorary men. On one occasion I wrote to an honorary inspector named Learoyd, asking him to meet me, and he wrote back to the effect that he was going to the Melbourne Cup, and would be back in three weeks.
6199. If it has been stated in evidence that the honorary inspector at Manly had been the means of inducing a number of fishermen to take out licenses, and pay fees to the Government, who had not previously held licenses;—would that be a fact? I doubt it very much.
6200. Is there any supervision exercised over Narrabeen and the other lakes at the present time? Whenever I can spare a man to go down.
6201. How often would they go on an average—once a week? Oh, no; I cannot spare them more than once in a month on an average.
6202. So that we may conclude the department is undermanned? Most certainly it is.
6203. Have any representations been made to the Government with the view of having the staff restored to the original number? I know the Commissioners have applied for the honorary inspector at Port Stephens to be put on a salary, and for the appointment of John Cain as assistant inspector of fisheries at Tuggerah. He will take Tuggerah and Brisbane Water.
6204. Have you, as Inspector of Fisheries, ever made any recommendations to the Commissioners? In what way?
6205. With respect to closures and other matters? Yes; I have often made recommendations as to closures.
6206. Have your recommendations always been acted upon? As a rule.
6207. Are there any cases in which the recommendations of the assistant inspectors have not been acted upon? Yes; one case at Port Stephens, as far as my memory serves me, where it was not done.
6208. Have you ever made any visits of inspection to the different fisheries in company with members of the Fisheries Commission? Yes.
6209. When and where? As to dates I could not tell you. I went trawling with the President and Messrs. Hyam and Hill. I have been to Lake Macquarie with the President, and since that down to Jervis Bay with Mr. Campbell.
6210. Was the visit to Jervis Bay an official visit? He wished to go down on an official visit.
6211. Who accompanied you besides Mr. Campbell? Mr. Pigott and Dr. Blaxland.
6212. Did the Fisheries Commission instruct Mr. Campbell to proceed to Jervis Bay? He told the Board he was going to have a look at the bay as to the facilities it had for sending schnapper to the markets.
6213. How long did he remain there? Friday and Saturday.
6214. Has any good resulted from the visit? He saw practically what is to be caught there, and the means for getting fish to market.
6215. Had not the Commissioners that knowledge before Mr. Campbell proceeded to Jervis Bay? I do not know.
6216. What inquiries did he make? He inquired from Dent about fish transit, and the expense of sending them to Sydney, and inquired as to the proceeds they get for fish.
6217. Has he made a report to the Commission concerning his visit? He told them at the board meeting yesterday.
6218. Were the members of the Commission much interested in getting that information;—was it new to them? No; it was not new to them.
6219. Does your minute-book contain any reference to his visit or to his report? No; it is all verbal.
6220. Can you give us any information respecting the other visits;—what object had the Commissioners in view in making those visits? One was to test the trawl in Botany.
6221. How long ago was that? About six years ago. The Commission also made a trip to Pittwater concerning closures.
6222. Who visited that water? Messrs. Hill and Hyam.
6223. What was the object of the visit? About closed waters.
6224. How long ago was that? About two years ago.
6225. What was the result of that visit? I do not know.
6226. Have they made any other official visits to the different fishing grounds of the Colony? Not that I am aware of.

Mr. F. W. Smithers.

9 May, 1895.

6227. Can you tell the Commission what the members of the Fisheries Commission did on those visits in order to satisfy themselves as to the correctness of their recommendations? I cannot tell what their recommendations were in regard to the visits.
6228. Did they haul a net or obtain local information on the subject of the fish supply? They did at Pittwater—they made inquiries. They worked all day with a net at Brisbane Water on another occasion, and on another occasion Messrs. Hill and Hyam worked all day with a net on George's River.
6229. You are referring to visits made about three years ago? Yes—Pittwater was about two years ago.
6230. What was the result of their experiments at Brisbane Water—did they close more water or did they amend the closure already made? I rather imagine they amended the closure.
6231. What portions of Brisbane Water are closed now? None at all.
6232. When did the proclamation expire? On the 30th of last month. I have instructions to visit the place and report upon it.
6233. You are aware of the provisions of the last closure;—what area did that closure embrace? From Webb's Reef upwards, closing everything from Webb's Reef upwards.
6234. But the main channel was left open, was it not? Yes; it would leave it open from Webb's Reef downwards to the sea.
6235. Where does the fish supply of Brisbane Water come from? At the present moment they are catching fish in waters that were closed.
6236. Are those fish of local production? Yes.
6237. Do you think it is a good thing to leave the channel open, seeing that that channel is the only means the fish have of entering Brisbane Water from the sea and leaving again? No.
6238. Do you believe in allowing nets to be used in any channel forming the entrance to a lake system? No.
6239. If your opinion had been sought you would not have recommended that that closure should have been made? I would not recommend a channel to be left open in any place.
6240. Have you, on the minutes of your proceedings, any record showing that the Commissioners have decided to visit officially any of the fishing grounds? I could not tell you.
6241. Since you have been officiating as Acting Secretary you have had to call the Commissioners together on several occasions? The usual Board meetings; I send out a notice.
6242. Do they attend regularly? At two meetings to which they had been invited a quorum was not present.
6243. Was any business transacted at those meetings? Yes.
6244. Can you give us the dates of those meetings? I cannot tell you the dates.
6245. Was the minute-book sent round for the third Commissioner to concur in what had been done by his colleagues? Yes; I took the minute-book round myself.
6246. Have you been satisfied with the provisions of the present Fisheries Act? No; I never was.
6247. Are you of the same opinion in that regard as you were in 1889, when you gave evidence before the Select Committee of the House, of which I was Chairman? Yes; that is in regard to the Act. You asked me a question then about it. I said, "Burn it, and start a fresh one."
6248. Have the Commissioners of Fisheries taken any action lately in the preparation of a Bill for presentation to the Government? No, there has nothing been done that I know of.
6249. There is nothing on the minutes showing that a Bill has been forwarded to the Government? Oh, yes, that is their old Bill; the Bill that was submitted by them in 1890.
6250. Has that Bill been sent to the Colonial Secretary? Yes; the Colonial Secretary sent a minute on a letter from the Royal Commission, and he wanted some information from the Fisheries Commissioners.
6251. What letter do you refer to? A letter sent by the Royal Commission in regard to leasing no further areas for oyster culture.
6252. So that the Fisheries Commissioners, instead of answering the point submitted to them by the Colonial Secretary, simply sent on the Bill of 1890? It is an open question, if you saw the Bill. The Fisheries Commissioners' minute on that letter reads: "We beg to recommend the Colonial Secretary's attention to the Bill recommended by the Commissioners in 1890, in which their views on this subject were embodied."
6253. Do you know the provisions of that Bill? Yes.
6254. Does it touch the question raised by the letter forwarded by this Royal Commission to the Colonial Secretary? I cannot say.
6255. Does the Bill of 1890 preclude the leasing of further areas for oyster-culture? No.
6256. I take it that the Colonial Secretary wished the Fisheries Commission to express their views as to the wisdom of discontinuing the issuing of further leases for oyster-culture? No; the minute was quite an open thing. You would hardly understand what he did want.
6257. As the letter forwarded by the Royal Commission only referred to one subject, and opened up the question of the wisdom of granting further leases for oyster culture, do you not think it only reasonable to expect that question should be dealt with alone? You had to reply to the Colonial Secretary's minute. He sent a paper up to the Fisheries Commissioners. I forget its exact terms.
6258. Did he not ask their attention to the matter? He asked their views, as far as I can remember. I am not certain of the wording of it.
6259. The Bill of 1890, have you read it? Yes.
6260. Are you satisfied with its provisions; do you consider them satisfactory? Well, taking the Bill right through, it is a vast improvement on the old Bill. Certain alterations could be made with regard to meshing-nets and minor details. The 1890 Bill is preferable to the Bill of 1881.
6261. Do you consider the Bill of 1890 deals properly with the question of the leasing of areas for oyster-culture? I have not given it enough attention to answer that question.
6262. What is your opinion as to the question of the development of our oyster-fisheries? I consider the old Act has almost totally ruined the oyster industry.
6263. In what way? It allowed too much freedom to the lessees. They did as they liked. There were no clauses in it to compel oyster-culture. I will give you an instance. There is Woodward, who had hundreds of areas, and got rid of most of them on the plea of worm-disease, so that oyster-culture could not be carried on.
6264. Do you mean that several of the leases were surrendered. Three parts of them, but when surrendered all the oysters had gone from them.

6265.

- Mr. F. W. Smithers.
9 May, 1895.
6265. Have the Commissioners always accepted the surrender of leases when asked by the lessee? No.
6266. Is it manifestly unjust that the surrender should be accepted in some cases and not in others? Woodward has all his leases surrendered.
6267. Do you remember some cases on the Hawkesbury River where a lessee named Seymour complained of the ravages of the worm disease, and asked that his leases should be surrendered? No; I do not remember that.
6268. You will remember it if you jog your memory—I was with you, and consulted you myself at the time? Seymour's case?
6269. Yes? I do not remember it.
6270. Do you remember summoning Seymour at the Ryde Police Court, and getting a verdict against him for arrears of rent? Yes.
6271. Was it not elicited in evidence, if not at the police court, in another way, that Seymour had applied for the surrender of his leases, and had been refused? I do not remember anything about Seymour having the worm on his leases.
6272. Do you know whether there are papers in existence in the Fisheries Department, acknowledging the receipt of his application to have portions of his lease surrendered, but at the same time refusing to surrender his lease? I do not know.
6273. You got a verdict against this man at the Ryde Police Court? Yes.
6274. Do you remember suing him in the District Court? Yes.
6275. Do you remember what he had to pay in full settlement after the allowance by the Government of one-third? Yes; that was my recommendation—about £43 in all.
6276. So that whilst this man was proceeded against, and compelled to pay this sum, others had their leases surrendered under similar circumstances? Yes.
6277. You have, of course, had something to do with the preparation of the report of the Commissioners of Fisheries for the year ending 31st December? Yes.
6278. Will you explain to this Commission the paragraph under the heading "Official Staff," which I will read to you:—

Official Staff.—To keep our expenditure within a certain limit we did not deem it necessary to increase our working staff, but reduced the number by dispensing with the honorary services of Mr. C. H. Gorrick, Assistant Inspector, stationed at Lake Macquarie, and Mr. Paget Bayly, stationed at Manly.

Can you make that statement consistent with the evidence you have given in regard to the want of supervision over our fisheries? Well, although those inspectors were acting—Gorrick was getting travelling expenses about 8s. or 10s. per day, and Bayly he was getting expenses and also £2 10s. per month for forage.

6279. What was the total amount of travelling expenses these gentlemen received during the whole time of their employment under the Commission? I cannot tell you.

6280. Did it amount to £20? I cannot tell you whether it would amount to £20.

6281. I notice the Commission take credit for having established a fish hatchery and ponds at the Prospect Reservoir in this report; do you know whether there are any fry in the ponds now? Yes; they were there yesterday; Mr. Bloxsome telephoned to me this morning. I am going up to-morrow.

6282. Who constructed the ponds at Prospect? I understand it was Mr. Bloxsome.

6283. Do you not think it would have been much better to have stated that Mr. Bloxsome or the Water and Sewerage Board constructed the ponds at the Prospect Reservoir? No; I do not think so; from what I understood from the Commissioners, Mr. Bloxsome consulted them, and it was a matter between him and the Department; there was a sum of £100 got for it by the Commission, but I do not know how it was spent.

6284. Was any of that £100 applied to the construction of the ponds? I have no idea.

6285. How many licensed fishermen are there in the Colony at the present date? There are seventy licensed fishermen and 329 boats at the present time.

6286. Do these figures show a decrease on 1894? No; they compare favourably with the previous year, that is, up to the present date.

6287. What is the number of oyster leases issued and in force up to date? About 340.

6288. How many lessees are there? —

6289. *Mr. White.*] Can you, from memory, tell me the annual income from oysters and oyster leases? The annual income at present is just under £1,000.

6290. Have you ever calculated what that is per bag for the oysters taken from the beds? No.

6291. Do you believe in the system at present in vogue for leasing oyster beds? No.

6292. What suggestions can you offer in lieu of that system? The same suggestion I made before the Chairman in 1889; I advocate the leasing of larger areas for oyster culture.

6293. Do you believe in letting small areas between different persons' leases? No.

6294. How does that income of just under £1,000 per annum compare with the income received a few years previously? It has dropped down; we were getting over £2,000 for leases some years ago.

6295. Fishing licenses—what is the amount received for them? For this year we have received £350 for fishing licenses up to date.

6296. How much for boat licenses? £329 to the 9th May.

6297. Have you ever gone into figures respecting what the other Colonies are making out of fishing licenses and areas for oyster culture? No, no more than getting a few returns; I have never seen the returns of the other colonies.

6298. Are you aware that the Queensland people get from 4s. 6d. up to 8s. per bag as a return on their oyster-beds? No, I never studied the question.

6299. Are you aware that the income from the oyster-beds in Queensland amounted last year to £4,700? No; I am not aware of that.

6300. *Mr. Thompson.*] You are familiar with the clauses of the Fisheries Act; the 16th section of the Fisheries Act of 1881 deals with the riddling of prawns? Yes.

6301. Well, are you aware that section has ever been acted upon? Never to my knowledge.

6302. Do you think the section is of any use; do you think that in future legislation that section might be expunged? Certainly.

OYSTER CULTURE.

TUESDAY, 30 APRIL, 1895.

[The Commission met at the Offices, Bligh-street, at 10.15 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Frederick John Gibbins, oyster lessee, Sydney, sworn and examined:—

6303. *President.*] Your name is Frederick John Gibbins; you are an oyster lessee, and carry on business in Sussex-street? 88, Sussex-street.

Mr.
F. J. Gibbins.

6304. I understand you have gone in for oyster leasing on an extensive scale? Yes.

6305. What area of oyster leases do you hold in the aggregate? I have the whole of Camden Haven, and the whole of the oyster-bearing portion of the Hunter River.

30 April, 1895.

6306. How long have you held leases at Camden Haven? I have held some of those leases since 1884.

6307. Were you the first to take up those leases at Camden Haven? No; only a part of them. I purchased the remainder from other persons.

6308. About what area do you hold in Camden Haven? 14,615 yards.

6309. Have you surrendered any of the portions you took up at Camden Haven? Only one portion.

6310. On what grounds did you ask for the surrender of your lease? Because it was perfectly useless as oyster-bearing ground; it was some of the ground that Mr. Woodward took up. He had certain leases at Camden Haven, and I gave him £500 for his interest in those leases.

6311. So that the lease surrendered had been tried for oyster culture, but it proved of no good? Yes; if that particular piece of ground had been higher up the river I would not have surrendered it, but it is impossible to get ballast up the river. Some of the ballast we put out in the main river at Camden Haven, on the banks covered at high-water, is covered with spat, and this spat we chip off and lay it down on the banks, where the ground is always covered with water.

6312. Is that ballast always covered by water? Some portions of it; other portions go dry.

6313. Where do oysters thrive best—in the places which are only partially covered by water, or in places that are wholly covered? The places that are covered are better for oyster-growth than those that are uncovered.

6314. I believe you work your oyster leases in Camden Haven in a systematic manner? Yes, I do.

6315. Do you consider you carry out the proper conditions of oyster-culture? To the very letter, in my own interest. There are more oysters in Camden Haven than in all the rivers in the Colony. I had seven years of waiting and preparing the grounds before I got my returns. I had an oyster spat license, and I went all over the river collecting spat and putting it down on my beds.

6316. Have you many natural oyster-beds in Camden Haven? Yes; they are nearly all natural oyster-beds.

6317. Do you occasionally supply those natural oyster-beds with spat? Yes; some of the natural oyster beds in the main river have increased fully 100 yards in width. Of course, during the continuance of the licensing system they were perfectly denuded of oysters.

6318. In what depth of water are those leases? From about 5 to 12 feet.

6319. Have you any foreshore layings? Yes; we lay a lot on the foreshores.

6320. How do those oysters do? Very well indeed; I have had a lot in the market this year.

6321. Where did you get the spat? From off the banks.

6322. Is the spat subjected to similar conditions when laid down as it was at the place it was taken from? Exactly the same conditions.

6323. Then the only injury likely to occur to oyster layings in deep water is owing to the fact that the spat might have been taken from ground only partially covered by water during the day? Yes; those oysters would not have grown so quickly or so large in the deep water.

6324. How many men have you employed in Camden Haven? We have six men now oyster-getting; we had eight all the season.

6325. What would be the average output of oysters per week from Camden Haven? About seventy bags per week.

6326. Do they all go to the Sydney market? Some go to the Sydney market; about half go to Melbourne.

6327. Do you obtain better prices for your oysters in Melbourne than in Sydney? Yes, sometimes; but the depression in Melbourne has made a great difference. I think my returns from Melbourne would average about 30s. per bag; I have received as high as 70s. per bag from Melbourne.

6328. Is there anything to prevent inferior oysters being sent to Melbourne; I refer to oysters stolen from Crown lands? Nothing to prevent it.

6329. Are there any public oyster reserves in Camden Haven? Two.

6330. About what is their extent? One of 1,200 yards, and the other of 500 yards.

6331. Do you believe in that provision which allows the public to go on to these oyster reserves and carry the oysters away? At Camden Haven we have a different class of people to some of the rivers. It does not matter there, but it does matter in other places. The provision is a bad one where these oyster reserves are in close proximity to settled districts.

6332. Do you see any objection to allowing a person to eat what he can consume, on the spot, on the oyster reserves, without taking any away from the reserve? I do not see any objection to that.

6333. Have any of your beds been visited by disease? Not at Camden Haven.

6334. How do you account for the beds in Camden Haven being free from disease when other beds in different parts of the Colony have been severely visited by the disease—is it through constant working the beds? I cannot account for it in any way. We have different places. Take Port Stephens for instance, where the water is wonderfully pure and good—quite as pure as at Camden Haven—yet the disease exists there. It was reported that Mr. Woodward sent shells to the different rivers. He sent to the Clarence and Cape Hawke, and worm disease might have been carried there in that way.

6335. After dredging your oysters did you return the culch to the water? Immediately after dredging.

6336. You do not subject it to any drying process? No; the men make two hauls, and the oysters are then culled, and the culch is returned to the beds.

- Mr. F. J. Gibbins. 6337. How long does it take an oyster to come to maturity from the spat stage—say three months after laying it down on your beds—in Camden Haven? About four years; it pays you better to leave them.
6338. Have you laid down any New Zealand oysters in Camden Haven? No; I am quite satisfied with the oysters I have there; I do not think there is anything in the world to beat the Camden Haven oysters. I spent £1,000 in buying people out up there.
6339. Now, with regard to your leases in the Hunter River, what area do you hold there? About 18,764 yards.
6340. Are they all deep water beds in the Hunter? All the principal beds are in the deep water; natural oyster beds. That last big flood we had in the Hunter ruined all the oyster-beds on the banks. We have never had any spat set since, that is anything of any consequence.
6341. Have you mangrove leases on the foreshores of the Hunter? Yes.
6342. And it is those leases that have suffered so much from the flood? Yes.
6343. Is that owing to the quantity of fresh water that comes down, and the mud and silt the fresh brings with it? Yes; the stuff settled on the oysters.
6344. The worm disease is pretty prevalent on the Hunter River, is it not? Yes; I have been eleven years fighting it.
6345. It attacks the foreshore leases as well as the deep-water beds, does it not? Yes, it does. I may say that through the intervention of Mr. Thompson, Mr. Whitelegge was sent up to the Hunter to have a look at the oysters. At that time we had great quantities of what we call bankers—oysters growing on the banks. We were laying those oysters down in other places, and Mr. Whitelegge showed us we were replenishing the beds with the worm. On becoming acquainted with that fact, we never laid another bag down.
6346. How long ago was that? About five years ago.
6347. Have you been dependent for the continuity of your oyster supplies on the natural product of the oysters? Yes; if we could only get rid of the worm we could supply the markets of Sydney and Melbourne. During the last four years of my lease under the old system, I took no less than 36,000 bags of oysters off it. That was a lease of the whole of the Hunter River under the Oyster Beds Act of 1868.
6348. Is it your opinion that those beds in the Hunter River would be equally prolific to-day if you could get rid of the worm disease? Yes; but I do not know about Fullerton Cove. There is no worm in Fullerton Cove to-day, but it receives the drainage of all that country at the back of Port Stephens.
6349. I suppose what you mean to infer is that the spat will not set in Fullerton Cove owing to the quantity of fresh water there? Yes, that is so.
6350. The drainage from the swamps has a detrimental effect upon the oysters? Yes.
6351. Have you made any artificial beds in the Hunter River? No.
6352. You have never tried laying any New Zealand oysters there? No, we do not want anything like that; our oysters are sufficiently prolific if they only get the chance.
6353. Were any of the leases held by you in the Hunter River cancelled? Two.
6354. For what reason,—were those leases unsuitable for oyster culture? Unsuitable for oyster culture.
6355. Is the worm the only disease that effects the oyster there? Yes.
6356. Did the worm disease render the beds unproductive for a period? Yes; I may tell the Commission that I have had the beds in the back channel all ready for the men to go to work upon on the 1st of January; they have been covered with marketable oysters, and on the last day of the same month the whole of those oysters have been ruined owing to the appearance of the worm. When the worm is bad the destruction is terrible.
6357. Can you form any idea as to the origin of the worm disease? I work that river, on an average, with nine or ten boats.* The more we work the river, under a careful system of working, the better the oysters become. When the worm is very bad we keep continually dredging and lifting everything that is bad. We put the oysters on the banks on the dry land; we put them there to die. Under my leasing system I work from nine to ten boats. I was strong in giving evidence against the licensing system. There were as many as seventy boats working on the Hunter River at one time. They were oyster-getting, and they cleaned the beds right out.
6358. Did you give that evidence before the Commission appointed in 1880? Yes; I did.
6359. Do your men return the cultch to the water in the Hunter? Yes; we are as careful of it as if it were sovereigns. We scatter it about all over the beds.
6360. Do you think it possible that the disease would be in some of that cultch, and that in returning it to the beds you are actually propagating the disease? No; the disease is very trifling. Mr. Whitelegge says it will all disappear some time or other.
6361. Do you believe in the present system of leasing? I do not.
6362. Would you favour the idea of leasing the whole of the river, or an arm of the river, instead of permitting persons to take up areas of 100 yards in extent here and there? I would.
6363. How would you provide for the State obtaining a proper return for the property so leased? I would be quite agreeable to pay a rental.
6364. Do you think it would be a good idea to let a given area, subject to certain stringent conditions as to proper working, and being, of course, subject to proper supervision, and allow the lessee to pay so much on every bag of oysters he took off the lease, rather than pay so much per 100 yards;—would not something like that meet those cases in which the worm disease has proved so destructive? Yes, it would; it would have suited me exactly on the Hunter.
6365. Do you think, speaking from your experience—and you have spent a considerable amount in the development of the oyster fisheries—that system would be fairer than the system under which you have been compelled to work? Well, I am in hopes of taking 2,000 bags of oysters from Camden Haven next year, and if I am to be under a bag rental it may come heavy. If I do not get a renewal of my leases, I shall be a very heavy loser. I have spent money for seven years in Camden Haven and had no return.
6366. But do you not think the system I have outlined would be fairer than charging at per 100 yards every year, especially if the leases are attacked by the worm and those holding the leases get no return from them—of course I am speaking generally;—do you think it would encourage people to go in for oyster-culture in a systematic manner? I think it would do away with the indiscriminate selection of leases and with oyster-stealing. I would rather have 100 yards of a good dredge oyster-bed than 1,000 yards of a bank. It would be more profitable.
6367. I understand you favour the leasing of large areas? Yes; in the interest of the country.

6368.

* NOTE (on revision):—This work was under the Act of 1868. At the present time I am working with an average of three boats.

6368. Then I ask you would it not be fairer for the lessor to pay by results? If the leases are held in large areas there will be a different class of people in the business. No one could object to the proposed system you have outlined, because the greater the number of bags of oysters you get the more you pay. It would be better for everybody. Nothing could be more just than the system as described by yourself.

Mr.
F. J. Gibbins.
30 April, 1895.

6369. I suppose it is simply your present position in respect to the suggested system which would make it unsuitable to you individually? Yes; providing it is the intention of the Government to make any Act retrospective in its effect.

6370. What is the balance of your lease on the Hunter? In 1896 I apply for the renewal of my leases. I have from four to eleven years still to run in the Hunter and about the same in Camden Haven.

6371. Do you employ any artificial means for catching spat on the Hunter River? No; there is no occasion; it is a most wonderful place for spat-setting. I think spat sets nine months out of the twelve. We had some of the most wonderful sets of spat ever known last winter.

6372. That is unusual, is it not? Yes, in June and July—it was winter.

6373. Which do you consider the best waters for oyster-breeding in New South Wales? The Manning River and Camden Haven. I believe Camden Haven—I do not say this because it belongs to me—to be the finest oyster-bearing ground in the whole of the colonies.

6374. Do the Camden Haven oysters carry well? Yes, excepting at about Christmas time. At that period we always look for an enormous spawning time; then the oyster does not carry well.

6375. Have you come across any deep-sea oyster deposits? No.

6376. Is it reasonable to suppose that there are deposits of oysters in the deep sea? It is quite reasonable.

6377. As to the size of a marketable oyster, is that satisfactory to you? In our own interests, yes.

6378. I suppose your men have instructions as to the regulation dealing with the sending of under-sized oysters to market? Yes; every man's bags are branded.

6379. Have you any reason to suspect that oysters have been stolen from your beds? Yes, I know it. A fortnight ago I prosecuted two men for oyster-stealing in the Hunter.

6380. Were they stealing oysters for gain? Yes; and they were convicted.

6381. What were they fined? One man was fined £5 and costs, and the other £4 and costs. Those men do more harm in one day than my men would do in three months. They carry everything they lift ashore. They have done so much harm that I keep a man on the Hunter River in a boat constantly watching the leases night and day so as to prevent thieving.

6382. Is there no local inspector there? No; if I had not put a man to watch, all my oysters would have been taken.

6383. Then you have to pay for your inspector as well as pay your rent? Yes, I have. I am anxious to get the Hunter River right; I want the Commission to give me the whole of the river. There are men now applying for small leases, and if they obtain those leases I am done.

6384. Will you explain what you mean by that last statement? Well, if those men are allowed to take up 100 yards or 200 yards alongside my lease, they would be on that lease after a time; in point of fact, I should have to employ a man to watch each of my leases.

6385. If the whole of the river were leased to you no one would have a loophole or an excuse to get on your leases? Yes, that is so; I have applied for 500 yards in the back channel of the Hunter.

6386. Do you know whether the Fisheries Commissioners, or any member of that body, have visited your oyster fisheries at Camden Haven officially? No.

6387. Have they ever visited your oyster fisheries on the Hunter River? Not to my knowledge. If they had been there I should have been only too pleased to have given them every assistance.

6388. Respecting the administration and control of the fisheries of the Colony, do you think a change might be made with good effect? I think so.

6389. Is it your opinion that the present Fisheries Commission have shown that interest in the fisheries that was expected of them? I do not think they have had power enough. I have been to Mr. Thompson to have simple matters dealt with, but he has not had the power. It would be better if more power were given those men. They have done all they could, but the thing has been a farce. If men are to carry out an Act like that they should be paid for their work.

6390. Would you favour an alteration in the administration—would you favour the appointment of a practical man to control the fisheries? Yes; that would be a step in the right direction.

6391. Do you think it should be the duty of that gentleman to pay periodical visits to the different fisheries? Yes, I do. Whoever he may be, he should know as much about my fisheries as I do, and if I am not doing what I ought to do I should be made to do it. If such a state of things could be brought about there would be a great difference in the fisheries of the Colony to-day. The fisheries should be regularly inspected, and the head authority should be ready at all times to advise upon important questions.

6392. *Mr. Thompson.*] How do account for the occurrence of the deep oyster beds? At Camden Haven I have a lease where the pure sea-water breaks right in on to it; the oysters grow magnificently there. There seems to be a continual intermingling of fresh water with the sea water. There is a place called the Half-tide Rocks, on the Brisbane Water Bar, and oysters grow wonderfully there. I think the deep-water oyster beds occur where there is a proper intermingling of fresh and salt water.

6393. I suppose that would be water oozing up from the floor or bottom of an estuary and mixing with the salt water? Exactly.

6394. What is the difference between the rock oyster and the drift oyster? There is no difference whatever, it is all the one spawn.

6395. Do you know whether the spat of the drift oyster is heavy and does not float like the spat of the rock oyster? Yes; it is not so heavy.

6396. Then, I suppose the difference between a foreshore oyster and a deep-bed oyster is simply this, that the foreshore oyster is the spat from the deep-water bed which escapes and floats on to the foreshore? Yes.

6397. Have you ever cultivated foreshore beds from spat obtained from deep-bed oysters? I have tried the experiment on the Hunter, but they died.

6398. Do you think that the young spat from a deep bed will grow and thrive on a foreshore? Yes.

6399. As to aliens,—Italians, Greeks, and others,—would you refuse a lease to an alien until he had taken out letters of naturalisation? Most certainly I would.

WEDNESDAY,

WEDNESDAY, 22 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 11 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Peter John Baalman, oyster lessee, Sans Souci, George's River, sworn and examined:—

- Mr. P.J. Baalman. 6400. *President.*] What is your name? Peter John Baalman.
6401. Where do you reside? At Sans Souci.
6402. Are you a holder of any oyster lease in the Colony? Yes; 1,000 yards in George's River.
- 22 May, 1895. 6403. How long have you held that lease? From June last. The application was in six months before that.
6404. Did you take the lease up with the view of working a natural oyster-bed, or for the purpose of artificial culture? Both; to assist the natural facilities of the natural growth.
6405. Have you had any return from the lease since you have taken it up? Yes; I have taken some off, and notified the same to the authorities.
6406. What number of bags have you taken off your lease since you have held it? I cannot say for certain, between thirty and forty.
6407. Are they a good class of oyster? Yes; they will be as good as any in the country when they have had time to grow. When I took the lease it was skinned out by the pilferers.
6408. Have you had any previous experience in oyster-culture? Not personally; not in my own interest. I have seen plenty of it both here and in Boston, United States. I did not grow oysters there. I saw a great deal of it by my own casual observation.
6409. They systematically enter upon the matter of oyster-culture there, do they not? Yes; it is a great many years ago since I was there. They will only allow oysters to be taken off the beds when they have done spawning. The seasons for spawning here are different.
6410. Do you think the oyster has a certain season here for spawning? No; they spawn pretty well all the year round. They get into a certain condition and then they spawn.
6411. Have you noticed any disease in your oyster lease? Yes.
6412. What is it? A blister forms in the shell.
6413. What do you think is the cause of it? A worm.
6414. Have you found the worm under the blister? Yes.
6415. What created the blister? This worm gets in, draws mud in, and the oyster forms a thin layer of shell over it. I have seen very strong evidence of it.
6416. Have you thought out the question of finding some means of eradicating that disease? I think the only plan is when you drop across a patch which has the disease, to clear that patch out—to work it well, and to take away all the oysters. We find the disease mostly below the low-water mark, at half-tide it is not so bad.
6417. Where the sun has an influence upon the oysters the disease is not so bad? No; the deep-channel oysters are the worst. Three or four years ago a man was diving who had to give up all the deep-water beds on account of the disease. He shifted some of the channel oysters into shallow water to see if that would cure it, but it only spread the disease.
6418. Do you think the disease in the foreshore oysters came originally from the deep beds? Yes.
6419. Have you any deep beds in your lease? No, all foreshore.
6420. Are they mangrove oysters? Yes, all mangrove oysters; we pick the spawn off the mangroves and lay them on the shallow parts of the lease.
6421. Is that above low-water mark? Yes; they dry nearly every tide.
6422. Have you provided any means for catching the spat from your lease? I tried by placing oak-limbs with the leaves on.
6423. Did that answer? I have not seen any good yet.
6424. Has any spatting occurred since then? I think they have spawned two or three times, but not any large proportion of the spat has fallen.
6425. Where do you send your oysters to for purposes of sale? I have not taken many off, I have a boat-letting establishment and sell a good many locally. I have sent a bag a week for the last ten weeks to a place opposite the Cathedral—Woodward's.
6426. Were they free from the disease? Yes, you might get one diseased in a bag.
6427. Are there any other leases close to you? There is one opposite me, about a mile across the bay.
6428. As to the system under which the leases are granted, do you approve of it? Not the present system.
6429. Will you give us an idea of what you think would be a good system? I think it would be better for both the lessee and the country to lease larger areas at a reduced rent, and charge a substantial royalty per bag, it would give the *bona fide* lessee a sort of protection.
6430. Suppose that a lessee did not work his area, but left it, the Government would get no return at all in that case, how would you provide against that? I never thought of that; I hardly think a man would take up a lease without working it.
6431. Would you consider it a very proper provision, if oyster deposits were leased in this way, to insist upon the lessees taking the marketable oysters off, as they grow, subject to forfeiture of the lease if they did not do so? Certainly, there would always be a charge made for the land they took up, and it would not be altogether a loss to the Government or to the lessees if they did not work it. It is only mature oysters that throw off spawn, and where they have been skinned out there is no spawn floating about. It would not pay a man to have an oyster lease and pay for it and leave it at the mercy of the pilferers.
6432. You believe in the abolition of the practice of allowing small leases of 100 yards to be taken up? I do.
6433. Do you agree with the provision which allows people to take oysters from Crown lands for their own consumption being abolished, would you only allow them to eat whatever they can consume on the place? Yes; that is the only protection you can have to abolish the 15th section. They can have fifteen or sixteen

- sixteen bags and the inspector comes along and they say they are for their own use, and I have known them to have stamped bags so that they could be identified. I also believe in a substantial license fee being paid by everyone who sells oysters. I would also like to see the size of a marketable oyster increased.
6434. What should be the size of the oyster? It is hard to say, I think the ring should be 2 inches; I think that is small enough. The ring should be increased from $1\frac{1}{2}$ to 2 inches.
6435. Are the oysters in George's River of rapid growth? Well, I have noticed at times they grow remarkably fast; you see them sometimes with a growth of one and a quarter inches long, which they make in a week, particularly just after a long drought and then a fresh.
6436. Have you put any layings down of other oysters, besides the locally produced oyster? A few by way of experiment.
6437. What kind? Some from Camden Haven.
6438. How did they do? I have not looked at them yet. I also tried a few New Zealanders, and a few Port Hackings, but I cannot say what the result is yet.
6439. *Mr. Thompson.*] Have you told the President what means you would adopt for eradicating the disease? I cannot think of anything but to take away all the oysters from the diseased patch—clear them right out and let them perish.
6440. And would you lay them down again as cultch? No.
6441. Would there be any harm in doing so? I would not run the risk.
6442. If you are going to take away all these oysters, how do you propose to supply your beds? We could lay down the New Zealanders.
6443. Where do you think the oysters originally come from—the open sea? No.
6444. Where do they come from? The bed of the river. I have had some experience of oysters at Torres Straits; you get a nice shell, but nothing in it; they only produce the shell, there is no fish worth mentioning.
6445. How would you account for the occurrence of oysters at Lake Macquarie, at the channel entrance? They are in the sea, I think, every kind I know of, a bit outside the Heads, and if you could bring the oysters into the river-beds they would improve.
6446. Then you do think the oysters come from the sea? They might have come from the various kinds of pearl oysters.
6447. Do you think these pearl oysters are on our coast? I can bring you some shells that came from Port Hacking.
6448. Would it not be possible that these oysters that you have on your lease might be the produce of oysters from the sea? It is possible; I have found them on various reefs and islands.
6449. Is there anything else you would like to say to the Commission in respect to the oyster fisheries? Try and give us a little protection, we have none at the present time, A man can get on my lease, and I have to catch him before I can prosecute him. I must catch him on the lease.

Mr.
P.J. Baalman.
22 May, 1895.

THURSDAY, 30 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 10.30 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Mr. Henry Woodward, oyster merchant, Sydney, sworn and examined:—

6450. *President.*] Your name is Henry Woodward? Yes.
6451. You are a resident of Sydney? Yes.
6452. And have been for some considerable time? For forty years.
6453. How long have you been engaged in connection with the oyster business? For thirty-five years.
6454. For how long a period have you held leases? For about twenty-four years.
6455. Do you hold any leases at the present time? Yes.
6456. Where are they situated? At the Manning, Cape Hawke, Port Stephens, and the Clyde. I hope this Royal Commission will go and see Cape Hawke.
6457. What area do you hold at the Manning? I think about 8,000 yards.
6458. What extent do you hold at Cape Hawke? My rent for that place amounts to £130, that would be for 13,000 yards.
6459. What extent at Port Stephens? I have only got 2,700 yards there.
6460. What extent on the Clyde? I have a great deal there, the rental is £140—that would be for 14,000 yards.
6461. Have you held the lease on the Manning for any length of time? Oh, yes! ever since they were granted under the last Act. I took up many leases which were cancelled on account of the non-payment of rent, and as fast as they were cancelled I used to apply and take them up.
6462. Where did you direct your attention to first in regard to leasing? I was in a large way of business as a merchant when the Act was first passed to give leases, and could see the benefit to be gained, and with two others immediately applied and got five rivers.
6463. Was that under the old leasing system? Yes.
6464. In connection with the present system of leasing, to what river did you direct your operations first? I made applications on nearly all the rivers simultaneously before the Act was actually passed.
6465. So that in connection with all these leases, the Manning River, Cape Hawke, Port Stephens, and the Clyde they were simultaneously applied for? Yes; not in the areas I have now, but for large portions of them.
6466. Do you visit them personally? Oh, yes! I was for thirteen months at one time at Cape Hawke straight off.
6467. Which waters have proved, to your mind, the best for the growth of oysters? Cape Hawke for the growth, but not for the quality.
6468. Where are the best quality grown? At the Manning River—there is a difference of 5s. a bag in the value.

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6469. I suppose you brought all the oysters from your own beds into consumption through the agency of your shops? Well, I supply the other shops in Sydney, and have been doing so all along. I have no shops of my own.

6470. In connection with the lease on the Manning, have you had any difficulties to cope with in the way of disease? Yes.

6471. What was the nature of it? In a lease I have, No. 1521, two or three years ago I noticed that there were a number of the oysters full of the disease. I at once telegraphed to my manager to strip that bed completely naked, and the manager, after searching everywhere, found the disease was confined to one end of the bed. It was only to be found on the north-east corner of the bed, and from that day to this we keep that portion of the bed stripped of oysters, and also a little way outside of it, and the disease has never spread at all since adopting that course. I have acted exactly in the same manner as if treating diseased cattle, and this has kept the disease down.

6472. Do you think the disease was brought about by natural circumstances, or was it conveyed there? By natural circumstances. The disease is in all the oyster fisheries in the world. It is attributed to a worm, and it is to be found everywhere little or much.

6473. There is a worm, is there not? It is my opinion that the worm is not the cause, but that it is the consequence of the disease. Professor Haswell tells you, in regard to Sydney Harbour, that in piles and beds of shell, or anywhere where mud accumulates, is the home of this worm. It is all over the world. The worm lives in this foul mud, and it is my opinion they enter the foul mud in the oyster shell as they do on the piles and stones which is their home.

6474. You do not agree with Mr. Whitelegge's opinion that the worm enters the oyster and exudes the mud? I do not believe it. When the disease was bad we could get thousands of oysters with no worm in them. It was only in rare cases you would get the worm. You would have to search amongst a great many diseased oysters to get it. I have experienced every stage of the disease, from the beginning to the very height of the disease.

6475. You favour the idea suggested by Sir Henry Thompson, which Professor Huxley speaks about, that "the leucodore drives burrows into the shell, and lives in them without any evil intent towards the oyster, but the burrows fill with fine mud, and this, spreading into the vacuities of the shell, gives rise to inky patches, which look unpleasant when the oyster is opened, and damage its commercial value, though, as I can testify, the flavour of the oyster is no wise impaired;"—is that your view? Yes; of course it is.

6476. Have you been visited with any other disease or agency by which your beds have become destroyed or injured? Yes; by floods. The last few months we have suffered at the Manning. We have lost the bulk of the oysters down to 4 feet of water. It is only a question of time, if the rain falls long enough, the oysters cannot live in fresh water, and as the water gets fresh lower and lower down it kills the oysters as it settles on them. It takes a long while for the fresh water to get to the bottom. Even after heavy floods we can get oysters salt. When they were talking about damming the George's River I was reading an account of how many years it would take, with all the rain that fell, to make the water above the dam perfectly fresh. It was a good many years. No matter how bad the floods, you can get the oysters as salt as ever they were, which proves the water has not penetrated down below as yet. At Cape Hawke you will see 20,000 sacks of oysters, and I shall be very pleased to hear of the Commission going there.

6477. Taking your experience of the Manning River oyster-beds, you appear to have coped successfully with the disease? I have done so at Cape Hawke and in the Clyde also.

6478. Have you any disease in Port Stephens? It has killed the fisheries right out. I have attempted to cultivate again, but they all died. The condition of the water is not suitable for oyster life, and the worst of it is that it is the only winter fishery we have in New South Wales. Of course, this is with reference to the deep-water beds, not the foreshores—they are only bankers.

6479. What is the yield you had for the year 1894 from the Manning and other fisheries? About 1,300 from the Manning, 1,900 odd from Cape Hawke; I really cannot tell you how many from the Clyde;—I should say about 500, and a very heavy crop is expected from that river next season.

6480. You have not had any from Port Stephens for the last eighteen months? No; not for seven or eight years.

6481. In connection with the leases at Port Stephens, have you asked for them to be surrendered? I have surrendered a good many. I paid the rent for years, but could get nothing from them, and the Commission have accepted the surrender of a good few of them.

6482. Have you tried the experiment of laying down New Zealand oysters? Largely.

6483. How did they succeed? They were no good at all. I have paid as much as 14s. a bag for New Zealand oysters. I sent 2,000 or 3,000 sacks to my fisheries when I was first trying to stock them.

6484. Can you account for their failure in reproducing? Well, the waters would not produce anything themselves, not even natural oysters in the river; see the years we were without oysters from the Manning and Cape Hawke.

6485. It was not by reason of the unsuitableness of New South Wales waters for a New Zealand oyster? The water was not suitable for oyster life during that time.

6486. When the water is suitable, do you think a New Zealand oyster would grow and propagate? I sent 30 or 40 sacks to my manager, Mr. Guyler, last year, and lost them all this season.

6487. You think that the New South Wales waters are not suitable for New Zealand oysters? I do not think they are suitable for any oysters that are imported; you can get authority for that from many works. If you want an oyster to live you must put it back in the water within a few hours; if they are out of water too long they get weak, and it is only a question of how long it will be before they all die. In England it is just the same;—they must get the spawn in the water as quickly as possible.

6488. Have you suffered at all from pilfering on your beds? I have; but I never take any notice of it. I have got the best bed for rearing a good quality of oyster that there is in Australia, and I doubt if there are any better in England. I have paid rent for it for twelve years, and have never had any returns from it. It is the Bar bed at the Manning. It produces the finest oysters, but it was destroyed by successive floods twenty-two years ago, and it has taken the whole of that time for the mud, trees, and stones that settled on it to be washed away again. There were 150 yards of oysters last year set in along the shore, but the settlers took them all away. We got another lot this season, but I expect they will all disappear again; the bottom is of clean jap stone. They used to smuggle oysters there at one time; five or six men would fill a ketch up in the night; there are now 150 yards of it stocked, but who is to look after it.

6489. As to the system of leasing at present in vogue, do you approve of the way in which people are allowed to take up these small areas? No; they cannot do any good with them.

6490. By their taking up the 100-yard leases it is like a practice of indiscriminate selection? If a man gets these small leases he will keep on shipping oysters from years end to years end, but they never come off his ground, but who is to stop him; it is quite a common thing.

6491. And it is not alone the leases that suffer from the depredations of the men that take up these small areas, but also the Crown lands? Yes; they live off them, either off the Crown lands or the leases; they have none of their own. Down at Moruya a man we all knew was supposed to live on stealing oysters for years; the Crown lands suffer just the same as the lessees.

6492. Will you give us an idea of what you think would be a good system to have enacted? There can be no system without supervision that I can see.

6493. Would you propose any departure in the manner of leasing, and as to areas, &c.? Yes; the areas leased are too small. I made suggestions to Sir Alexander Stuart, and submitted a map on which I had marked off large blocks in the Manning River, which I considered would be suitable areas, but he considered he could do better by letting leases along the shore to twenty or thirty people, where, in reality, there should be only one; if a boat were caught then on a block it would be no good for the man to say he was getting oysters off Crown lands; it would be a certain case that he was robbing you if he had oysters in his boat. I think there could be no better system than that of having large blocks.

6494. Would you do away with the present system of paying so much per 100 yards, and prefer to have a royalty? Not so far as I am concerned. I think if you let it in large blocks it would be a very good system to let at a nominal rent, and take a royalty for what those lands produced, no man could grumble at that. I would take up such places myself, and expend money so long as nobody could get in; if unsuccessful you have nothing to pay, and it is to your benefit to endeavour to make it successful, and if you can produce 500 bags off your lease you can afford to pay a reasonable royalty, as it would be to your own benefit to do so. I think it would be a very good plan.

6495. Supposing that were done would fishermen hauling on foreshores damage the oyster-beds? Yes; they drag the oysters right up. I have seen them dragged up in heaps on the Clarence River; the nets sink right on the bottom, and when the men haul them in from the shore they haul oysters as well as fish.

6496. I mean on the foreshores? The outer distance from the shore, the nets go down and they haul their nets and take the oysters along with the fish.

6497. How would you propose, in case we leased in the way suggested, to meet the difficulty between the fishermen and the oyster lessee? Why not reserve as now, where there are no oyster layings; the fisherman wants protecting as well as the oysterman. There is plenty of room for fishermen without hurting the oyster leases.

6498. You think it could be fairly arranged without interfering either with the fisherman or oysterman? Yes; look at the sandy and muddy shores we have which are no good for oysters, but are all right for the fishermen. You must have reserves.

6499. We have received the information, but I do not know if it is in evidence, that if nets are allowed to work amongst the diseased oyster-beds it would have the effect of destroying the worm disease in a measure? I have read so from Massington, but it is a lot of rot; it is like Whitelegge's opinion about taking them out, and washing them, and putting them back, and expecting them to live—taking them out for ten days, and, after washing them clean and drying them under a shed, then take them and put them on to clean beds;—but where are the clean beds to begin with, and how could you take them off and wash them; what becomes of the water which goes back into the river; are not the oysters put back into the diseased water. I never heard of such a parcel of nonsense in all my days.

6500. Have you tried to carry out oyster culture in the true sense of the term? I have indeed; I have laid out thousands of pounds upon oyster culture.

6501. Have you been rewarded for your patience and perseverance? Not so far. You may remember the pamphlet I published. I had eight or nine men at work at that time laying oysters collected off the shores, and I made those men lay them on good fattening beds, and they grew into magnificent oysters, and on another shore they all died. It was in the time of the drought. My opinions to-day are exactly the same as when first published in my pamphlet, and those opinions are confirmed since writing the pamphlet seven years ago. You will find in the pamphlet what was done at Cape Hawke. I should like to call your attention to the following statement in the pamphlet:—

A question that has always agitated the minds of the whole of the oyster people of this country is—how has it occurred that on several of our river banks oysters have appeared as the oysters on the lower beds disappeared? This is the reason—that, although the lower water had become too salt for oyster life, the top water was still at its proper percentage of saltness, so that on the shores the oyster could still exist.

About four years ago I leased the oyster-beds at Wallis Lake. The oysters on the beds had become very scarce, but my men told me there was an immense quantity of oysters on a bank, which, if laid down on the beds, would grow into good oysters.

I went there, and this is a description of the place:—You enter through the heads, and are at once in the lake, which is studded with islands. Oysters begin to show from the very entrance, but run small, as they do at most places near the sea. The good part of the fishery begins at about 2 miles from the entrance from the sea, and extends about 2 miles up. About 3 miles from the entrance is the mouth of the river Wollomba, which empties itself in the lake. Now, at the the mouth of this river, a great bank of sand, shells, &c., ran right across, which blocked the salt water from running up and the fresh water from running down, except at the top of high water.

It was on the top of this bank the great quantity of oysters lay, but owing to the short time water covered them they grew very slowly and were always poor in quality. These were the oysters I now began to operate on, by removing them off the high beds and placing them in beds upon which they would always be in water. I had one portion of them carried up the river and laid upon an old bed situated well out in the river, and over which there was always from 9 inches to 15 inches of water; the remainder were carried down into the lake and laid on a bed that had been a famous one for breeding and fattening purposes.

In about six months' time the result began to show. The oysters that had been laid up the river grew into first-class oysters; those that had been laid in the lake died. 2,000 sacks of oysters were laid on that lake bed, and they were literally all lost. I could name the whole of the men that were engaged in the work. They are all at work on our rivers; many of them work for me at the present time.

Not one of us engaged in this work could at that time give any feasible reason why one portion of the oysters laid down had all died and the others did well, for at that time we never thought of salt as a factor in the matter; but now how easy to account for the loss of one portion and the improvement of the other. Those oysters laid up the river had water suitable to their life, owing to the fresh water flowing on top of the salt, and they lying so near to the top of the tide; and those oysters laid down on the lake bed died because the water they were put in was too salt, being very little different from the pure salt water of the ocean. Here is a remarkable European proof that the life and propagation of the oyster

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Mr. H. Woodward. oyster is entirely dependent upon the salinity of the water. In that portion of the north of Jutland that abuts on the North Sea are a series of lakes named Lim Fiord. This fiord, up to the year 1825, consisted of a number of connected brackish water lakes, with a flow out towards the Kattegat. During the last century many attempts were made to establish oyster-beds on the open sea flats, and likewise on the lakes. All attempts, however, failed, the water in the open sea being too salt and in the lakes too fresh.

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But in 1825 a great storm broke through the dam which separated these lakes from the open sea. In consequence of this the water of the lakes became gradually saltier. The brackish water-plants and animals disappeared. In 1851 oysters were observed, and year by year they extended over a larger area. In 1860 only 150,000 oysters were taken. At present there are ninety-eight beds, and in 1871-1872, 7,000,000 of full-grown oysters were exported, and to the present day this fishery is yielding great quantities of oysters.

We have here one of the plainest possible proofs that oysters cannot grow in waters too salt or too fresh, and there can be no doubt that if the breach made in the dam at Lim Fiord in 1825 was made good, so as to hold in the brackish waters of the lakes, and keep the ocean waters out, the whole of the oysters would die, and the fishery become extinct.

6502. In your evidence given before the Select Committee in 1889, I notice you stated that you held leases at the Clarence and Shoalhaven, as well as the other places you have mentioned? I have since got rid of them.

6503. You stated in your evidence also that Wallis' Lake was about the best oyster fishery you had? So I do now for production; Wallis' Lake and Cape Hawke are identical.

6504. In regard to the present Act, which allows of people going on Crown lands and obtaining supplies of oysters for consumption,—do you think that that should be amended? I think it should never have been in the Act at all; it is the worst thing that could have happened; it was the worst thing ever done to have this inserted in the Act, and you have only yourselves to thank for it.

6505. Do you think that is the reason the Parramatta has become denuded of oysters? No; it is the general public who take them. You could not keep the public off.

6506. Would you mind giving the Commission your idea in regard to the matter of the administration generally of the fisheries of the Colony? I cannot do that.

6507. Do you think the present administrative authority should be continued? I can only speak so far as the oyster fisheries are concerned. I think it would be wise to do away with the Commission—and this was my opinion years ago—and put it all under one head, a Secretary of Fisheries, and let it be in one of the departments, the same as the other departments—that is my idea—one man that can be appealed to, and decide on the spot to do this, that, and the other thing, and let him be answerable to the Minister as to what action he takes. I have written on that subject and published my opinions years and years ago. I think it would be much better under one head.

6508. You would favour the appointment of a person thoroughly acquainted with our fisheries? Yes; certainly. No foreigner should be appointed, as they know nothing about our fisheries. There was an idea of getting an expert from England or France to superintend our fisheries, but this would not be wise, as their fisheries are not constituted in any way like ours in the mouths of our rivers, and they know nothing about the subject.

6509. *Mr. Thompson.*] Do you believe that oysters originate in the open sea? I firmly believe it. I am sure the spawn comes in from the ocean.

6510. From the open sea to the inlets? Yes; Wollongong Harbour and Kiama Basin all go to prove this. If the bars close up, where are your oysters then;—there are none. Look at the main fishery on the Manning River—that bar was closed up for a number of years and there were no oysters at all, but when the bank of sand was washed away they all set in again.

6511. Can you account for the spread of the disease in oysters in the different rivers? No.

6512. Has it been done by taking oysters from one place and putting them in another? No.

6513. How do you account for the occurrence of oysters on deep beds? Spawn comes in from the ocean with the flood-tide and goes up the river and floats; then, in a short time, it solidifies and becomes heavier than the water and sinks; if it sinks on a hard substance it stops there and grows into an oyster; if it sinks on mud or sand it perishes, so that all hard bottoms up to a certain distance up a river, if the spawn goes on it will stay on naturally, and, likewise, if it goes on to the places barren of oysters they cannot live there.

6514. On account of the too great salinity of the water? No; it is the mud, it cannot live if it settles on mud or sand, and in times of droughts the bottoms of our rivers get full of marine matter, grasses, and all else that grows on the bottom, and the reason we have no oysters is because it falls on this vegetable matter and perishes. It wants the clean hard bottom.

6515. And not too great a salinity of water? Oh, no!

6516. Can you tell me the difference between the rock and the drift oyster? They are one and the same in my opinion. You can take an oyster off the top and call them rock oysters, and if you put them down a little way below low-water line they will gradually assume the shape of the deep-water oysters down below, as they widen and thicken. I believe the spawn falls indiscriminately everywhere.

6517. You do not favour the idea expressed by some about the spat of the drift-oyster being heavy, and that of the rock-oyster light? No; I believe the same spawn stocks both deep beds and banks.

6518. The difference between a foreshore and deep-bed oyster is, you think, that one is the spat from the deep-bed which escapes —? No; I think they come from the same inflow of spawn from the ocean.

6519. You do not think the beds in inlets are resuscitated from the spat emanating from oysters in the inlets? I do not think so.

6520. Would you refuse a lease of an oyster-bed to an alien until he had been naturalised? Require him to be naturalised undoubtedly.

6521. You have stated that it would be better to fix the payment of rents by results rather than by an annual sum? I think so; so few are in a position to pay it.

6522. What do you think would be a fair charge to make as a royalty? I think 3s. would not be too much as they would pay no rent and are under no risk, standing all to win and nothing to lose. They might lose a bit of labour, but if there were no oysters, there would be no royalty to pay, and I think that would be fair enough.

MARKET ACCOMMODATION.

FRIDAY, 17 MAY, 1895.

[The Commission met at the Offices, Bligh-street, at 11 a.m.]

Present:—

FRANK FARNELL, Esq., M.P., PRESIDENT.

L. G. THOMPSON, Esq., J.P.

Samuel Edward Lees, Esq., M.P., Mayor of Sydney, sworn and examined:—

6523. *President.*] Your name is Samuel Edward Lees? Yes.

6524. You are Mayor of Sydney, and a Member of the Legislative Assembly? Yes.

6525. This Commission has been for some time making inquiries with a view to the development of our fisheries, and they can see as well as anyone else who has devoted any study to the question, that in order to make their proposals a success, it will be necessary to have important alterations made in regard to the arrangements at present in vogue at the Woolloomooloo Markets. So far the evidence tends in the direction of censure on the authorities in respect to the manner in which the Fish Market has been conducted, and the neglect which has been allowed to exist for so long a time. The Commission would like to know whether an advertisement was inserted by you in the morning papers of the 22nd March, 1895, inviting all those who desired to give evidence respecting the Fish Market at Woolloomooloo to come forward and furnish their names, so that they might be examined by you? It was.

6526. Have the committee of the City Council appointed to inquire into the working and general management of the Fish Market held any meetings? Yes.

6527. Have you taken evidence on the subject? Yes.

6528. From what sources? From every available source. We have had a plethora of names sent in of persons who were willing to give evidence representing all branches of the trade—the private citizen, the catcher, the salesmen and agents, the auctioneers, and others.

6529. How long have you been engaged in your inquiry? Since the date of that advertisement—in fact I think before that. I believe that was the second advertisement; we have had, speaking from memory, quite a dozen meetings. We have had a meeting every week since the date that was first announced.

6530. Does the evidence already adduced prove there is a necessity for some reform? The inquiry has shown that grievances exist, and have existed for a long time, which were commonly known and understood.

6531. Are you aware of the publication of the evidence in the case of “Augustus v. McElhone?” I am only cognizant of the *Herald* report.

6532. Augustus was an agent, and McElhone was one of the public who visited the market one morning, and he took upon himself to inform people as to the condition of certain heaps of fish. The defence he set up in this case was that he was doing so in the interest of the public. Have you seen the result of that action? Yes.

6533. Would it not strike you as natural to believe that the Judge was satisfied that what Mr. McElhone stated was correct? I believe the Judge said that rotten fish was sold—had been sold—and that it was sometimes unavoidable, and he gave a verdict for the defendant.

6534. In connection with the display of fish, you being an alderman, and having taken great interest in the market accommodation, do you think there is room for improvement in the manner in which the fish are displayed—that is, instead of having them thrown on the floor, as they are at the present time, might not they be displayed on raised tables, or might not better arrangements be carried out? I am afraid you will be anticipating my committee by these questions. I may say, in a general way, the whole matter has had our full consideration. The evidence we have taken bears upon this point, upon the desirability of having tables or raised tables. The scope of our inquiry takes in the whole question as far as a committee can grasp it, and, speaking for myself, I am satisfied that reform is not only desirable, but also I believe that it is coming about.

6535. Have you considered the question of having an extra sale per day, or having the market open all day? I may say the committee has not decided upon anything, but evidence has been given upon this question.

6536. Have you considered the question of the establishment of auxiliary markets in any other parts of the city? We have not considered anything in the sense of considering what means should be adopted to meet the various complaints. Evidence has come out bearing upon such a point. When the evidence is closed then the deliberations of the committee will be directed to the general improvement of all matters in connection with the subject that require attention. The committee have taken evidence upon every subject and branch of the subject that come within the functions of such a committee in respect to all matters in connection with market accommodation. I beg to point out that owing to my position as Chairman of the Committee of the City Council, it would be unfair to enter fully into the matters which are under their consideration, as it would be giving the committee away, and I shall be glad if you will be satisfied by my saying generally that, in my opinion, there will be a large reform, and that great good will result from it.

S. E. Lees,
Esq., M.P.
17 May, 1895.

ROYAL COMMISSION ON FISHERIES.

APPENDIX.

A.

STATEMENT BY MR. H. ROUSE RESPECTING THE LEASING OF PORTIONS OF LAKE MACQUARIE FOR FISHING PURPOSES.

The Royal Commission on Fisheries,—
Gentlemen,

Dudley, near Newcastle, 9 April, 1895.

Having had a great deal of experience in fishing of all kinds on Lake Macquarie, I beg to submit that the present way fishing operations are carried on is most injurious to fishing and a great loss to the Colony, from the fact that there are so many fish being destroyed. I would suggest that one or two more breeding grounds be added to the lake, and that the lake be leased in mile frontages; by so doing every person would have a chance of leasing and erecting his fish-pots to preserve fish, which would be the means of having fresh fish for the market at any time required, instead of which the fishermen now pot their fish after each haul, and in the summer time especially when they come to pick them up again they find half the fish dead in the pots. It will not only be fishermen that would go into this, but there would also be private enterprise as well, as every man holding land would select the piece lying in front of him, leaving hundreds of miles open in the lake for net-fishing. I would suggest that the Commissioners should make a special visit to the place before carrying this into operation. I have spoken to several of the old fishermen on the same point, and they agree with me that this would be the best thing that could happen to them. If this was done it would be the means of doing away with the licensing of boats and men, if they had their own grounds, and should anyone be seen fishing on closed waters, I should suggest that a very heavy fine should be imposed.

I am, &c.,

H. ROUSE.

P.S.—Dr. Cox, the President of the Fisheries Commission, suggested to people on the lake that it would be very wise on the part of the Government to lease the lake out in blocks, the same as I have already suggested.—H.R.

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[Plan.]

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

FISHERIES ACT, 1881.

(REGULATIONS UNDER.)

Presented to Parliament pursuant to Act 44 Vic. No. 26, sec. 9.

Chief Secretary's Office, Sydney, 7th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to repeal the following Regulations under the "Fisheries Act, 1881," viz. :—

Regulation No. 16, published in a Supplementary *Government Gazette* of the 30th June, 1881, headed "Priority among Netters," and the Regulation published in the *Government Gazette* of the 16th March, 1894, on the same subject.

GEORGE R. DIBBS.

Chief Secretary's Office, Sydney, 7th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to make the subjoined Regulation under the provisions of the "Fisheries Act, 1881."

GEORGE R. DIBBS.

PRIORITY AMONG NETTERS.

THE right of first shooting and hauling a net on any fishing ground shall belong to the licensed fisherman who first arrived on the ground with his licensed boat, marked in accordance with the Regulations, and who shall remain in charge thereof with his net ready for shooting and one end of its hauling line ashore, and the next turn shall belong to the licensed fisherman who arrived next after such first-mentioned person, and so on in order of arrival.

An unlicensed fisherman, or a licensed fisherman in an unlicensed boat or in a licensed boat not marked as aforesaid, shall not be entitled to shoot a net on any fishing ground until every licensed fisherman, then being on the ground with his licensed boat and gear ready for shooting, shall have had his turn.

Two or more turns may be taken at the same time, if the water to be fished permits of double-banking, but no net shall be shot round an inner net within a boat's length of the cork line of such net. It shall be unlawful to wilfully disturb or frighten fish on or in the vicinity of a haul so occupied.

The occupancy of a haul as aforesaid shall cover a space of not more than 300 yards, measured along the shore from the point where the boat in possession is moored, in the direction in which the net is laid for shooting.

Chief Secretary's Office, Sydney, 25th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to repeal Regulation No. 52, published in a Supplementary *Government Gazette* of the 30th June, 1881, prescribing Penalties on breach of Regulations under the "Fisheries Act, 1881."

GEORGE R. DIBBS.

Chief Secretary's Office, Sydney, 25th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to make the subjoined Regulation under the provisions of the "Fisheries Act, 1881."

GEORGE R. DIBBS.

PENALTIES ON BREACH OF REGULATIONS.

ANY person who shall commit any act in breach of, or be guilty of any default or non-compliance with, the requirements or prohibitions of any Regulation made under the "Fisheries Act, 1881," or under any Act amending the same, shall, in every case where no penalty or forfeiture has been in such case provided, be liable to a penalty not exceeding £10.

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

FISHERIES ACT AMENDMENT ACT, 1883.

(REGULATION.)

Presented to Parliament pursuant to Act 44 Vic. No. 26, sec. 9.

Chief Secretary's Office,
Sydney, 7th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to repeal the Regulation published in a Supplementary *Government Gazette* of the 22nd June, 1883, relating to the size of mesh in the bunt of a garfish net.

GEORGE R. DIBBS.

Chief Secretary's Office,
Sydney, 7th June, 1894.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to make the subjoined Regulation under the provisions of section 1 of the "Fisheries Act Amendment Act of 1883."

GEORGE R. DIBBS.

REGULATION.

The size of the mesh in the bunt of a garfish net shall not be less than 1 inch and one-eighth of an inch measured in length on the diagonal between knot and knot of opposite corners.

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1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT LABOUR BUREAU.

(THIRD ANNUAL REPORT.)

Ordered by the Legislative Assembly to be printed, 28 March, 1895.

The Superintendent, Labour Bureau, to The Minister for Labour and Industry.

Sir,

I have the honor to present the third annual report of the Labour Bureau, from the 18th February, 1894, to 17th February, 1895.

I regret to have to report that the depressed state of the labour market, and want of employment, has been severely felt during the year, both in the city and throughout this and the other Colonies.

The large number of unemployed from the country districts registering at the Bureau, particularly during the last six months of the year, is an evidence that work of all kinds is scarce in the country.

While the productions from farming generally have been during the year above the average, the prices paid to the producer have been so low that the farmers do not employ the labour they would do if prices ruled higher. Still there has been a fair demand for farm hands, dairymen, and boys, as well as bushmen generally, during the year, the Bureau having assisted and sent to work no less than 990 of this class of labour. No doubt the large amount of surplus labour and the low prices at which this class of work is done has had a good deal to do with so many finding employment at this particular work.

Large areas of new land have been cleared and placed under cultivation during the year, which has given employment to hundreds of bushmen and farm hands from the Bureau.

The building trade, which is, as a rule, a correct index of the labour market generally, has been for some years and still is very much depressed in Sydney and throughout the Colony, and, as a consequence, a large number of mechanics in that particular trade are compelled to take work of any kind offering in order to support their families.

537	carpenters registered as unemployed.	
133	stonemasons	”
123	bricklayers	”
196	painters	”
81	plasterers	”
86	plumbers	”

During the year the coal trade in the Newcastle, Greta, Wollongong, and Lithgow districts has also been very slack, causing thousands of miners to be out of work, and swelling the ranks of the unemployed. The number of miners registered during the year was 2,116.

There are a very large number of compositors, clerks, accountants, architects, and other professional men who cannot find anything to do at their professions and are glad to adapt themselves to existing circumstances in order to try and support their families. During the year no less than 430 of clerical and professional men have been registered here as unemployed.

The largest number of any calling registered for work during the year is general labourers, viz., 4,548.

A large number of clerks and professional men, mechanics, and others have registered themselves as labourers, believing that by so doing they could get work more readily, knowing well the difficulty of finding anything to do at their particular callings.

On reference to the comparative table which has been prepared, showing the results of the three years' existence of the Bureau, it will be seen that the totals for the past year have been very large. Thus, the number registered for the year is 13,575, being an increase of 1,430 on the previous year, and making a total of 44,320 since opening. The number assisted and sent to work for that period is 16,380, as against 10,349 for the previous year, and 8,154 for the first year, giving an increase of 6,031 over the year 1893-4, and being more than double those sent out during the first year 1892-3. This gives a total of 34,883 for the three years. The amount refunded for passes during the past year is £2,477 15s. 8d., as against £2,676 10s., and £1,135 6s. 1d. for the two previous years respectively, being a total from this source of £6,290 1s. 9d.

The large total above referred to as having been assisted and sent to work has been principally swelled by the fossickers, who have been sent away from Sydney, Newcastle, Goulburn, and other places, to fields where they know or think they can make at least a living for themselves.

In all, 10,718 have been assisted as fossickers this year, as compared with 4,516 the previous year, making a total of 15,234 sent out in this way.

That a large proportion of these have done fairly well is evidenced by the number of families sent for to join their relatives, and by the numbers of letters from mates who are on the fields making at least sufficient to warrant them in advising their relatives and friends to come up and join them. The large increase in value of gold discovered for the year referred to is ample testimony in the same direction. Apart from the number of fossickers sent out, 5,662 others of various trades and callings have been so assisted, as against 5,833 of the previous year.

In addition to the ordinary mode of engagement through the Bureau, numbers of men find employment indirectly by persons coming and engaging them, and taking them away without giving any information or leaving any record on the subject.

Any estimate of the number of unemployed in the country at the present time would be unreliable, but when the agencies contemplated by the Minister are established, better and more reliable information can be supplied.

Fossickers.

The large number of men assisted and sent fossicking during the year is an evidence that this mode of endeavouring to make a living is appreciated by the unemployed generally, many of whom have done fairly well, while others have been able to earn tucker, or enough to live on. A large number of these men have settled down in the country, making a living by this means, farming, or other work, and some 600 families have been sent to join their husbands, making their homes in different parts, where the opportunity of doing so is easier and better than in the city. Of course, a number of men have been sent out who have done little or no good. Want of means with some, and want of experience with determination and perseverance with others, have been the chief cause of failure.

Fossicking was commenced in July, 1893, and the increase of gold for that year and 1894, compared with that of 1892 (previous to the commencement of the fossicking system), as published by the Sydney Mint authorities, is £263,086, and is the best evidence that the system has been somewhat successful in providing profitable employment to a large number out of work.

It may be also mentioned that the months of January and February, 1895, show an increase of gold yield over the corresponding period of last year of 7,000 oz. = £28,000.

During the year 2,320 rations have been given to destitute fossickers to assist them in reaching their destination, at a cost of £232.

Agencies.

I would recommend, with a view to testing the value of agencies, that (say) five be opened in connection with the Bureau—one at Newcastle and one at Tamworth, for the north; one at Bathurst or Orange, and one at Bourke, for the west; and one at Goulburn for the south—to be conducted under the supervision of the Sergeant or Officer-in-charge of Police in each town, whose duty should be to register the unemployed in each district, and supply employers with labour out of those locally unemployed, and, in the event of not being able to supply such labour as may be required, to communicate with the Superintendent.

Should this suggestion be adopted matters of detail can be arranged between the agents and the Superintendent.

Wages.

It is difficult to say what the rate of wages is in any calling at the present time. There are so many unemployed looking for whatever work there is offering, and glad to take any reasonable wages that no regular rate can be fixed. The Bureau does not interfere in the matter; it simply brings employer and employee together, leaving them to arrange wages and terms.

However, from the large number of letters received daily from employers in all parts of the Colony who require men, and stating the wages they will give, it is evident that the rate generally for the past year has shown a reduced tendency all round, though, in some branches, it is more noticeable than in others.

The annexed Schedules give the number in each calling sent out, and the wages given.

Refunds.

The refund of fares by rail and steamer shows a decrease on the amount received during the previous year.

The total amount received for the year was £2,477 15s. 8d., and that for the previous year, £2,676 10s.

The system of refund of fares came into operation in July, 1892, and the total amount received is £6,290 1s. 9d.

There is a large amount still owing—(say) £12,000—principally by men sent fossicking, and who, in addition, owe for their rights.

The amount received for miners' rights for the year, and included in the above total, is £65 12s. 6d.

Labour Settlements.

Under the Act of 1893 three of these settlements have now been in existence for some eighteen months, and I do not think their most sanguine supporters will say they are a success.

Pitt Town, with which I have been connected since its inauguration, has still about ninety families resident there. Mr. Taylor and myself visited the settlement a few weeks since, and, although the Government has assisted with over £6,300, it does not seem likely to ever become self-supporting. It may be able to support forty or fifty families, but not more. The experience of labour settlements on the principle of co-operation or commonwealth is not very favourable.

Registry Offices.

With respect to these, I cannot do better than repeat what I said in my report for 1893:—"During the existence of the Bureau numbers of persons engaged through registry offices for employment in the country have applied to me for railway passes, to enable them to reach their destination; and in all cases which I believe to be genuine I have granted such passes, at the same time taking an order on the employer in each case for a refund."

My experience, however, of these registry offices during the existence of the Bureau leads me to the conclusion that a great many abuses exist in connection with them which might and should be remedied.

In the interest of the unemployed themselves, I would strongly recommend that these offices should be licensed, and placed under Government supervision. The principal reason that prompts me to bring this matter specially under notice is, that I am satisfied that several of those professing to have obtained employment through registry offices have been victimised. After reaching their destinations by means of the railway pass obtained from the Bureau some of these find that they are "not wanted"; in some cases that no authority was given for their engagement, whilst in others there has been absolutely no employment. After spending, perhaps, all they possessed in registry fees, the result is that they have found themselves stranded in a strange place, without employment, and without the means for existence whilst they looked for it. When a person applies for a railway pass the original letter from the employer must be produced, and when this is not forthcoming a pass is rarely granted.

In some cases several persons, I am certain, are engaged for one and the same place; in others, the offices are established simply to obtain fees from the highest bidder. It also happens, from information I have obtained, the fare in some cases has been paid in advance by the employer, and retained by the registry office, and then the person engaged has been sent to the Bureau to obtain a pass. Several parties have had to sell almost everything they possessed to raise the registry office fees—in some cases as much as £5—and in these instances, if the Bureau did not come to the relief, the applicants—perhaps a married couple—would be left destitute.

In the interest of all those seeking employment through these offices, I would recommend that they all be licensed, in order to prevent fraud, and placed under the supervision of the Government, and so prevent poor people from being victimised.

This would result, not only as a benefit to the unemployed, but as a source of revenue to the State.

Relief.

Judging from the number of applicants for relief and number of rations issued for the year 1894, the distress has not been so great as for the previous year. The average number of families in receipt of weekly relief last year, 1894-5, was 368.3; the previous year it was 379. The total number of rations issued for 1894 was 41,884½, costing £3,097, the total for 1893 being 52,525, costing £3,840 6s. 0½d., being a decrease in the number of rations of 10,641 and £742 15s. 6½d. less in cost. This, with the relief given by several other charitable institutions and relief committees, gives some idea of the distress and poverty in and around Sydney.

Shelter.

During the year 53,582 tickets have been issued to the homeless. These, at 1d. each per night, make the total cost of shelter £233 5s. 2d.

Country Relief.

The amount expended for relief in different parts of the country for 1894 was £705 12s. 10d., made up of the following items:—

Name of Place.	Amount.	Name of Place.	Amount.
	£ s. d.		£ s. d.
Teralba	4 1 6	Wickham	65 0 0
Greta	260 8 7	Charlestown	30 0 0
Dudley	50 0 0	Katoomba	29 10 2
Adamstown	50 0 0	Bathurst	23 7 4
Hamilton	53 5 3	Wauchope	50 0 0
New Lambton	50 0 0	Merewether	40 0 0

Most of the country relief has been given as a subsidy of £ for £ voted by the Municipal Council (or raised by the public), and expended in giving work on the roads and streets to the destitute unemployed instead of giving gratuitous rations.

General.

The average daily attendance of the unemployed at the Bureau is from 500 to 600. They come and go all day, and if nothing turns up to suit them, they go elsewhere looking for work.

There is an increase of the unemployed from the other colonies this year compared with last. The number registered in 1894-5 was 1,101, the number for the previous year, 1893-4, being 1,057, showing an increase of 44. All those residing in the Colony over six months are registered as citizens of New South Wales. It is probable that a number of those from other colonies on our books do not give us correct information on this point.

The conduct of the men on the whole is good and orderly, and they give very little trouble, except when a few larrikins come among them, and who have to be dealt with firmly.

The police returns for the year are less than last, the convictions for this year being 153, as against 195 for the previous year, and 399 for the year 1892-3, showing a decrease of 42 this year.

The work at the Bureau has doubled during the year 1894, in consequence of the large number going fossicking on the old gold-fields daily, and the great increase of applicants for relief in the city and suburbs. Each application has to be inspected, reported on, checked, and marked by the Superintendent for

for rations, if correct. There is also the superintending the administration of relief in the country districts, the thinning of forests, and registering and reporting on applications for admission on to the labour settlements, together with a very large increase in correspondence from all parts of the Colony, which has to be attended to and answered the same day, and frequently necessitating the whole of the staff remaining back after office hours to keep pace with the work.

I am pleased to be able to report that notwithstanding the increased duties the whole of the officers of the Bureau do their work cheerfully and well, conscientiously keeping in view the object for which it was established by the Government.

Appended are statements in detail of the work and operations of the Bureau for the year ending 17th February, 1895.

JOSEPH CREER,
Superintendent.

CLASSIFICATION of Trades and Occupations registered during the year ending 17th February, 1895, and a comparison of same with the previous year:—

Occupations.	1893-94.	1894-95.	Occupations.	1893-94.	1894-95.
Assayers		5	Engine-drivers	112	103
Artesian well-borers		2	Electricians	4	9
Architects	1	4	Fencers	3	3
Artists	4	2	Florist		1
Actor		1	Firemen	99	68
Artists' models		2	Fitters	19	29
Asphalters	7	5	Foundry hand		1
Axleturners			Farriers	11	5
Auctioneers	3	3	French polishers	14	15
Bakers	147	109	Farm hands	473	407
Basketmakers	7	2	Furnaceman		1
Barbers	2	2	Fellmongers	3	67
Brush-makers	1	4	Fishermen		4
Barmen and boots	30	21	Gardeners	155	152
Billiard-marker	1		Generally usefuls	762	396
Blacksmiths	201	172	Grocers	86	72
Boiler-makers	74	33	Grooms	338	323
Boot-finishers		2	Goldsmith		1
Bootmakers	89	77	Glass stainers		4
Brass-finishers		3	Gunsmiths		3
Brass-moulders	5	4	Glassmaker	1	
Bricklayers	206	123	Hairdressers	33	21
Brickmakers	81	86	Hawkers		21
Bushmen		190	Horse-trainers		4
Butchers	199	196	Hatters	4	
Bacon-curer		1	Ink-maker		1
Bellows-maker		1	Ironturners		31
Brewers and hands	5	6	Ironmongers	13	12
Bookbinders	4	6	Ironworkers	23	16
Bridge hands	16	9	Ironmoulders	63	22
Boat-builders	4	2	Japanners	1	1
Bottlers	3	6	Jewellers	5	4
Builders	5		Leadworker		1
Canvassers	19	26	Locksmiths	2	7
Carpet-layer		1	Leather-dressers	1	1
Caretakers	15	16	Labourers	3,285	4,548
Carpenters	576	537	Law clerk		1
Carters	348	321	Laundry hands	1	2
Casemakers		6	Lawyers		
Clerks and accountants	264	263	Lecturers		
Coachbuilders	41	12	Lithographer		1
Coachpainters	5	11	Lumpers	2	
Coachsmiths		15	Millers	8	8
Compositors		61	Messenger		1
Cooks	314	262	Machinists	26	13
Clay-modellers	1	1	Marble polishers	11	4
Coopers	8	13	Married couples	42	39
Chimney sweep		1	Masons (stone)	134	133
Coppersmiths	5	4	Master mariners	3	1
Cloth-weavers		2	Millwrights	5	4
Cordial-makers	9	10	Miners	1,200	2,116
Condiment maker		1	Musicians	6	5
Curriers	8	4	Merchant		1
Chemists		12	Marine engineers		2
Coachmen	6	17	Mining engineers		3
Chairmaker		1	Mining surveyor		1
Commercial travellers	15	20	Naturalist		1
Confectioners	8	14	Opticians	1	2
Cabinetmakers		5	Orchard hands	14	25
Cellarmen	5	3	Overseers	8	
Civil engineers		4	Photographers	1	12
Circus hands		2	Potters	6	5
Dairy hands	66	43	Portmanteau-makers	1	1
Dyers	3	1	Painters and paperhangers	245	196
Drapers	44	57	Pattern-makers	5	2
Drainers	3	4	Pipe-layer		1
Dentists	1	2	Plasterers	117	81
Draftsmen		8	Platelayers	2	1
Drovers		3	Plumbers, &c.	112	86
Divers		4	Porters	6	11
Engineers	158	138	Printers	87	59
Engraver		1	Packers	13	8

Occupations.	1893-94.	1894-95.	Occupations.	1893-94.	1894-95.
Pressmen	12	11	Tinsmiths	41	31
Pastrycooks .....	.....	8	Timber yardsmen .....	.....	3
Papermaker	1	.....	Tanners	8	14
Pile-driver	1	.....	Tent and sail-makers	9	4
Quarrymen	56	110	Tutors	22	14
Rubble mason	1	.....	Telegraph operators.....	1	4
Rope-makers .....	.....	2	Typewriters .....	.....	.....
Seamen	20	135	Tallow-makers	1	1
Scenic artist .....	.....	1	Tailors' pressers.....	1	4
Saddle and harness makers.....	54	43	Tobacco pressers	3	1
Ship's caulker .....	.....	1	Teamster.....	.....	1
Sawyers	38	32	Tilers	2	.....
Strikers .....	.....	2	Upholsterers	11	19
Shearers	29	158	Umbrella makers	1	1
Shipwrights	26	27	Venetian blind makers	2	3
Shorthand writers.....	.....	2	Vignerons	2	1
Shearing machinist .....	.....	1	Veterinary surgeon .....	.....	1
Signwriters	6	3	Vegetable gardener .....	.....	1
Smelters .....	.....	6	Vocalist	1	.....
Slaters.....	3	7	Watchmakers	5	10
Stone-polisher .....	.....	1	Waiters	31	38
Sawmaker .....	.....	1	Whitesmith .....	.....	1
Soapmakers .....	.....	3	Wheelwrights	27	22
Stewards.....	26	31	Wire-workers.....	6	4
Storekeepers	96	35	Wool hands	52	22
Station hands	763	299	Wardsmen	11	2
Surveyors	2	10	Wood-turners.....	5	5
Surveyors' assistants	23	19	Wire mattrass makers.....	.....	3
Storemen .....	.....	55	Warehousemen	3	23
Salesmen.....	21	40	Whip-makers.....	.....	2
Slaughtermen.....	.....	3	Wood-carvers.....	1	2
Stereotyper .....	.....	1	Callings not classified	76	53
Stationers	3	2			
Tailors.....	59	71	Totals	12,145	13,575
Ticket-writer .....	.....	1			

GOVERNMENT LABOUR BUREAU.

TABLE showing various Trades and Callings to which persons have been sent in Town and Country, Summary of Wages recorded, Total Refunds for Passes for year ending 17th February, 1895; together with comparative figures for the previous twelve months, and remarks thereon.

Trades and Callings	Year ending 17th Feb, 1895			Year ending 17th Feb, 1894			Increase		Decrease		Wages		Refunds for Passes, Year ending 17th February		Remarks
	Town	Country	Total	Town	Country	Total	Town	Country	Town	Country	1895	1894	1895	1894	
Asphalters	1	...	1	4	1	5	...	3	1	Contract	Contract	£ s d	£ s. d.	<p>Wages.—The general average of wages for the year shows a shrinking tendency, though not so apparent as last year, when compared with previous years.</p> <p style="text-align: right;"><i>Total refunds.</i></p> <p style="text-align: right;">1893 ... £ s d. 1,135 16 1</p> <p style="text-align: right;">1894 ... 2,676 10 0</p> <p style="text-align: right;">1895 ... 2,477 15 8</p> <p style="text-align: right;">£6,290 1 9</p> <p><i>Carpenters</i>—A number of carpenters have been found work, making necessary alterations and additions to the Orient and other companies' vessels in connection with shipping meat, stock, &c.</p>	
Artists' Models	3	...	3	4	1	5	1	1	2s. 6d per hour	1s. to 2s 6d	2,477 15 8		2,67 10 0
Actors	...	1	1	1
Brass Finishers	1	..	1	7	..	7	6	..	1s per hour	1s. per hour
Bucklayers	28	28	56	31	14	45	...	14	3	7s to 10s.	8s to 11s per day
Brickmakers	2	21	23	2	14	16	...	7	..	Contract
Blacksmiths	14	28	42	22	41	63	8	13	25s to 50s per week	30s to 50s. per week
Bakers	7	35	42	17	48	65	10	13	..	30s to 50s.
Bootmakers	5	12	17	6	15	21	1	3	Piece ..	Piece
Butchers	5	67	72	17	68	85	12	1	20s to 45s.	20s to 50s.
Billiard Markers	2	..	2	4	..	4	2	..	15s to 20s	15s. to 20s.
Basketmakers	2	..	2	2	1	3	1	Piece ..	Piece
Barbers	2	5	7	5	7	12	3	2	15s. to 30s.	15s. to 30s.
Batmakers	..	1	1	2	..	2	..	1	2	..	Piece ..	Piece
Boatbuilders	1	3	4	2	1
Brewer's Hands	..	1	1	2	2	4	2	1	25s.	1s. per hour
Bookbinders	1	..	1	1	2	3	2	1	Contract	20s to 35s.
Bellman	1	..	1	5	5	5	4
Boilermakers, &c	3	12	15	12	26	38	9	14	1s. per hour	6s. to 11s
Bushmen	17	130	147	186	186	186	17	..	56	..	10s to 20s	10s to 25s.
Bridge Hands	..	9	9	..	57	57	..	..	46	..	1s. per hour	6s. to 10s	..	..
Brassmoulders	..	..	..	9	3	12	..	..	9	3	..	7s. to 11s	..	..
Brushwood Turners	..	1	1	..	..	..	..	1	..	..	..	..	..	..
Bandmasters	..	1	1	..	..	..	..	1	..	..	..	..	..	..
Broom makers	1	2	3	..	..	..	..	1	2	..	..	..	..	..
Bellows Makers	2	..	2	..	..	..	2	..	..	..	Piece ..	..	..	..
Canvassers	37	5	42	169	28	197	..	..	132	13	Salary & Commission	Salary & Commission	..	..
Carpenters and Joiners	286	50	336	176	83	259	110	..	33	33	6s. to 10s. per day	7s to 12s. 6d	..	..
Carpenters (Bridge)	..	10	10	..	25	25	..	..	15	4	1s per hour	8s to 10s	..	..
Caretakers	4	1	5	5	5	10	..	..	1	4	8s. to 15s	8s to 20s	..	..
Casemakers	1	..	1	2	..	2	..	..	1	..	7s. per day	6s to 7s. 6d	..	..
Caulkers	11	5	16	11	5	..	1s per hour	10s. to 40s
Clerks, &c	1	6	7	17	14	31	..	..	16	8	10s to 40s.	10s. to 40s	..	..
Cooks	39	63	102	33	153	186	6	..	90	..	15s. to 50s	12s. 6d. to 40s	..	..
Chemists	..	1	1	..	..	..	..	1	..	..	..	..	..	..
Coppersmiths	3	..	3	3	..	3	..	..	..	..	1s. per hour	1s per hour	..	..
Coach Trades	8	6	14	14	43	57	..	..	6	37	1s to 1s 2d. per hour	..	..	..
Cordial Makers	..	1	1	1	3	4	..	..	1	2	25s. per week	15s. to 25s	..	..
Coopers	10	1	11	6	4	10	4	..	3	3	1s. per hour	1s per hour	..	..
Curriers and Tanners	..	..	..	1	7	8	..	..	1	7	..	7s. to 8s.	..	..
Chaff Cutters	1	2	3	..	..	..	1	2	..	..	..	..	..	..
Cabinet Makers	4	4	8	..	..	..	4	4	..	..	1s. per hour	..	..	..
Drapers	..	9	9	1	6	7	..	3	1	..	25s to 40s	30s to 40s.	..	..
Drivers	19	22	41	29	57	86	..	..	10	35	10s. to 20s	10s to 25s.	..	..

TABLE showing various Trades and Callings, &c.—continued.

Trades and Callings	Year ending 17th Feb, 1895			Year ending 17th Feb, 1894.			Increase		Decrease.		Wages.		Refunds for Passes, Year ending 17th February.		Remarks.
	Town	Country	Total.	Town.	Country	Total.	Town.	Country	Town	Country	1895.	1894	1895.	1894.	
											£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Divers	3	...	3	...	..	..	...	3	..	..	2s. 6d. to 3s. per hour	...	...	...	...
Dyers .....	..	1	1	..	..	..	...	1	..	..	..	..	..	..	..
Drainers	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..
Engine Drivers	2	10	12	11	39	50	..	..	9	29	25s. to 50s.	30s. to 45s.	..	..	..
Engineers ..	9	10	19	..	..	..	9	10	..	..	25s. to 45s.	..	..	..	..
Farm and Orchard ..	47	164	211	20	459	479	27	..	295	..	10s. to 20s	10s. to 20s.	..	..	..
Fishermen ..	18	2	20	1	3	4	17	..	..	..	..	..	..	..	..
Firemen	5	1	6	3	7	10	2	..	..	6	7s. to 9s	7s. to 9s.	..	..	..
Flour Mill Hands ..	1	..	1	3	6	9	..	..	2	6	20s. and found	20s. to 30s.	..	..	..
French Polishers ..	7	..	7	6	5	11	1	..	..	5	1s. hour	piece	..	..	..
Fitters .....	..	1	1	..	..	..	..	1	..	..	1s. per hour	..	..	..	..
Fellmongers	8	5	13	..	..	..	8	5	..	..	..	..	..	..	..
Furnacemen	2	1	3	..	..	..	2	1	..	..	..	..	..	..	..
Governesses, Servants, &c	10	275	285	30	155	185	..	120	20	..	..	..	..	..	..
Gardeners	61	38	99	79	64	143	..	..	18	26	10s. to 20s.	10s. to 20s.	..	..	..
General Usefals	259	377	636	257	345	602	2	32	..	..	5s. to 20s.	8s. to 20s.	..	..	..
Grocers	5	3	8	6	3	9	..	..	1	..	15s. to 40s	25s. to 40s.	..	..	..
Grooms	19	5	24	24	55	79	..	..	5	50	10s. to 20s.	10s to 25s.	..	..	..
Glaziers	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..
Hospital Attendants ..	3	1	4	2	7	9	1	..	..	6	..	..	..	..	..
Horse-breakers .....	..	2	2	..	..	..	..	2	..	..	..	..	..	..	..
Horse-chippers	15	..	15	..	..	..	15	..	..	..	..	..	..	..	..
Iron-moulders .....	..	..	..	1	4	5	..	..	1	4	..	1s. per hour	..	..	..
Ironmongers .....	..	..	..	1	1	2	..	..	1	1	..	25s.	..	..	..
Iron workers	13	2	15	..	..	..	13	2	..	..	7s to 8s.	..	..	..	..
Iron-turners	1	..	1	..	..	..	1	..	..	..	1s per hour	..	..	..	..
Jewellers .....	..	2	2	..	..	..	2	..	..	..	..	..	..	..	..
Kitchenmen	23	1	24	20	2	22	3	..	..	1	8s. to 20s.	8s. to 20s.	..	..	..
Labourers ..	1,274	196	1,470	204	313	517	1,070	..	117	..	5s. to 7s.	..	..	..	..
Laundrymen .....	..	..	..	2	2	4	..	..	2	2	..	..	..	..	..
Masons, stone .....	..	..	..	10	8	18	..	..	10	8	..	..	..	..	..
Masons, rubble .....	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..
Machinists .....	..	..	..	3	..	3	3	..	..	..	..	1s. per hour	..	..	..
Master Mariners .....	..	..	..	..	2	2	..	..	..	5	..	..	..	..	..
Marble Hands	2	1	3	..	3	3	2	..	..	2	1s. per hour	8s. to 10s.	..	..	..
Married Couples	9-18	106-212	230	14-23	114-223	256	..	10	16	..	£45 to £75	£50 to £80	..	..	..
Millwrights	1	3	4	1	2	3	..	1	..	..	..	1s. per hour	..	..	..
Musicians .....	..	..	..	2	2	4	..	..	2	2	..	..	..	..	..
Miners	5	211	216	..	301	301	5	..	..	90	..	..	..	..	..
Miners (Fossickers from Sydney)	..	7,573	7,573	..	2,939	2,939	..	4,584	..	..	..	..	..	..	..
Miners (Fossickers from other places)	..	2,561	2,561	..	1,527	1,527	..	1,034	..	..	..	..	..	..	..
Miners (rights only) .....	..	584	584	..	..	..	..	584	..	..	..	..	..	..	..
Netmakers .....	..	..	..	1	2	3	..	..	1	2	..	..	..	..	..
Painters and Paperhangers	43	17	60	64	21	85	..	..	21	4	6s. to 8s.	6s. to 9s.	..	..	..
Patternmakers	3	1	4	2	2	4	1	..	..	1	1s. per hour	..	..	..	..
Pipelayers .....	..	27	27	2	6	8	..	21	2	..	5s. to 8s.	6s. to 8s.	..	..	..

Females—The large majority of these are women sent to join husbands. With these have been sent 437 children for the year ending February 17, 1895.

General Usefals.—There has been an increased demand for lads from 14 years.

Labourers.—1,150 of these have been put on at Shea's Creek. About same number waiting.

Fossickers.—This large difference is accounted for by the system of sending fossickers away only having been in force for six months of the year 1894.

TABLE showing various Trades and Callings, &c.—continued.

Trades and Callings	Year ending 17th Feb, 1895			Year ending 17th Feb, 1894			Increase		Decrease		Wages		Refunds for Passes, Year ending 17th February		Remarks.
	Town	Country	Total	Town	Country	Total	Town	Country	Town	Country	1895	1894.	1895.	1894.	
Plasterers	14		14	10	21	31	4			21	6s. to 8s	6s to 10s	£	s. d.	
Platelayers				4		4				4	.. .. .	7s. to 9s.			
Photographers		4	4	2	2	4	2			2	.. .. .	.. .. .	
Plumbers	20	7	27	18	12	30	2			5	7s to 8s	7s to 9s			
Packers	7		7				7				.. .. .	.. .. .	
Printers and Compositors	28	14	42	10	8	18	18	6			.. .. .	.. .. .	
Quarrymen	5	7	12	19	19	38			14	12	6s 6d to 8s 6d.	7s. to 9s			
Reporters		1	1		2	2					.. .. .	.. .. .	
Saddle and Harness Makers	4	11	15	2	11	13	2				25s to 50s per week...	30s. to 50s.			
Sawyers	9	6	15	4	11	15	5			5	10s to 12s per 100...	.. .. .		
Shearers		134	134		210	210				76	20s per 100	20s. per 100			
Shipwrights	3	3	6	12	11	23			9	8	1s per hour	1s. per hour			
Shorthand writers				1		1				1	.. .. .	.. .. .	
Signwriters	2		2	3	2	5			1	2	.. .. .	.. .. .	
Slaters	3		3	2	1	3	1			1	7s to 8s.	7s. to 8s			
Smelters	4	3	7		6	6	4			3	.. .. .	.. .. .	
Soapmakers				2	2	4			2	2	.. .. .	.. .. .	
Store hands	3	10	13	23	7	30		3	20		20s to 40s.	20s to 40s			
Station hands	1	631	632		468	468	1	163			10s to 25s.	10s. 6d. to 27s. 6d.			
Sugar-cane hands		14	14					14			.. .. .	.. .. .	
Sailor men	9		9				9				.. .. .	.. .. .	
Surveyor's hands	5	13	18		9	9	5	5			12s 6d to 25s	12s 6d. to 20s.			
Sleeper-squarers		4	4		28	28				24	.. .. .	1s. 4d. to 1s 10d...			
Slaughtermen	1		1				1				.. .. .	.. .. .	
Stonebreakers	7	18	25				7	18			2s to 3s. per load	.. .. .		
Teamsters					11	11				11	.. .. .	12s 6d. to 30s.			
Tailors	3	24	27	3	16	19		8			Piece	Piece			
Tinsmiths	2	1	3	14	5	19			12	4	25s. to 40s.	25s. to 40s.			
Turners				2	2	4			2	2	.. .. .	8s. to 10s.			
Tutors	3	7	10		8	8	3			1	15s. to 20s	20s to 50s			
Tanners		1	1					1			.. .. .	.. .. .	
Travellers	1		1				1				.. .. .	.. .. .	
Tile-layers	1		1				1				.. .. .	.. .. .	
Upholsterers	6		6	3	1	4		3		1	.. .. .	.. .. .	
Village Settlers		31	31		322	322				291	.. .. .	.. .. .	
Watchmakers					1	1				1	.. .. .	.. .. .	
Waters, Stewards, &c.	4	1	5	7	15	22			3	14	10s to 20s.	10s. to 25s.			
Weavers					2	2				2	.. .. .	.. .. .	
Well-bores		6	6		16	16				10	15s. to 30s	15s to 45s			
Whitesmiths				2		2			2		.. .. .	.. .. .	
Wheelwrights	6	2	8	5	14	19	1			12	30s. to 45s	40s. to 55s.			
Wireworkers				5		5				5	.. .. .	.. .. .	
Wool hands		71	71		72	72				1	.. .. .	.. .. .	
Wool classers		9	9		5	5			4		.. .. .	.. .. .	
Warders		2	2					2			.. .. .	.. .. .	
Watchmen	1		1				1				.. .. .	.. .. .	
Total	2,522	13,858	16,380	1,548	8,801	10,349							2,477 15 8	2,676 10 0	

Increase—Increase on preceding year of number sent out, 6,031.

GOVERNMENT LABOUR BUREAU.

Results for three years ending 17th February, 1895.

A COMPARATIVE table showing number registered for each of the years ending 17th February, 1893, 1894 and 1895; number assisted and sent to work for same periods; amounts refunded for passes in each year; number of fossickers sent out from Sydney, Newcastle, Goulburn, Bathurst, and other places, together with increase or decrease under each head:—

Year ending 17th February.	Number registered.	Increase or decrease.	Number assisted and sent to work.	Increase.	Refunds for passes.	Number fossickers.	Increase.	Remarks.
1893	18,600	Decrease. 6,455 Increase. 1,430	8,154	.....	£ s. d. 1,135 16 1	.....	.....	Fossickers were not sent out during first year.
1894	12,145		10,349	2,195	2,676 10 0	4,516	.....
1895	13,575		16,380	6,031	2,477 15 8	10,718	6,202	
Total ...	44,320	34,883		6,290 1 9	15,234			

F. E. B., Sec.

Summary of Registrations.

Total registrations	...	...	...	...	...	...	13,575
Arrivals ...	From other Colonies			1,101	...	...	4,096
	North.	South.	West.				
	1,159	955	881	2,995	...	...
Local registrations	...	...	...	...	...	...	9,479
Registrations since inauguration	...	...	...	...	...	...	44,320
Married men	...	...	...	...	...	...	4,382
Single men	...	...	...	...	...	...	9,193
Children represented	...	...	...	...	...	...	12,724
Children self-supporting	...	...	...	...	...	...	2,385
Children dependent	...	...	...	...	...	...	10,339

REPORT showing the number of arrivals from the other Colonies, the United Kingdom, and Foreign parts, and residents here, all within six months, from 18th February, 1894, to 17th February, 1895; also a comparison of same with the first and second Annual Reports.

From.	1892-1893.	1893-1894.	1894-1895.
Queensland	332	188	170
Victoria	598	413	200
South Australia	67	34	37
W. Australia	20	21	130
Tasmania	110	60	51
New Zealand	196	104	289
United Kingdom	301	142	114
Foreign parts	147	95	110
Totals	1,771	1,057	1,101

STATEMENT of Relief from 1st February, 1894, to 31st January, 1895.

Applications received from.			In receipt of relief at end of year.			Refused and discontinued.			Weekly applications for the Year.	Average per week.
Single men.	Families.	Children.	Single men.	Families.	Children.	Single men.	Families.	Children.		
132	2,126	6,703	6	397	1,197	126	1,729	5,506	19,153	368.3

Month.	Rations issued.		Amount.	Special relief in sickness.	Total cost of relief.
	Number.	Price.			
February	4,924	1/5	£ s. d. 348 15 8	£ s. d. 5 19 10	£ s. d. 354 15 6
March	5,340	"	378 5 0	9 2 6	387 7 6
April	3,333½	"	236 2 5½	6 12 11	242 15 4½
May	2,959½	"	209 12 7½	7 1 5	216 14 0½
June	3,872	"	274 5 4	11 0 5½	285 5 9½
July	3,047½	"	215 17 3½	10 14 8	226 11 11½
August	3,214	"	227 13 2	12 2 2	239 15 4
September	3,445½	"	244 1 1½	15 11 9½	259 12 11
October	2,396½	"	169 15 0½	13 17 7	183 12 7½
November	1,943	"	137 12 7	11 5 8	148 18 3
December	3,981½	"	282 0 5½	12 9 11½	294 10 5
January	3,427½	"	242 15 7½	14 15 2	257 10 9½
Total	41,884½	...	2,966 16 4½	130 14 1½	3,097 10 6

Preceding year cost £3,840 6s. 0½d. Decrease, £742 15s. 6½d.

QUANTITIES, PROVISIONS, &c, issued during the year.

Bread, lb	167,538	Infants' food, lb.	5
Meat ,,	125,653½	Barley ,,	4
Sugar ,,	83,769	Cornflour ,,	6
Tea ,,	10,471½	Flour ,,	16
Milk, tins	2,819	Arrowroot ,,	½
Sago, lb	4,465	Cocoa ,,	½
Oatmeal ,,	1,318	Blankets, pairs	103
Rice ,,	269		

RETURN of Police Reports for the year ending 17th February, 1895, and a comparison with it and the returns for the two previous years.

Offence	1st year	2nd year	3rd year
Drunkenness	290	118	114
Theft	34	25	9
Riotous and assault	21	22	8
Indecency	8	2	
Begging and vagrancy	11	9	5
Language	11	11	11
Breaking, &c (suspected)	6	4	1
Pretences ...	6	2	4
Artillery desertion		1	
Gambling	6	1	
Embezzlement	2		
Wife desertion	4		
Lunacy			1
Totals	399	195	153

Sydney Charles Potter, Government Printer—1895

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT LABOUR BUREAU.

(RETURN RESPECTING.)

Ordered by the Legislative Assembly to be printed, 11 October, 1894.

[Laid upon the Table of this House in answer to Question No. 5 of 11th October, 1894.]

Question.

5. MR. WOOD asked THE COLONIAL SECRETARY,—Will he have any objection to lay upon the Table of this House a return showing the annual cost of the Government Labour Bureau since its establishment, with the names of all present employees at the Bureau, the nature of their duties, and their yearly salaries?

Answer.

The Government grant for the expense and maintenance of the Bureau since establishment in February, 1892, has been the sum of £1,400 per annum.

The following are the names of the present employees at the Bureau proper, with their salaries and duties:—

Name.	Duties.	Salary per annum.
Joseph Creer ...	Superintendent	£ s. d. 380 0 0
F. E. Bloxham ...	Secretary	290 0 0
W. R. Sterling ...	Accountant	133 0 6
C. E. Ramage ...	Chief Clerk	133 0 6
G. Eaton* ...	Clerk	133 0 6
J. Eldridge ...	Registration Clerk	109 0 11
T. Ireland* ...	Assistant Registration Clerk	109 0 11
G. R. Barton ...	Messenger	91 5 10
Thos. Waring ...	Caretaker	109 0 11

* To be retrenched at end of present month.

The following are the names of the employees in the Relief Department in connection with the Bureau:—

RELIEF DEPARTMENT.

Name.	Duties.	Salary per annum.
Joseph Creer ...	Superintendent; allowance for supervision and distribution of relief in city, suburbs, and country, and for receiving and reporting on applications under Labour Settlement Act, £10 per month ...	£ s. d. 120 0 0
A. M. Hagerty ...	Relieving Officer ..	109 0 11
J. K. Abbott ...	Assistant	52 0 0
J. M'Indoe ...	Inspector	130 8 4
J. M. Clark ...	Inspector	130 8 4
G. D. Ramage ...	Inspector	130 8 4
P. O'Gorman ...	Inspector	109 0 11

The cost of inspection was, prior to October, 1893, borne by the State Children's Relief Department, whose inspectors officiated.

[3d.]

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1894.
(SECOND SESSION.)

NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT.

(AMENDED REGULATION No. 6.)

Presented to Parliament, pursuant to Act 56 Vic. No. 34.

Department of Lands, Sydney, 14 August, 1894.

It is hereby notified for public information, that His Excellency the Governor, with the advice of the Executive Council, has approved of the alteration of No. 6 of the Regulations made in pursuance of the Labour Settlements Act by the Board of Control of the Labour Settlement at Pitt Town, by the substitution of the words "*month*" for "*week*" and "*three*" for "*five*," so that such Regulation in its amended form shall read as follows:—

"There shall be an ordinary meeting of the Board at least once in every month, at the office of the Board, at such hour as the Board may determine; and an extraordinary meeting of the Board may be summoned at any time by the authority of the Chairman or of any three members of the Board, not less than twelve hours' notice of the time and place of such meeting to be given."

"At every such meeting three members shall form a quorum."

J. H. CARRUTHERS.

[L.S.L. 94-195]

1894-5.

NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT.

(REGULATIONS FOR THE SETTLEMENT AT WILBERFORCE.)

Presented to Parliament, pursuant to Act 56 Vic. No. 34.

Department of Lands,
Sydney, 20th December, 1894.

REGULATIONS UNDER THE LABOUR SETTLEMENTS ACT.

It is hereby notified, for public information, that the following Regulations, made in pursuance of the Labour Settlements Act by the Board of Control of the Labour Settlement at Wilberforce, have been approved by His Excellency the Governor, with the advice of the Executive Council, to apply to such Labour Settlement, in lieu of the Regulations published as a Supplement to the Government Gazette of the 10th May last, which are hereby cancelled.

[94-361 L.S. Leases]

J. H. CARRUTHERS.

REGULATIONS made in pursuance of the Labour Settlements Act by the Board of Control of the Labour Settlement at Wilberforce.

1. The Board shall, not later than at its fourth meeting, and thereafter annually during the month of January, and also from time to time as necessity shall arise, elect from among its own members a Chairman, Treasurer, and Secretary.

2. The retiring Chairman, Treasurer, and Secretary shall be eligible for re-election, and shall continue in office until their successors are elected.

3. The Chairman shall preside at all meetings of the Board at which he may be present, and he shall have a deliberative as well as a casting vote.

4. During the temporary absence of the Chairman, the members of the Board assembled at any meeting may elect any one of their number to act as Chairman. An acting Chairman shall do all such things as the Chairman is required to do by these Regulations during the absence or inability of the Chairman.

5. The Chairman and the Treasurer shall sign all cheques authorised by the Board; but in the absence of one or more of them, the signatures of such member or members as may be duly authorised by the Board to sign in their stead shall be sufficient.

6. The Secretary shall keep minutes of all meetings of the Board, receive and conduct the Board's correspondence, subject to the general supervision and directions of the Board, and act generally as the Board's agent in all such matters as the Board shall require.

7. In addition to the ordinary meeting of the Board, to be held at least once in every month, an extraordinary meeting of the Board may be summoned at any time by authority of the Chairman, or upon the requisition of three members of the Board. At every meeting five members shall form a quorum. Not less than twelve hours' notice in writing of the time and place of any Board meeting shall be given; but no such notice shall be necessary for any regular Board meeting which the Board may have arranged to hold at certain stated intervals.

8. The Treasurer shall keep all the accounts of the Board and pay and receive all moneys on the Board's behalf. No money shall be paid or expended without the authority of the Board being first had and obtained, and a receipt in writing shall in every case be taken, which receipt shall be filed as part of the records of the Board.

9. The Board shall annually appoint two auditors who shall from time to time, but not less than once in each period of six months, examine the Board's accounts and certify to the accuracy and general correctness of the statements prepared by the Treasurer, and of any abstract or balance sheet professing to represent the same. They shall also report upon the manner in which such accounts have been kept and make any suggestions which they may think necessary.

10. All orders of the Board for provisions, goods, or otherwise, shall be signed by the Chairman, or by the Secretary and Treasurer, on forms provided for the purpose, butts of which forms shall be kept as part of the records of the Board.

11. The Board shall not be responsible for any debt incurred by, or on behalf of, any individual member of the Settlement, nor for any debt incurred without the order of the Board.

12. The Board may from time to time appoint one of the enrolled members of the settlement as overseer of the Settlement, and such overseer shall see that any directions of the Board are carried out, and shall supply, in writing at least once in each month to the Board, a statement of the progress and condition of the Settlement, the work done, and such other particulars as may be necessary.

13. The Board may from time to time appoint one of the settlers to act as storekeeper, and it shall be the duty of the storekeeper to keep an accurate account of all the property of the Board including tents, tools, implements, and vehicles, live stock, and stock in trade, and property or goods of every kind. He shall also keep a record of all changes in the said property and of the incomings, outgoings, and balance, in such a form as shall be required by the Board, and he shall embody

she same in a report to the Treasurer whenever such report shall be called for by the Board. The Board shall require such a report at least once every three months.

14. The Board may, whenever it shall deem it expedient, call upon the overseer or storekeeper to resign, or may remove them from office and appoint successors in their stead.

15. No work for private emolument outside the Settlement shall be undertaken by any person resident in the Settlement, unless he shall obtain permission from the Board to undertake the same.

16. The Treasurer shall, on such day or days as the Board may direct, issue to each enrolled member of the Settlement a supply of provisions, or either orders or cash for the purchase of the same, for himself and the members of his family resident upon the Settlement, in accordance with a scale to be from time to time approved by the Board.

17. Such clothing and materials as in the opinion of the Board shall be necessary, and as the available funds will admit of, may be advanced by the Board to the members of the Settlement for the use of such members or their families.

18. The maintenance of each member of the Settlement and of his family shall be charged as a whole upon the funds of the Board until the result of the labours of any settler shall produce the amount necessary for his subsistence, when the cost of maintenance of such settler and his family shall cease to be a charge upon the funds of the Board; but in such a case the whole of his earnings shall be exclusively his own, subject to the payment to the Board of the rent of the land sublet to him and to his repayment of any portion of the loan with which he shall have been debited.

19. After the expiration of three months from the date of the approval of these Regulations the Board may cause an inspection to be made of the land granted or proposed to be granted to any enrolled member by way of sub-lease, and may cause an appraisal to be made of the value of the improvements effected thereon, and in the event of such improvements not being of a satisfactory character the Board may suspend or discontinue the granting of any allowances whatsoever to such enrolled member pending an enquiry into the circumstances connected therewith.

20. Any enrolled member shall when called upon by notice so to do assist in the erection of any necessary fence on the boundary of the land granted or proposed to be granted to him under sub-lease, and in the event of such fence not being erected within three months from the date of such notice the Board may call upon such member to show cause why he should not be disenrolled.

21. No enrolled member shall absent himself from the Settlement for a period in excess of twelve hours, without having first obtained the consent of two members of the Board; and it shall be the duty of the members of the Board granting such permission to report the fact at the next meeting of the Board, when the circumstances connected with it shall be duly considered, and a record made of the leave of absence granted to any enrolled member of the Settlement.

22. All live stock, working plant, tools, implements, vehicles, &c., purchased by the Board and allotted for the use of any enrolled member of the Settlement shall remain the property of the Board; and it shall be the duty of any member in temporary possession of any of the said property to render an account thereof, or to return the same to the Board when called upon so to do.

23. The Board may require each enrolled member, when in health, to do eight hours' work in each week in effecting improvements upon any portion of the Labour Settlement area, or in carrying out works which are deemed to be necessary in the interests of the whole community, or for such other purpose as the Board may think fit.

24. Any person enrolled as a member of the Settlement after the approval of these Regulations, if not a transferee as provided by Regulation 25, shall be debited with whatever may appear to the Board an equitable sum, having regard to the improvements on the land and the then value of the Board's property thereon.

25. Any member may transfer his interest, providing only such transfer shall be approved by the Board, and the transferee enrolled by the Board. If the Board approve of the transfer, the transferee shall succeed to all the rights and liabilities of the transferor, and such transferor shall be disenrolled on the day on which the transferee shall be enrolled.

26. If any member shall retire from or abandon the Settlement, or shall at any time be disenrolled, he shall, except as provided in Regulation 27, forfeit to the Board all his interest in such Settlement and all share of any distribution to which he might otherwise have been entitled. But where such retirement is caused by sickness or other sufficient cause, the Board may, out of any moneys at its disposal, assist such retiring member by payment to him of such sum as they may think he is, under the circumstances, entitled to.

27. Should any member of the Settlement die or be declared a lunatic, his interest as such member may be disposed of by his legal representatives to any person who shall be competent to become and shall become an enrolled member; and such person shall, when enrolled by the Board, succeed to all the rights and liabilities of his predecessor. Failing disposal as aforesaid within six calendar months from the date of death or declaration of lunacy, as the case may be, the Board may dispose of the interest of the deceased or lunatic member either for cash or upon terms, and pay the same to his legal representatives: Provided always that the Board may, but shall not be legally compellable, to pay to the representatives of any deceased or lunatic member such sum of money as, in the opinion of the Board, shall represent the interest of such member at the time of his death or declaration of lunacy.

28. A widow of a deceased member may hold a share in the Settlement, upon enrolment, provided that the conditions of labour prescribed by the Rules and Regulations governing the Settlement are complied with on her behalf.

29. Every member is expected to do his utmost to promote the interest and well-being of the Settlement.

30. Every member must keep the land sub-let to him in good order, and attend to the sanitary arrangements necessary for the well-being of the Settlement.

31. All complaints and propositions shall be given in writing to the Board at least twenty-four hours before the time of meeting.

32. No intoxicating liquors shall be sold within the limits of the Settlement, and any member selling or purchasing the same within such limits shall be liable to disenrolment.

33. No gambling shall be permitted within the limits of the Settlement.

34. Any enrolled member disobeying any direction, rule, or order of the Board, shall be liable to a penalty not exceeding £2 for every such offence; and obstinate and continued disobedience of any such rule or direction shall render any member guilty of the same liable to be disenrolled.

1894-5.

NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT.

(CANCELLATION OF REGULATIONS NOS. 20 AND 21, AND OF AMENDED REGULATIONS NOS. 10, 12, 19, AND 42, OF THE PITT TOWN SETTLEMENT.)

Presented to Parliament, pursuant to Act 56 Vic. No. 34.

Department of Lands,
Sydney, 5 February, 1895.

It is hereby notified, for public information, that His Excellency the Governor, with the advice of the Executive Council, has approved of the cancellation of Nos. 20 and 21 of the Regulations made in pursuance of the Labour Settlements Act by the Board of Control of the Labour Settlement at Pitt Town, and of the alteration of Nos. 10, 12, 19, and 42, which in their amended form will read as follows:—

10. The Superintendent shall be the responsible Executive Officer of the Board for the organising of the settlement, the direction of the works undertaken, and the control and management of the settlers in relation to their employments. It shall be his duty to oversee and direct the Storekeeper, Steward, and other local officers of the Board, and to report in writing, at least once in each week, to the Board, which report shall contain a statement of the condition and progress of the settlement, the work done, and any other particulars necessary to enable the Board fully to understand the position of the undertaking.

12. Should any question arise as to the duties or functions of any local officer of the Board, the decision shall rest with the Superintendent, and his decision shall have immediate effect; but any officer or settler who is aggrieved at the action or decision of the Superintendent may appeal to the Board within one week after the date of the act or decision complained of.

19. There may be appointed from time to time from among the settlers, if the Board so determine, a resident Committee, which shall consist of five members, who may either be nominated by the Board or may be elected by ballot by the settlers themselves, according as the Board may determine; and it shall be the duty of the Committee so appointed to act as a Committee of Advice to the Superintendent on all questions on which he may from time to time consult them, and also to report to the Board upon any matter referred by the Board for their consideration, or upon any matter of extreme urgency affecting the well-being of the settlement which may or may not have been so referred: Provided that the Board may at any time dissolve any Committee of Advice, or disrate any member thereof.

42. The Committee of Advice may make recommendations to the Board through the Superintendent for the purpose of ensuring the efficiency of the regulations from a sanitary point of view, the lighting of the settlement, traffic regulations, police, and any other matter affecting the good order, government, social improvement, comfort, or recreation of the settlement.

[L.S.L. 95-41]

J. H. CARRUTHERS.

1894-5.

NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT.

(NOTIFICATION OF AMENDMENT OF SUB-SECTION (a) OF REGULATION No. 1.)

Presented to Parliament, pursuant to Act 56 Vic. No. 34.

Department of Lands, Sydney, 18th December, 1894.

REGULATIONS UNDER THE LABOUR SETTLEMENTS ACT.

It is hereby notified, for public information, that His Excellency the Governor, with the advice of the Executive Council, has approved of Sub-section (a) of No. 1 of the existing Regulations under the Labour Settlements Act being amended by the addition of the following words:—

“Provided that, whenever the Minister shall deem it expedient, such Board may be composed of persons all or more than two-thirds of whom shall be nominated by the Minister.”

So that the Sub-section shall then read as follows:—

“If the enrolled members of the Labour Settlement require monetary assistance at the commencement of the Settlement, the Board of Control shall be composed of persons of whom two-thirds shall be nominated by the Minister and one-third by the enrolled members of the Settlement: Provided that, whenever the Minister shall deem it expedient, such Board may be composed of persons all or more than two-thirds of whom shall be nominated by the Minister.”

[94-353 L.S.L.]

J. H. CARRUTHERS.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT FURTHER AMENDMENT BILL.

(MESSAGE No. 10.)

Ordered by the Legislative Assembly to be printed, 5 September, 1894.

R. W. DUFF,
Governor.

Message No. 10.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to amend the "Labour Settlements Act" and the "Labour Settlements Act Amendment Act of 1894."

*Government House,
Sydney, 5th September, 1894.*

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

LABOUR SETTLEMENTS ACT FURTHER AMENDMENT
BILL (NO. 2.)

(MESSAGE No. 28.)

Ordered by the Legislative Assembly to be printed, 21 November, 1894.

R. W. DUFF,
Governor.

Message No. 28.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to amend the Labour Settlements Act and the Labour Settlements Act Amendment Act of 1894.

*Government House,
Sydney, 21st November, 1894.*

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

CENTENNIAL PARK RELIEF WORKS.

(RETURN SHOWING SCALE OF RATIONS ISSUED TO MEN EMPLOYED AT.)

*Ordered by the Legislative Assembly to be printed, 9 May, 1895.**[Laid upon the Table of this House in answer to Question No. 1, of 9th May, 1895.]*

Question.

- (1.) CENTENNIAL PARK WORKS:—MR. SCHEY *asked* THE MINISTER OF PUBLIC INSTRUCTION:—
- (1.) Has he yet settled the scale of rations and amount of work to be performed therefor in connection with the Centennial Park work?
 - (2.) If so, will he please lay a copy of the scale upon the Table?
 - (3.) What amount does Contractor Kidman receive from the Department—(a) per ration; (b) per tin of milk; (c) per pound of extras, specifying articles and price respectively?
 - (4.) Have any arrangements yet been made by which men may receive ration tickets on the completion of their work, without having to return to the Bureau for such tickets?
 - (5.) If not, when will such be made?

Answer.

Centennial Park Relief Works—Ration Scale.

Workmen	Allowance.	Value of Allowance.		Hours to be worked per day of 8 hours.	
		s.	d.		
Single man	1 ration and extra	Rations. viz., 4lb. bread, 3lb. meat, 2lb. sugar, $\frac{1}{4}$ lb. tea.	Extras. and 1 tin milk	1 10 $\frac{1}{2}$	3 hours.
Married man with wife only.	2 rations and extras	viz., 8lb. bread, 6lb. meat, 4lb. sugar, $\frac{1}{2}$ lb. tea.	1 tin milk, and 2lb. rice, sago, or oatmeal.	3 5 $\frac{1}{2}$	6 „
Married man with wife and 1 child.	3 rations and extras	viz., 12lb. bread, 9lb. meat, 6lb. sugar, $\frac{3}{4}$ lb. tea.	1 tin milk, and 4lb. rice, sago, or oatmeal.	5 0 $\frac{1}{2}$	8 „
Married man with wife and 2 children	3 rations and extras	viz., 12lb. bread, 9lb. meat, 6lb. sugar, $\frac{3}{4}$ lb. tea.	1 tin milk, and 6lb. rice, sago, or oatmeal.	5 3 $\frac{1}{2}$	9 „
Married man with wife and 3 or 4 children.	4 rations and extras	viz., 16lb. bread, 12lb. meat, 8lb. sugar, 1lb. tea.	1 tin milk, and 7lb. rice, sago, or oatmeal.	6 9	11 „
Married man with wife and 5 or 6 children.	5 rations and extras	viz., 20lb. bread, 15lb. meat, 10lb. sugar, 1 $\frac{1}{4}$ lb. tea.	2 tins milk, and 7lb. rice, sago, or oatmeal.	8 7 $\frac{1}{2}$	14 „
Married man with wife and 7 or 8 children.	6 rations and extras	viz., 24lb. bread, 18lb. meat, 12lb. sugar, 1 $\frac{1}{2}$ lb. tea.	2 tins milk, and 7lb. rice, sago, or oatmeal.	9 11 $\frac{1}{2}$	16 „

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

NAVIGATION ACTS AMENDMENT BILL.
(MESSAGE No. 7.)

Ordered by the Legislative Assembly to be printed, 29 August, 1894.

R. W. DUFF,
Governor.

Message No. 7.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to reconstruct the Marine Board, to provide for the cutting of load lines, and to amend the "Navigation Acts of 1871-1881," and other purposes in connection therewith.

Government House,
Sydney, 29th August, 1894.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

VESSELS CARRYING COAL TO PORTS BEYOND
AUSTRALIA OR NEW ZEALAND.

(RETURN RESPECTING.)

Ordered by the Legislative Assembly to be printed, 13 June, 1895.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 4th June, 1895, That there be laid upon the Table of this House,—

“ A Return of vessels coal-laden or mainly coal-laden which have sailed from Newcastle, N. S. W., or Sydney, for ports beyond Australia or New Zealand, between 1st May, 1880, and 1st May, 1895, and which have been reported missing, wrecked or otherwise lost, or on fire, or put into or returned to port in distress, together with a Return of the approximate number of lives known or concluded to have been lost in consequence.”

(*Mr. Joseph Abbott.*)

RETURN of vessels coal-laden which have sailed from Newcastle, New South Wales, for Ports beyond Australia or New Zealand, between the 1st May, 1880, and the 1st May, 1895, reported missing, wrecked or otherwise lost, or on fire, with the number of crew.

Year.	Name of Ship.	Cause of Loss.	Number of Men.
1880.....	.....	.....	.....
1881.....	.....	.....	.....
1882.....	Sirocco	Supposed foundered	20
1884.....	Indid	Foundered	18
1887.....	Lizzie Tredale	Supposed lost	15
1889.....	Niagara.....	do	7
1889.....	Lucknow	Missing	17
1889.....	Suakim	Supposed lost	24
1889.....	County of Carnarvon	do	22
1890.....	Harwarden Castle	Missing	23
1890.....	Ferndale	do	22
1890.....	Theaphane	do	27
1892.....	Osman Pasha	do	12
1892.....	Friars Craig	do	24
1892.....	Minnie Young	do	6
1892.....	Colwyn	do	19
1892.....	King James	Burnt; crew saved	32
1893.....	Lamorna	Missing	21
1893.....	Gowanburn	Supposed wrecked, New Zealand	31
1893.....	Girvan	Foundered; all hands saved	21
1893.....	Woolton	Missing	26
1894.....	Colintrave	do	27
1894.....	Nicoya	Wrecked; crew saved	12
1895.....	Cambrae	Missing	23

As regards Sydney, the only vessel known to have sailed coal-laden and reported missing is the “Santa Cruz,” she left on the 20th October, 1888, for San Francisco. The “Argo,” German barque, was ready for sea on the 29th July, 1893, coal-laden, but an explosion occurred on board which so damaged her that she had to be laid up.

By order,
GEO. S. LINDEMAN,
31/5/95.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

VESSELS ARRIVING AT AND LEAVING PORTS OF
NEW SOUTH WALES.

(RETURNS RESPECTING, FOR 1894.)

Ordered by the Legislative Assembly to be printed, 26 February, 1895.

The Secretary of the Board of Health to The Under Secretary for Finance and Trade.

Sir, Board of Health Offices, 127, Macquarie-street, Sydney, 9 February, 1895.
I have the honor to forward you herewith the following returns respecting action taken by this Department with regard to vessels arriving at and leaving the ports of New South Wales during the year 1894:—

- (A) Return of vessels boarded and examined under the provisions of the Quarantine Acts, by the Health Officers, showing an increase for the year of 49 vessels, and a decrease of 6,407 passengers, and 8,465 crew examined;
- (B) Return of vessels quarantined and specially dealt with at Port Jackson, showing a decrease for the year of 56 vessels;
- (C) Return of vessels quarantined and specially dealt with at Newcastle, showing an increase for the year of 56 vessels;
- (D) Proclamations in force under the Quarantine Acts;
- (E) Bills of health issued to outward-bound vessels at Port Jackson and Newcastle, showing a decrease for the year of 129; and
- (F) Vessels cleared under the Imperial Passenger Acts.

I have, &c.,
EDMUND SAGER,
Secretary.

A.

RETURN of Vessels boarded and examined under the provisions of the Quarantine Acts, by the Assistant Health Officer at Port Jackson and the Health Officer at Newcastle, during the year 1894.

Port.	Number of Vessels.	Number of Passengers.	Number of Crew.	Number of Vessels detained for special action.
Port Jackson	362	5,218	20,169	65
Newcastle	227	127	5,340	127
Total.....	589	5,345	25,509	*192

* Full particulars respecting these vessels are given in Returns B and C.

NOTE.—Dr. J. C. Sibley performed the duties of Assistant Health Officer for Port Jackson until the 4th June, 1894, when Dr. W. Peirce succeeded him. The duties of Health Officer for Newcastle were carried out during the year by Dr. Chisholm Ross.

B.

B.

RETURN of Vessels Quarantined and specially dealt with at Quarantine Station, PORT JACKSON, during the year 1894.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
1	Mylomene, ship.	1 Jan., 3·25 p.m.	1 Jan., 4 p.m.	Rio Janeiro, via Adelaide.	J. G. Wilkins.	None	Gibbs, Bright, & Co.	Cholera in Rio.	European..	...	28	28	...	All fresh water discharged, and tanks cleansed and limewashed; bilges pumped out and disinfected with a solution of corrosive sublimate; all parts of vessel in good sanitary condition.
2	Persian Empire, ship.	9 Jan., 6 p.m.	9 Jan., 7·15 p.m.	Buenos Ayres..	C. W. Hay ...	None	Dangar, Geyde, & Co.	Cholera in South America.	European..	...	30	30	...	Same as above.
3	Clivus, s.s.	10 Jan., 6·45 a.m.	10 Jan., 8 a.m.	Java, via Mel- bourne and Mt. Kembla.	— Frith.....	None	Cowlshaw Bros.	Cholera in Java.	European..	7	8	...	...	Bilges pumped out, and sea water let in until the discharge was perfectly clear; all fresh water on board was taken in at Melbourne, after the tanks had been cleansed and limewashed.
									Asiatic ...	...	52	...	...
										7	60	67		
4	Indrapura, s.s....	16 Jan., 7 a.m.	16 Jan., 7·45 a.m.	Tehio N. C. (from Japan.)	John Sanders..	None	Balchin, John- stone, & Co.	Cholera in Japan.	European..	1	15	...	...	All fresh water discharged, and tanks cleansed and lime- washed; bilges pumped out, and sea water let in until the discharge was perfectly clear.
									Asiatic ...	...	50	...	...
										1	65	66		
5	Senator Peter- sen, ship (Ger.)	18 Jan., 3·15 p.m.	18 Jan., 5·45 p.m.	Buenos Ayres..	Fredk. Weder- man.	None	J. S. Mailler & Co.	Cholera and Yellow Fever in Buenos Ayres.	European..	1	24	25	...	Cholera regulations carried out.
6	Airlie, s.s.	28 Jan., 2·45 p.m.	28 Jan., 3·25 p.m.	Japan, via Hong Kong and Queensland ports.	W. Ellis.....	— Freshney ...	Gibbs, Bright, & Co.	Cholera in Japan & China.	European..	12	12	...	...	Same as above.
									Asiatic ...	...	58	...	...
										12	70	82		
7	Loch Broom, ship.	4 Feb., 8·15 a.m.	4 Feb., 12·5 p.m.	Calcutta	J. P. Radford..	None	Sanderson & Co...	Cholera in India.	European..	2	31	33	...	Same as above.
8	Taiyuan, s.s. ...	9 Feb., 11·40 a.m.	9 Feb., 12·30 p.m.	Hong Kong, via Queensland ports.	— Tilburn.....	A. Broome ...	George Martin ...	Cholera in Hong Kong.	European..	10	11	...	...	Same as above.
									Asiatic ...	...	96	...	...
										10	107	117		
9	Cloncurry, s.s....	10 Feb., 9·30 a.m.	10 Feb., 10 a.m.	Calcutta, via Penang, Singa- pore, Adelaide & Melbourne.	— M'Cartney...	None	Burns, Philp, &	Cholera in India.	European..	...	10	...	...	Bilges pumped out, and sea water let in, until the discharge was perfectly clear; Melbourne Marine Board certificate stating that all the tanks had been emptied and cleansed at that port.
									Asiatic ...	...	56	66		
10	MacCallum More, ship.	16 Feb., 12·30 p.m.	16 Feb., 2 p.m.	Rio Janeiro ...	Wm. Hayton...	None	J. S. Mailler & Co.	Cholera, &c., at Rio.	European..	...	26	26	...	Cholera regulations carried out.
11	Guthrie, s.s. ...	17 Feb., 9 a.m.	17 Feb., 9·45 a.m.	Kobe, via Hong Kong and Queensland ports.	P. T. Helms ...	R. T. Paton ...	Gibbs, Bright, & Co.	Cholera in Kobe & Hong Kong.	European..	5	9	...	...	Same as above.
									Asiatic ...	...	77	...	...
										5	86	91		
12	Venus, barque (Danish).	23 Feb., 8·50 a.m.	23 Feb., 11·15 a.m.	Santos	P. Holm.....	None	Justus Scharff ...	Yellow fever, &c., at Santos.	European..	...	12	12	...	The master reports that all parts of the vessel, after leaving Santos, were thoroughly cleansed and disinfected with a solution of carbolic acid; cholera regulations carried out here.

RETURN of Vessels Quarantined, &c., during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passen- gers.	Crew.	Total.		
13	Chingtu, s.s.....	25 Feb., 6:10 p.m.	25 Feb., 5:45 p.m.	Hong Kong, via Queensland ports.	Robt. Innes ...	Wm. Meekes...	George Martin ...	Cholera in Hong Kong.	European.. Asiatic ...	11 ...	11 66	...	...	Cholera regulations carried out.
										11 77	88			
14	Massilia, R.M.S.	7 Mar., 4:15 p.m.	21 Mar., 6 a.m.	London, via ports.	L. M. Wibmer.	A. Duncan.....	P. & O. S.N. Co.; G. Douglas Michie.	Two cases of small- pox landed at Mel- bourne.	European.. Asiatic ... Aboriginal	22 ... 1	71 127 ...	...	...	All passengers and crew were examined, on arrival, by Dr. Ashburton Thompson, and found to be in good health; passengers and crew were landed on station on 8th instant with luggage and effects; the parcels post was sent on shore and thoroughly disinfected in Lyons' patent disinfector, and then sent to Sydney in G.P.O. launch; during detention of vessel everything on board was disinfected, either by moist or dry heat, or by washing and boiling; all compartments were fumigated with sulphur for eight consecutive hours, and then thoroughly cleansed with soap and water, with the exception of the 1st and 2nd saloons, which were disinfected with a solution of corrosive sublimate; the ship, on completion of disinfection, was towed to Sydney on 12th March, in charge of fresh crew sent for that purpose; no communication was allowed with any person in quarantine; the clothing, bedding, &c., the property of passengers and crew, were disinfected by washing and boiling in the quarantine laundries, or by dry or moist heat in patent disinfector; no sickness occurred during this quarantine; passengers and crew granted pratique on 21st March, and left station at 6 a.m.
										23 198	221	221		
15	Clitus, s.s.	27 Mar., 12:30 p.m.	27 Mar., 12:55 p.m.	Singapore, via Java and Mel- bourne.	W. Frith	None	Cowlshaw Bros...	Cholera in Singapore.	European.. Asiatic ...	3 ...	8 50	...	...	Cholera regulations carried out.
										3 58	61			
16	Menmuir, s.s. ...	31 Mar., 8 a.m.	31 Mar., 9 a.m.	Hong Kong, via Java and Queensland ports.	H. Craig	W. Armstrong..	Gibbs, Bright, & Co.	Cholera in China.	European.. Asiatic ...	11 2	11 77	...	...	Same as above.
										13 87	101			
17	Tagliaferro, s.s...	3 April, 8:10 a.m.	3 April, 8:50 a.m.	Singapore, via Java and Mel- bourne.	W. W. Casey...	None	Burns, Philp, & Co.	Cholera in Singa- pore.	European.. Asiatic ...	9 1	24 ...	...	...	Same as above.
										10 24	34			
18	Lawada, s.s.	7 April, 8:10 a.m.	7 April, 8:30 a.m.	Calcutta, via Penang Singapore, Adelaide, and Melbourne.	W. B. Smith...	None	Burns, Philp, & Co.	Cholera in India.	European.. Asiatic ...	4 2	11 88	...	...	Same as above.
										6 99	105			
19	Changeha, s.s....	14 April, 3:30 p.m.	14 April, 4:30 p.m.	Hong Kong, via Queensland ports.	J. E. Williams..	— Lawson.....	George Martin ...	Cholera in China.	European.. Asiatic ...	3 ...	11 74	...	...	Same as above.
										3 85	88			
20	Nevasa, s.s.	16 April, 8:5 a.m.	16 April, 8:35 a.m.	Calcutta, via Singapore, Adelaide, and Melbourne.	R. H. Brown...	None	Burns, Philp, & Co.	Cholera in India.	European.. Asiatic ...	6 1	10 86	...	...	Same as above.
										7 96	103			

RETURN of Vessels Quarantined, &c., during the year 1894— *continued.*

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.	
									Nationality.	Passengers.	Crew.	Total.			
21	Taiyuan, s.s. ...	14 May, 8-10 p.m.	30 May, 10 p.m.	Kobe, via Hagi, Hong Kong, Port Darwin, Thursday Island, Cooktown, Townsville, and Moroten Bay.	R. Nelson	M. Brown	George Martin ...	Smallpox on board.	European.. Asiatic ...	6 7	11 109	...	...	...	Ah Yet, aged 39, a Chinese passenger suffering from smallpox, was landed, with an attendant, at 8.30 p.m., and placed in shore hospital; at 7 a.m., on 15th May, Ah Yin, stevedore, who had occasionally attended on the patient on board, was brought on shore and placed in hospital for observation; at 9.30 a.m., same day, Ah Yet died, and was at once buried in the Quarantine cemetery; Dr. Ashburton Thompson arrived at 10 a.m. and examined all the passengers and crew on board ship, and found them to be in good health; passengers and crew were then landed, with their effects, and placed in their several quarters; the vessel was thoroughly disinfected, and when completed, on 17th May, allowed to proceed to Sydney in charge of a fresh crew sent from Sydney—no contact allowed between the fresh crew and persons in quarantine; all the clothing and effects of passengers and crew were thoroughly disinfected on shore; the ship returned to quarantine on 26th May, when the crew was put on board, the vessel sailed, on 30th May, for Hong Kong direct, without being granted a clean bill of health; Dr. Thompson examined all the passengers on 4th June, and having found them to be all in good health, they were released same afternoon.
22	Chingtu, s.s. ...	5 June, 7 a.m.	7 June, 7 a.m.	Hong Kong, via Queensland ports.	Robt. Innes ...	R. Fyffe.....	J. & A. Brown ...	Plague in China.	European.. Asiatic ..	10 23	11 121	...	...	...	Cl.ora regulations carried out.
23	Catterthun, s.s....	1 July, 4.40 p.m.	2 July, 3 p.m.	Hong Kong, via Queensland ports.	Neil Shannon...	A. W. Orr.....	Gibbs, Bright, & Co.	Plague in China.	European.. Asiatic ...	17 16	11 93	...	...	...	Same as above.
24	Argus, s.s.	3 July, 8.15 a.m.	3 July, 9.5 a.m.	Calcutta, via Singapore, Adelaide, and Melbourne.	E. Johnson ...	None	Cowlshaw Bros.	Cholera in India.	European.. Asiatic ..	7 ...	8 56	...	...	...	Same as above.
25	Arranmore, ship	7 July, 5.15 p.m.	8 July, 11 a.m.	Rio Janeiro ...	Wm. Thomson	None	Thomson, Dickie & Co., Glasgow.	Yellow fever in Rio.	European	1	26	27	...	...	All parts of the vessel placed under sulphur for ten hours; all fresh water discharged, and tanks cleansed and limewashed; bilges pumped out, and disinfected with a solution of corrosive sublimate; cabins, fore-castle, &c., washed with stock solution, and, when dry, cleansed with clean fresh water; all clothing, bedding, &c., fumigated with sulphur.
26	Republic, 4-masted ship	9 July, 10.15 a.m.	9 July, 5.15 p.m.	Rio Janeiro ...	Seth Hughes ...	None	Gibbs, Bright, & Co.	Yellow fever in Rio.	European..	...	27	27	...	...	Same as above.
27	Menmuir, s.s. ...	11 July, 8.50 a.m.	11 July, 3 p.m.	Hong Kong, via Queensland ports.	H. Craig	— Armstrong...	Gibbs, Bright, & Co.	Plague in China.	European.. Asiatic ..	8 2	12 49	...	...	...	All fresh water discharged, and tanks cleansed and limewashed; bilges pumped out, and sea-water let in until the discharge was perfectly clear; all parts of the ship thoroughly fumigated with sulphur; all clothing and similar articles washed and boiled or disinfected in Lyon's patent; the cabins, fore-castle, &c., were thoroughly washed with a solution of corrosive sublimate, and, when dry, cleansed with clean fresh water.
28	Clitus, s.s.	17 July, 7.55 a.m.	17 July, 8.40 a.m.	Calcutta, via Singapore and Java.	W. Frith	None	Cowlshaw Bros...	Cholera in India.	European.. Asiatic ..	3 9	9 50	...	...	...	Cholera regulations carried out.
29	Earl Dunraven, barque.	21 July, noon.	21 July, 6 p.m.	Rio Janeiro ...	W. W. Howell	None	J. S. Mailler & Co.	Yellow fever in Rio.	European	...	21	21	...	...	Same as No. 25.

RETURN of Vessels Quarantined, &c., during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
30	Era, s.s.	23 July, 3 p.m.	23 July, 4:10 p.m.	Singapore, via Adelaide and Melbourne.	Thos. Moore ...	None	W. Howard Smith & Sons.	Cholera at Singapore.	European..	...	29	29	...	Cholera regulations carried out.
31	Changsha, s.s. ...	27 July, 8 a.m.	27 July, 3 p.m.	Hong Kong, via Queensland ports.	J. E. Williams	None	J. & A. Brown ...	Plague in China.	European..	7	10	...	...	Thoroughly disinfected; same as No. 27.
									Asiatic ...	1	55	...	...
										8	65	73	...	
32	Airlie, s.s.	28 July, 2 p.m.	28 July, 5:15 p.m.	Foochow direct	W. Ellis.....	None	Gibbs, Bright, & Co.	Plague in China.	European..	...	10	...	...	Same as above. N.B.—After leaving Foochow all quarters occupied by Asiatics were scraped, fumigated, washed, and painted; the ship's holds, before receiving cargo (tea), were chipped and limewashed.
									Asiatic ...	...	47	57	...	
33	Æolus, barque...	2 Aug., 9:15 a.m.	2 Aug., 10 a.m.	Santos, via Adelaide.	Geo. Kasworn...	None	W. Scott Fell ...	Yellow fever at Santos.	European..	..	19	19	...	This vessel was carefully examined and found to have been disinfected, and all fresh water discharged; the bilges had been pumped out, and disinfected with carbolic. N.B.—The captain had the above disinfection carried out on the instructions of his Consul at Adelaide.
34	Mutra, s.s.	11 Aug., 9:40 a.m.	11 Aug., 10:30 a.m.	Calcutta, via Penang, Singapore, Adelaide, and Melbourne.	A. G. Turner...	None	Burns, Philp, & Co.	Cholera in India.	European..	13	10	...	...	Cholera regulations carried out.
									Asiatic ...	1	86	...	...
										14	96	110	...	
35	Ghazee, s.s.	22 Aug., 7:40 a.m.	22 Aug., 4 p.m.	Foochow, via Queensland ports.	M. C. Gilding..	None	Burns, Philp, & Co.	Plague in China.	European..	...	10	...	...	Thoroughly disinfected; same as No. 27.
									Asiatic ...	...	43	53	...	
36	Taiwan, s.s.	24 Aug., 12:30 p.m.	24 Aug., 5:30 p.m.	Hong Kong, via Queensland ports.	H. Anderson ...	None	J. & A. Brown ...	Plague in China.	European..	1	8	...	...	Same as above.
									Asiatic ..	...	52	...	...
										1	60	61	...	
37	Guthrie, s.s. ...	26 Aug., 9:10 a.m.	26 Aug., 1 p.m.	Hong Kong, via Queensland ports.	P. T. Helms ...	— Sellers	Gibbs, Bright, & Co.	Plague in China.	European..	14	11	...	...	Same as above.
									Asiatic ...	2	48	...	...
										16	59	75	...	
38	Gryfe, ship	31 Aug., 8 a.m.	31 Aug., noon.	Rio Janeiro ...	Thos. Roberts...	None	H. J. King & Co..	Yellow fever in Rio.	European..	...	25	25	...	Fresh water discharged, and tanks cleansed and limewashed; bilges pumped out and disinfected; all parts of the cabin, fore-castle, &c., washed with corrosive sublimate solution, and, when dry, cleansed with fresh water; holds, &c., fumigated with sulphur for 4 hours.
39	Nowshera, s.s....	11 Sept., 7 a.m.	11 Sept., 7:45 a.m.	Calcutta, via Singapore, Adelaide, and Melbourne.	G. Jacobs	None	Burns, Philp, & Co.	Cholera in India.	European..	25	11	...	...	Cholera regulations carried out.
									Asiatic ...	10	83	...	...
										35	94	129	...	
40	Tsinan, s.s.	12 Sept., 7:45 a.m.	12 Sept., 12:45 p.m.	Kobe, via Foochow, Hong Kong, and Queensland ports.	Geo. Ramsay...	H. Dobie	J. & A. Brown ...	Plague in China.	European..	1	11	...	...	Thoroughly disinfected, same as No. 27.
									Asiatic ...	1	75	...	...
										2	86	88	...	
41	Barfillan, ship...	14 Sept., 8:15 a.m.	14 Sept., 2 p.m.	Rio Janeiro ...	G. Scabor	None	J. S. Mailler & Co.	Yellow fever in Rio.	European..	...	29	29	...	Fresh water discharged and tanks cleansed and limewashed; bilges pumped out and disinfected with a solution of corrosive sublimate. Cabins, fore-castle, &c., fumigated with sulphur.
42	Darius, s.s.	16 Sept., 7:15 a.m.	16 Sept., 8 a.m.	Calcutta, via Adelaide and Melbourne.	John Curry ...	None	Cowlshaw Bros...	Cholera in India.	European..	13	8	...	...	Cholera regulations carried out.
									Asiatic ...	13	67	...	...
										26	75	101	...	

RETURN of Vessels Quarantined, &c., during the year 1894—*continued.*

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passen- gers.	Crew.	Total.		
43	Almora, barque..	16 Sept., 7:30 a.m.	16 Sept., noon.	Rio Janeiro ...	J. F. Thompson	None	Captain	Yellow fever in Rio.	European..	...	24	24	...	Same as No. 41.
44	Ancona, 4-masted ship.	29 Sept., 7:30 a.m.	29 Sept., 2 p.m.	Rio Janeiro ...	— Long.....	None	W. Scott-Fell ...	Yellow fever in Rio.	European..	...	25	...	...	Same as No. 41.
									Asiatic ..	...	2	...	...	N.B.—Captain reported that ship was fumigated, and the effects of all on board disinfected before and after leaving Rio; two seamen died of yellow fever on shore at Rio; all their effects were landed with them.
										...	27	27	...	
45	Gulf of Taranto, s.s.	2 Oct., 7 a.m.	2 Oct., 8:30 a.m.	Japan, via Moreton Bay.	R. Hudson.....	None	A. Macarthur & Co.	Cholera in Japan.	European..	...	39	39	...	Cholera regulations carried out.
46	Catterthun, s.s...	6 Oct., 7:20 a.m.	6 Oct., noon.	Hong Kong, via Queens- land ports.	Neil Shannon ..	None	Gibbs, Bright, & Co.	Plague in China.	European..	5	11	...	...	All Asiatics landed with their effects for washing and boiling, or disin- fecting by dry or moist heat; all parts of the vessel fumigated with sulphur for four hours; fresh water discharged and tanks cleansed and limewashed; bilges discharged and sea-water let in until the discharge was perfectly clear.
									Asiatic ...	15	57	...	...
										20	68	88	...	
47	Menmuir, s.s. ...	13 Oct., 6:15 a.m.	13 Oct., noon.	Foochow, via Hong Kong and Queens- land ports.	H. Craig.....	— Armstrong..	Gibbs, Bright, & Co.	Plague in China.	European..	1	12	...	...	Same as above.
									Asiatic ...	10	52	...	...
										11	64	75	...	
48	Booldana, s.s. ...	14 Oct., 1:30 p.m.	14 Oct., 2:20 p.m.	Calcutta, via ports.	— Hughill.....	None	Burns, Philp, & Co.	Cholera in India.	European..	8	10	...	...	Cholera regulations carried out.
									Asiatic ...	19	84	...	...
										27	94	121	...	
49	Chingtu, s.s. ...	22 Oct., 11 a.m.	22 Oct., 4 p.m.	Hong Kong, via Queens- land ports.	R. Innes.....	C. Sableburge..	J. & A. Brown ...	Plague in China.	European..	8	11	...	...	Same as No. 46.
									Asiatic ...	...	74	...	...
										8	85	93	...	
50	Argus, s.s.	23 Oct., 10:10 a.m.	23 Oct., 11 a.m.	Calcutta, via Benang, Singapore, Adelaide, and Melbourne.	Ed. Johnson ...	None	Cowlshaw Bros...	Cholera in India.	European..	...	7	...	...	Cholera regulations carried out.
									Asiatic ..	3	60	...	...
										3	67	70	...	
51	Bardowie, ship...	2 Nov., 1:50 p.m.	2 Nov., 5 p.m.	Rio Janeiro ...	F. McGarrity ..	None	J. S. Mailler & Co.	Yellow fever in Rio.	European..	...	29	29	...	All parts of the vessel fumigated with sulphur; fresh water discharged and tanks cleansed and limewashed; bilges pumped out and disin- fected with a solution of corrosive sublimate.
													...	N.B.—All parts of the vessel had been scraped and painted since leaving Rio.
52	Changsha, s.s....	3 Nov., 6:15 a.m.	3 Nov., 1 p.m.	Hong Kong, via Queensland ports.	D. Anderson ...	— Pibus.....	J. & A. Brown ...	Plague in China.	European..	6	11	...	...	Same as No. 46.
									Asiatic ...	...	84	...	...
										6	95	101	...	
53	Clitus, s.s.	4 Nov., 1:55 p.m.	4 Nov., 2:30 p.m.	Calcutta, via Melbourne.	W. Frith	None	Cowlshaw Bros...	Cholera in India.	European..	1	9	...	...	Cholera regulations carried out.
									Asiatic ...	9	64	...	...
										10	73	83	...	
54	Mombasa, s.s...	4 Nov., 3 p.m.	4 Nov., 3:40 p.m.	Calcutta, via Singapore and Melbourne.	— Stevenson ...	None	Burns, Philp, & Co.	Cholera in India.	European..	3	17	...	...	Same as above.
									Asiatic ...	2	92	...	...
										5	109	114	...	

RETURN of Vessels Quarantined, &c., during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
55	Airlie, s.s.	8 Nov., 6 a.m.	8 Nov., 7-20 a.m.	Kobe, via Hong Kong and Queensland ports.	W. Ellis.....	H. Roberts.....	Gibbs, Bright, & Co.	Cholera in China.	European.. Asiatic ...	8 1	10 70	...	...	Cholera regulations carried out.
										9	80	89		
56	Bucephalus, s.s..	13 Nov., 5-50 p.m.	13 Nov., 6-20 p.m.	Calcutta, via Adelaide and Melbourne.	— Hay	None	Cowlshaw Bros...	Cholera in India.	European.. Asiatic ....	...	6 46	...	...	Same as above.
										...	52	52		
57	Willow Branch, s.s.	14 Nov., 4-45 p.m.	14 Nov., 6 p.m.	Singapore, direct.	A. Anderson ...	None	Balchin, Johnston, & Co.	Cholera in India.	European..	...	30	30	...	Same as above.
58	Taiyuan, s.s. ...	17 Nov., 2-30 p.m.	17 Nov., 3-5 p.m.	Hong Kong, via Queensland ports.	R. Nelson	R. W. Strong...	J. and A. Brown	Cholera in China.	European.. Asiatic ...	5 ...	11 69	...	...	Same as above.
										5	80	85		
59	Guthrie, s.s. ...	27 Nov., 3-15 p.m.	27 Nov., 3-40 p.m.	Hong Kong, via Queensland ports.	P. T. Helms ...	— Sellars	Gibbs, Bright, & Co.	Cholera in China.	European.. Asiatic ...	9 1	10 64	...	...	Same as above.
										10	74	84		
60	Hollingswood, ship.	29 Nov., 1-30 p.m.	29 Nov., 5 p.m.	Rio Janeiro ...	W. Kidd	None	J. S. Mailler & Co.	Yellow fever in Rio.	European..	...	34	34	...	All parts of the vessel fumigated with sulphur; fresh water discharged, and tanks cleansed and limewashed; bilges pumped out and disinfected with a solution of corrosive sublimate. Cholera regulations carried out.
61	Wairdha, s.s. ...	10 Dec., 6-30 a.m.	10 Dec., 7-30 a.m.	Calcutta, via Singapore, Adelaide, and Melbourne.	— Wadge	None	Burns, Philp, & Co.	Cholera in India.	European.. Asiatic ...	8 14	10 88	...	...	Cholera regulations carried out.
										22	98	120		
62	Lord Ripon, ship	10 Dec., 7-40 a.m.	10 Dec., 12-30 p.m.	Rio Janeiro ...	— Butler	None	A. Macarthur & Co.	Yellow fever in Rio.	European.. Asiatic ...	3 ...	29 3	...	...	Same as No. 60.
										3	32	35		
63	Tsinan, s.s.	15 Dec., 10-45 a.m.	15 Dec., 11-30 a.m.	Hong Kong, via Queensland ports.	G. Ramsay ...	F. E. Littlewood	J. and A. Brown	Cholera in China.	European.. Asiatic ...	18 2	11 83	...	...	Cholera regulations carried out.
										20	94	114		
64	Whampoa, s.s.	18 Dec., 6 a.m.	18 Dec., 7 a.m.	Hong Kong, via Queensland ports.	— Dawson ...	None	J. and A. Brown	Cholera in China.	European.. Asiatic ...	1 ...	8 50	...	...	Same as above.
										1	58	59		
65	Port Melbourne, s.s.	22 Dec., 6-15 a.m.	22 Dec., 6-45 a.m.	Calcutta, via Singapore.	W. Richardson	None	Union S.N. Co....	Cholera in India.	European.. Asiatic ...	7 ...	21 81	...	...	Same as above.
										7	102	109		

C.

RETURN of Vessels Quarantined and specially dealt with at Newcastle during the year 1894.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
1	Scottish Moors, ship.	8 Jan., 11.30 a.m.	8 Jan., 3 p.m.	Rio de Janeiro	A. W. Robbins	None	Gibbs, Bright, & Co., Newcastle.	Rio a proclaimed port.	Mixed	4	20	34	...	Discharge of fresh water and general disinfection of vessel.
2	Craiglands, barque.	10 Jan., 5 p.m.	10 Jan., 8 p.m.	Monte Video	T. W. Forbes.	None	Dalgety & Co., Newcastle.	Monte Video a proclaimed port.	European	...	20	20	...	Fumigation of crew's quarters and effects.
3	Northern Monarch, ship.	18 Jan., 5.20 p.m.	18 Jan., 8 p.m.	Monte Video	G. Nixon	None	Dalgety & Co., Newcastle.	Monte Video a proclaimed port.	European	...	22	22	...	Same as above.
4	Rialto, ship	18 Jan., midnight.	19 Jan., noon.	Bahia	J. Bain	None	J. & A. Brown, Newcastle.	Bahia a proclaimed port.	Mixed	...	21	21	...	Discharge of fresh water and general disinfection of vessel.
5	Chala, barque	22 Jan., 7 a.m.	22 Jan., 1.30 p.m.	Buenos Ayres.	G. P. Cook	None	Dalgety & Co., Newcastle.	Buenos Ayres a proclaimed port.	Mixed	...	17	17	...	Fumigation of crew's quarters and effects.
6	Crummock Water, barque.	22 Jan., 8.30 p.m.	23 Jan., 11.30 a.m.	Buenos Ayres.	J. W. Dakin	None	Gibbs, Bright, & Co., Newcastle.	Buenos Ayres a proclaimed port.	Mixed	...	19	19	...	Same as above.
7	Rahane, ship	23 Jan., 9.50 a.m.	23 Jan., 1 p.m.	Monte Video	J. Collins	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European	...	28	28	...	Same as above.
8	Kirkmichael, barque.	23 Jan., 5.50 p.m.	23 Jan., 11 p.m.	La Plata	T. Cones	None	R. B. Wallace, Newcastle.	Monte Video a proclaimed port.	European	...	17	17	...	Same as above.
9	Criffel, barque	25 Jan., 5.30 a.m.	25 Jan., noon.	Rio de Janeiro	A. Billett	None	Dalgety & Co., Newcastle.	Rio a proclaimed port.	European	...	20	20	...	Discharge of fresh water and general disinfection of vessel.
10	Warrior, ship	27 Jan., 2.15 p.m.	27 Jan., 8 p.m.	Rio de Janeiro	A. Kitchen	None	R. B. Wallace, Newcastle.	Rio a proclaimed port.	European	...	19	19	...	Same as above.
11	Beemah, barque	28 Jan., 9.45 a.m.	28 Jan., 1 p.m.	Santos	H. G. Harbord.	None	J. & A. Brown, Newcastle.	Rio a proclaimed port.	Mixed	...	16	16	...	Same as above.
12	Frances Fisher, barque.	30 Jan., 11.30 a.m.	30 Jan., 5 p.m.	Rio de Janeiro.	J. Nicholls	None	C. F. Stokes & Co., Newcastle.	Rio a proclaimed port.	European	...	20	20	...	Same as above.
13	Regent Murray, barque.	31 Jan., 1 a.m.	31 Jan., noon.	Santos	J. Routledge	None	Dalgety & Co., Newcastle.	Rio a proclaimed port.	Mixed	...	19	19	...	Same as above.
14	Loch Linube, ship.	3 Feb., 3 p.m.	3 Feb., 6 p.m.	Cheribon	J. C. Dallachie.	None	Gibbs, Bright, & Co., Newcastle.	Monte Video a proclaimed port.	Mixed	...	23	23	...	Fumigation of crew's quarters and effects.
15	Talus, ship	13 Feb., 8 a.m.	13 Feb., noon.	Monte Video	E. C. Bennett.	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European	...	29	29	...	Same as above.
16	Lindisfarne, ship	13 Feb., 3 p.m.	13 Feb., 7.30 p.m.	La Plata	W. H. Norris	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	Mixed	...	24	24	...	Same as above.
17	Benlarig, ship	14 Feb., 6.30 a.m.	14 Feb., noon.	Batavia	T. Beale	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	Mixed	...	28	28	...	Same as above.
18	Leverbank, 4-masted barque	16 Feb., 3 p.m.	16 Feb., 8 p.m.	Rio de Janeiro	E. J. Stuart	None	R. B. Wallace, Newcastle.	Rio a proclaimed port.	Mixed	...	33	33	...	Discharge of fresh water and general disinfection of vessel.
19	Serena, barque	17 Feb., 7.30 a.m.	17 Feb., noon.	Rio de Janeiro	G. Allan	None	Dalgety & Co., Newcastle.	Rio a proclaimed port.	Mixed	...	23	23	...	Same as above.
20	Cambrian Chieftain, barque.	20 Feb., 6.30 a.m.	20 Feb., noon.	La Plata	H. Thomas	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European	3	24	27	...	Fumigation of crew's quarters and effects.

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RETURN of Vessels Quarantined, &c., at Port of Newcastle during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
405—B 21	Loch Eck, ship...	25 Feb., 4:45 p.m.	25 Feb., 8 p.m.	Karachi	J. K. Pittendrigh.	None	C. F. Stokes & Co. Newcastle.	Monte Video a proclaimed port.	European..	...	26	26	...	Fumigation of crew's quarters and effects.
22	Brenhilda, ship..	6 Mar., 12:15 p.m.	6 Mar., 5:30 p.m.	Monte Video...	W. Craig	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	...	25	25	...	Same as above.
23	Maxwell, ship...	9 Mar., 5:40 p.m.	9 Mar., 9 p.m.	Calcutta.....	R. Jenkins.....	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	...	27	27	...	Same as above.
24	Loch Ranza, barque.	10 Mar., 3:20 p.m.	10 Mar., 7 p.m.	Tagal	W. Carnochan	None	Gibbs, Bright, & Co., Newcastle.	Monte Video a proclaimed port.	European..	...	19	19	...	Same as above.
25	Firth of Lorn, barque.	14 Mar., 1 p.m.	14 Mar., 7 p.m.	Rio de Janeiro	H. Olsen	None	J. & A. Brown, Newcastle.	Rio a pro- claimed port.	European..	...	17	17	...	Discharge of fresh water and general disinfection of vessel.
26	Iolanthe, ship ...	14 Mar., 6:30 p.m.	15 Mar., noon.	Sourabaya	G. W. Stanton	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	...	23	23	...	Fumigation of crew's quarters and effects.
27	Aberfoyle, ship..	16 Mar., 3 p.m.	16 Mar., 8 p.m.	Buenos Ayres...	G. M. Robert- son.	None	Gibbs, Bright, & Co., Newcastle.	Monte Video a proclaimed port.	Mixed	1	22	23	...	Same as above.
28	Lady Isabella, ship.	16 Mar., 4:30 p.m.	16 Mar., 9 p.m.	Buenos Ayres...	J. W. Jones ...	None	C. F. Stokes & Co., Newcastle.	Monte Video a proclaimed port.	Mixed	1	23	24	...	Same as above.
29	Inveramsay, barque.	17 Mar., 9 p.m.	18 Mar., 1 p.m.	Buenos Ayres..	J. Symmers ...	None	Dalgety & Co., Newcastle.	Monte Video a proclaimed port.	Mixed	1	22	23	...	Same as above.
30	Blairmore, ship	20 Mar., 3 a.m.	20 Mar., noon.	Buenos Ayres..	J. Caw	None	Dalgety & Co., Newcastle.	Monte Video a proclaimed port.	European..	...	27	27	...	Same as above.
31	Forteviol, 4-masted barque.	31 March, 1:30 p.m.	31 March, 5 p.m.	Calcutta.....	Jn. Jackson ...	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	1	35	36	...	Same as above.
32	Osborne, 4-masted barque.	31 March, 1:30 p.m.	31 March, 5 p.m.	Calcutta.....	W. Scott	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	...	34	34	...	Same as above.
33	Baroda, barque...	31 March, 6:30 p.m.	1 April, noon.	Monte Video...	D. Bannatyne..	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	Mixed .....	...	23	23	...	Same as above.
34	Highland Glen, barque.	3 April, 8 p.m.	4 April, noon.	Monte Video...	F. Adam	None	J. & A. Brown, Newcastle.	Monte Video a proclaimed port.	European..	...	19	19	...	Same as above.
35	Otterspool, ship.	7 April, 11:45 a.m.	7 April, 4 p.m.	Rio de Janeiro	J. Holmes	None	R. W. Leyland & Co., Liverpool.	Rio a pro- claimed port.	Mixed	1	24	25	...	Discharge of fresh water and general disinfection of vessel.
36	Galatea, ship ...	8 April, 3 a.m.	8 April, noon.	Monte Video ...	W. Colville ...	None	C. S. Caird, Greenock.	Monte Video a proclaimed port.	Mixed .....	...	26	26	...	Fumigation of crew's quarters and effects.
37	Gifford, 4-masted barque.	8 April, 2 a.m.	8 April, 2 p.m.	Rio de Janeiro	J. Muir	None	Briggs, Harvie, & Co., Glasgow.	Rio a pro- claimed port.	Mixed .....	...	32	32	...	Discharge of fresh water and general disinfection of vessel.
38	Oberon, 4-masted sch.	8 April, 9:15 a.m.	8 April, 2 p.m.	Rio de Janeiro	T. Selley	None	J. Fairlie, Glas- gow.	Rio a pro- claimed port.	European..	...	18	18	...	Same as above.
39	Timandra, ship..	13 April, 6:30 p.m.	14 April, 11:30 a.m.	Calcutta.....	D. A. Kerr.....	None	G. F. Smith, Glas- gow.	Monte Video a proclaimed port.	Mixed	2	22	24	...	Fumigation of crew's quarters and effects.

RETURN of Vessels Quarantined, &c., at Port of Newcastle during the year 1894—*continued.*

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
40	Tenasserim, barque.	14 April, 11 a.m.	14 April, 2 p.m.	Buenos Ayres...	T. Gawne	None	Gracie, Beazley, & Co., Liverpool.	Monte Video a proclaimed port.	Mixed .....	...	21	21	...	Fumigation of crew's quarters and effects.
41	Cloncaird, barque.	15 April, 1:30 p.m.	15 April, 4:30 p.m.	Buenos Ayres..	T. Young	None	John Kerr & Co., Greenock.	Monte Video a proclaimed port.	European..	...	21	21	...	Same as above.
42	Ardmore, barque.	22 April, 8:30 a.m.	22 April, 3 p.m.	Rio de Janeiro	R. White	None	Robert Barr, Glasgow.	Rio a proclaimed port.	European..	...	20	20	...	Discharge of fresh water and general disinfection of vessel.
43	Sardhana, barque.	23 April, 11:15 a.m.	23 April, 3 p.m.	Rio de Janeiro	J. Porter	None	Andrew Weir & Co., Glasgow.	Rio a proclaimed port.	European..	...	20	20	...	Same as above.
44	Doris, barque ...	30 April, 3:30 p.m.	30 April, 8 p.m.	Buenos Ayres..	D. J. Hunter	None	W. Stephen, Dundee.	Monte Video a proclaimed port.	Mixed ...	1	23	24	...	Fumigation of crew's quarters and effects.
45	Fanny, ship.....	1 May, 7 a.m.	1 May, 7 p.m.	Rio de Janeiro	J. Bornholdt ..	None	H. U. A. Meyer, Hamburg.	Rio a proclaimed port.	European..	...	22	22	...	Discharge of fresh water and general disinfection of vessel.
46	Cambrian King, ship.	3 May, 10 a.m.	3 May, 2 p.m.	Monte Video...	W. Williams...	None	T. Williams & Co., Liverpool	Monte Video a proclaimed port.	European ..	...	26	26	...	Fumigation of crew's quarters and effects.
47	Bengwern, ship.	8 May, 11:30 a.m.	8 May, 4 p.m.	Rio de Janeiro	D. Davies	None	W. Thomas & Co., Liverpool.	Rio a proclaimed port.	European..	...	24	24	...	Discharge of fresh water and general disinfection of vessel.
48	Glenard, ship ...	14 May, 9 a.m.	14 May, noon.	Buenos Ayres..	J. Kerr	None	A. Stirling & Co., Glasgow.	Monte Video a proclaimed port.	European..	...	28	28	...	Fumigation of crew's quarters and effects.
49	Dalrymple, barque.	21 May, 1:30 p.m.	21 May, 5 p.m.	Buenos Ayres..	T. Davies	None	J. M. Campbell & Son, Glasgow.	Monte Video a proclaimed port.	European..	...	24	24	...	Same as above.
50	Arthurstone, barque.	23 May, 4:15 p.m.	24 May, 9 a.m.	Rio de Janeiro	W. Adams ...	None	D. Bruce & Co., Dundee.	Rio a proclaimed port.	Mixed ...	...	18	18	...	Discharge of fresh water and general disinfection of vessel.
51	Carnedd Llewelyn, ship.	26 May, 5 p.m.	26 May, 9 p.m.	Samarang	W. Griffiths ...	None	R. Hughes, Jones, & Co., Liverpool.	Monte Video a proclaimed port.	European..	...	24	24	...	Fumigation of crew's quarters and effects.
52	Donna Julia, barque.	5 June, 3:15 p.m.	5 June, 8 p.m.	Monte Video...	J. Carrington...	None	J. Hays & Co., London.	Monte Video a proclaimed port.	Mixed .....	...	23	23	...	Same as above.
53	Drumlanrig, ship.	15 June, 3:45 p.m.	15 June, 8 p.m.	La Plata	P. Farrer	None	Gillison & Chadwick, Liverpool	Monte Video a proclaimed port.	Mixed .....	...	26	26	...	Same as above.
54	Melanope, ship .	16 June, 10:45 a.m.	16 June, 4 p.m.	Imbetiba	R. W. Neville..	None	Australasian Shipping Co., Liverpool.	Rio a proclaimed port.	Mixed .....	...	22	22	...	Discharge of fresh water and general disinfection of vessel.
55	Oimara, barque..	16 June, 11:30 p.m.	17 June, 3 p.m.	Rio de Janeiro	G. Brown	None	J. D. Clink, Greenock.	Rio a proclaimed port.	Mixed .....	...	17	17	...	Same as above.
56	Aldergrove, barque.	27 June, 10:30 a.m.	27 June, 3 p.m.	Rio de Janeiro	W. Robertson..	None	Guthrie, M'Donald, Hood, & Co., Glasgow.	Rio a proclaimed port.	Mixed .....	...	21	21	...	Same as above.
57	Port Crawford, ship.	28 June, 7 p.m.	29 June, noon.	Rio de Janeiro	W. D. Edward	None	Crawford and Rowatt, Glasgow.	Rio a proclaimed port.	Mixed .....	...	27	27	...	Same as above.
58	Anamba, barque	29 June, 6:30 p.m.	30 June, noon.	Sourabaya	J. Harder	None	Dennistoun & Co., Glasgow.	Monte Video a proclaimed port.	Mixed .....	...	19	19	...	Fumigation of crew's quarters and effects.
59	Arethusa, barque	5 July, 2:15 a.m.	5 July, 3 p.m.	Rio de Janeiro	J. Anderson ...	None	J. & A. M'Farlane, Greenock.	Rio a proclaimed port.	European..	...	22	22	...	Discharge of fresh water and general disinfection of vessel.

RETURN of Vessels Quarantined, &c., at Port of Newcastle during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
60	Dalcairnie, ship	7 July, 7 p.m.	7 July, noon.	Calcutta.....	W. G. Wald...	None	J. M. Campbell & Son, Glasgow.	Monte Video a proclaimed port.	Mixed.....	...	28	28	...	Fumigation of crew's quarters and effects.
61	King Malcolm, barque.	8 July, 4-40 a.m.	8 July, 8 p.m.	Buenos Ayres..	J. W. Guthrie	None	J. A. Walker & Co., Glasgow.	Monte Video a proclaimed port.	European	...	22	22	...	Same as above.
62	Kenyon, barque	10 July, 10-30 a.m.	10 July, 4 p.m.	Rio de Janeiro	R. Sherris	A. Stewart.....	J. Poole & Co., Liverpool.	Rio a proclaimed port.	European	1	20	21	...	Discharge of fresh water and general disinfection of vessel.
63	Orthes, barque	10 July, 3 p.m.	11 July, 6 a.m.	Rosario	J. McNeil	None	J. Hardie & Co., Glasgow.	Monte Video a proclaimed port.	European	1	24	25	...	Fumigation of crew's quarters and effects.
64	Seestern, barque	14 July, 2 p.m.	14 July, 7 p.m.	Santos	H. Külsen	None	T. & T. Eimbke, Hamburg.	Rio a proclaimed port.	European	16	21	37	...	Discharge of fresh water and general disinfection of vessel.
65	Buccleuch, ship	26 July, 1-30 p.m.	27 July, noon.	Sourabaya	P. Johansen ...	None	W. H. Ross & Co., Liverpool.	Monte Video a proclaimed port.	European	...	27	27	...	Fumigation of crew's quarters and effects.
66	Saint Enoch, ship.	27 July, 3-30 a.m.	27 July, 5 p.m.	Rio de Janeiro	G. G. Gordon..	None	A. Mackay & Co., Glasgow.	Rio a proclaimed port.	Mixed .....	...	24	24	...	Discharge of fresh water and general disinfection of vessel.
67	Artizan, barque	27 July, 9 a.m.	27 July, 5 p.m.	Rio de Janeiro	S. Purdy	None	W. Thomson & Co., St. John's, N.B.	Rio a proclaimed port.	European	1	15	16	...	Same as above.
68	Moel Tryvan, 4-masted barque	27 July, 10-40 a.m.	27 July, 5 p.m.	Rio de Janeiro	E. Jones.....	None	W. E. Jones, Carnevon.	Rio a proclaimed port.	Mixed .....	...	20	20	...	Same as above.
69	Clan Graham, 4-masted barque	27 July, 1 p.m.	27 July, 5 p.m.	Rio de Janeiro	G. Iddes	None	T. Dunlop & Sons, Glasgow.	Rio a proclaimed port.	Mixed .....	...	27	27	...	Same as above.
70	Port Caledonia, 4-masted barque	5 Aug. noon.	5 Aug. 5 p.m.	Rio de Janeiro	S. P. H. Atkinson.	None	Crawford & Rowatt, Glasgow.	Rio a proclaimed port.	Mixed	1	33	34	...	Same as above.
71	Glensesk, barque	5 Aug., 1 a.m.	5 Aug., noon.	Buenos Ayres..	J. Paul	None	W. Taylor & Co., Dundee.	Monte Video a proclaimed port.	Mixed ...	3	22	25	...	Fumigation of crew's quarters and effects.
72	Bothwell Castle, steamer.	6 Aug., 7 p.m.	7 Aug., 2 p.m.	Hong Kong ...	W.F. Robertson	None	T. Skinner & Co., London.	Rio a proclaimed port.	Mixed ...	...	33	33	...	Discharge of fresh water and general disinfection of vessel.
73	Fernbank, barque.	13 Aug., 11-30 p.m.	14 Aug., noon.	Rio de Janeiro	W. Boyd	None	Andrew Weir & Co., Glasgow.	Rio a proclaimed port.	European.	...	18	18	...	Same as above.
74	Brambletye, ship.	14 Aug., 5 p.m.	15 Aug., 9 a.m.	Rio de Janeiro	A. W. E. Gomm	None	J. Hardie & Co., Glasgow.	Rio a proclaimed port.	European	1	23	24	...	Same as above.
75	Oakbank, barque.	16 Aug., 10-30 a.m.	16 Aug., 4 p.m.	Rio de Janeiro	J. Milne	None	Andrew Weir & Co., Glasgow.	Rio a proclaimed port.	European.	...	22	22	...	Same as above.
76	Persian, ship ...	16 Aug., 5-30 p.m.	17 Aug., noon.	Rio de Janeiro	J. S. Carnegie..	None	A. Mackay & Co., Glasgow.	Rio a proclaimed port.	European.	...	21	21	...	Same as above.
77	Benares, 4-m. barque.	17 Aug., 9-30 a.m.	17 Aug., 2 p.m.	Sourabaya.....	G. Mutch	None	Watson Bros., Glasgow.	Monte Video a proclaimed port.	European.	...	27	27	...	Fumigation of crew's quarters and effects.
78	Glanivor, barque.	18 Aug., noon.	18 Aug., 5 p.m.	Santos	W. T. Williams	None	D. P. Williams, Llanberis.	Rio a proclaimed port.	Mixed ...	...	18	18	...	Discharge of fresh water and general disinfection of vessel.
79	Bohemia, ship...	19 Aug., 7-30 a.m.	19 Aug., 2 p.m.	Rio de Janeiro	W. J. Hogan...	None	Houghton Bros., Maine, U.S.A.	Rio a proclaimed port.	Mixed ...	...	23	23	...	Same as above.
80	Macedon, ship...	29 Aug., 9-30 a.m.	29 Aug., 2 p.m.	Rio de Janeiro	H. McMaster..	None	W. Thomson & Co., St. John's, N.B.	Rio a proclaimed port.	European.	2	22	24	...	Same as above.

RETURN of Vessels Quarantined, &c., at Port of Newcastle during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passengers.	Crew.	Total.		
81	Poltalloch, 4-masted barque.	30 Aug., 10.30 a.m.	30 Aug., 5 p.m.	Rio de Janeiro	J. Cannell.....	None	Potter Bros., London.	Rio a proclaimed port.	European..	1	30	31	...	Discharge of fresh water and general disinfection of vessel.
82	Celtic Race, ship	3 Sept., 6 a.m.	3 Sept., 6 a.m.	Rio de Janeiro	H. Hughes ...	None	R. Hughes, Jones & Co., Liverpool	Rio a proclaimed port.	European..	...	24	24	...	Same as above.
83	Virawa, steamer	10 Sept., 7 a.m.	10 Sept., noon.	Singapore	G. Clarke	None	B. I. S. N. Co., London.	Monte Video a proclaimed port.	Mixed.....	...	93	93	...	Fumigation of crew's quarters and effects.
84	Mark Curry, barque.	11 Sept., 11.30 p.m.	12 Sept., 2 p.m.	Rio de Janeiro	J. W. Liswell..	None	Mark Curry, Windsor, U.S.	Rio a proclaimed port.	European..	2	16	18	...	Discharge of fresh water and general disinfection of vessel.
85	Cambrian Warrior, barque.	16 Sept., 7.30 a.m.	16 Sept., 2 p.m.	Santos	W. Jones	None	T. Williams & Co., Liverpool.	Rio a proclaimed port.	European..	...	22	22	...	Same as above.
86	Milton Park, ship.	16 Sept., 9.15 a.m.	16 Sept., 3 p.m.	Santos	J. Little	None	G. Gordon & Co., Glasgow.	Rio a proclaimed port.	European..	...	24	24	...	Same as above.
87	Honolulu, ship..	17 Sept., 9.30 a.m.	17 Sept., 3 p.m.	Buenos Ayres..	H. H. Dexter..	None	W. Thomson & Co. St. John's, N.B.	Monte Video a proclaimed port.	Mixed.....	1	22	23	...	Fumigation of crew's quarters and effects.
88	Blackbraes, ship	28 Sept., 6 p.m.	28 Sept., 10 p.m.	Monte Video...	D. McLeod ...	None	Potter Bros., London.	Monte Video a proclaimed port.	Mixed.....	1	31	32	...	Same as above.
89	Lyderhorn, 4-masted barque.	29 Sept., 12.30 p.m.	29 Sept., 5 p.m.	Rio de Janeiro	W. J. Minns...	None	De Wolff & Co., Liverpool.	Rio a proclaimed port.	European..	...	32	32	...	Discharge of fresh water and general disinfection of vessel.
90	Riversdale, ship.	30 Sept., 5.30 p.m.	30 Sept., 10 p.m.	Rio de Janeiro	J. Griffiths ...	None	R. W. Leyland & Co., Liverpool.	Rio a proclaimed port.	Mixed.....	...	28	28	...	Same as above.
91	Blairgowrie, ship.	12 Oct., 11.30 a.m.	12 Oct., 6 p.m.	Santos	J. T. Manson...	None	Thomson & Gray, Glasgow.	Rio a proclaimed port.	European..	...	24	24	...	Same as above.
92	Carleton, barque	12 Oct., 12.30 p.m.	12 Oct., 11.30 p.m.	Rio de Janeiro	C. Lowe	None	J. Kerr & Co. ...	Rio a proclaimed port.	European..	...	23	23	...	Same as above.
93	Queen Elizabeth, ship.	19 Oct., 3.30 p.m.	19 Oct., 9 p.m.	Bahia	C. E. Fulton...	None	J. Black & Co., Glasgow.	Rio a proclaimed port.	Mixed.....	2	24	26	...	Same as above.
94	Penthesilea, ship	20 Oct., 12.30 p.m.	20 Oct., 6 p.m.	Rio de Janeiro	C. A. Belyea...	None	J. Wood, Manchester.	Rio a proclaimed port.	European..	...	24	24	...	Same as above.
95	Lakemba, barque	21 Oct., 9.30 a.m.	21 Oct., 3 p.m.	Rio de Janeiro	A. Cumming...	None	Dennistoun & Co., Glasgow.	Rio a proclaimed port.	European..	...	20	20	...	Same as above.
96	Inverkip, barque	21 Oct., 5.30 p.m.	21 Oct., 10 p.m.	Rio de Janeiro	R. W. Jones...	None	W. Walker & Co., Greenock.	Rio a proclaimed port.	European..	...	21	21	...	Same as above.
97	Invermore, barque.	22 Oct., 7 a.m.	22 Oct., noon.	Rio de Janeiro	J. Hutton	None	H. Hutton & Co., Belfast.	Rio a proclaimed port.	Mixed.....	...	20	20	...	Same as above.
98	Tythonus, barque.	23 Oct., 8 a.m.	23 Oct., 3 p.m.	Rio de Janeiro	W. E. Spurr...	None	Gillison & Chadwick, Liverpool.	Rio a proclaimed port.	Mixed.....	...	20	20	...	Same as above.
99	Ditton, ship	29 Oct., 10 p.m.	30 Oct., noon.	Rio de Janeiro	H. Stap	None	R. W. Leyland & Co., Liverpool.	Rio a proclaimed port.	European..	...	29	29	...	Same as above.
100	Heathbank, barque.	30 Oct., 5.30 a.m.	30 Oct., 6 p.m.	Rio de Janeiro	J. McKechnie.	None	Andrew Weir & Co., Glasgow.	Rio a proclaimed port.	European..	...	25	25	...	Same as above.
101	Nile, 4-masted barque.	5 Nov., 8 a.m.	5 Nov., 3 p.m.	Rio de Janeiro	A. A. Clark ...	None	A. Brown	Rio a proclaimed port.	European..	1	28	29	...	Same as above.
102	Haddon Hall, barque.	6 Nov., 6.30 p.m.	6 Nov., 11 p.m.	Rio de Janeiro	O. Pritchard...	None	C. E. de Wolff & Co., Liverpool.	Rio a proclaimed port.	Mixed.....	...	22	22	...	Same as above.
103	Port Stanley, 4-masted barque.	6 Nov., 7 p.m.	7 Nov., noon.	Rio de Janeiro	H. Williams ...	None	Crawford and Rowatt, Glasgow.	Rio a proclaimed port.	Mixed.....	...	31	31	...	Same as above.
104	Patrician, ship...	7 Nov., 6 a.m.	7 Nov., noon.	Buenos Ayres...	E. R. Sterling...	None	E. R. Sterling Master.	Monte Video a proclaimed port.	European..	2	16	18	...	Fumigation of crew's quarters and effects.

RETURN of Vessels Quarantined, &c., at the port of NEWCASTLE during the year 1894—continued.

No.	Name of Vessel.	Arrived.	Released.	Where from.	Master.	Surgeon.	Owners or Agents.	Cause of Detention.	Souls on board on arrival.				Landed and Detained.	Action taken.
									Nationality.	Passen- gers.	Crew.	Total.		
105	Centennial, ship	10 Nov., 6:30 a.m.	10 Nov., 12:30 p.m.	Buenos Ayres...	B. F. Colcord...	None	Smith and Town- end, Boston, U.S.A.	Monte Video a proclaimed port.	Mixed.....	3	17	20	...	Fumigation of crew's quarters and effects.
106	Gowanbank, 4-masted barque.	10 Nov, 10:30 a.m.	10 Nov., 4 p.m.	Rio de Janeiro	W. Grimsditch	None	Andrew Weir & Co., Glasgow.	Rio a pro- claimed port.	Mixed.....	...	29	29	...	Discharge of fresh water and general disinfection of vessel.
107	Linden, barque	13 Nov., 5:30 p.m.	13 Nov., 9 p.m.	Buenos Ayres...	W. Sharp	None	J. Hopper, Sun- derland.	Monte Video a proclaimed port.	European..	...	20	20	...	Fumigation of crew's quarters and effects.
108	Invernesshire, 4-masted barque.	14 Nov., 6 a.m.	14 Nov., Noon.	Buenos Ayres...	J. Peattie	None	T. Law & Co., Glasgow.	Monte Video a proclaimed port.	European..	...	31	31	...	Same as above.
109	Desdemona, ship	14 Nov., 9 a.m.	14 Nov., 2 p.m.	Rio de Janeiro	J. Evans	None	C. T. Baring & Co., Liverpool.	Rio a pro- claimed port.	European..	...	25	25	...	Discharge of fresh water and general disinfection of vessel.
110	Metropolis, 4-masted barque.	15 Nov. 10 a.m.	15 Nov., 4 p.m.	Rio de Janeiro	W. Richards...	None	W. Thomas & Co., Liverpool.	Rio a pro- claimed port.	Mixed.....	...	24	24	...	Same as above.
111	Celtic Chief, ship	22 Nov., 10:30 a.m.	22 Nov., 5 p.m.	Santos	G. Owen	None	R. Hughes, Jones & Co., Liverpool	Rio a pro- claimed port.	European..	1	23	24	...	Same as above.
112	Colony, 4-masted barque.	25 Nov., 3:30 p.m.	26 Nov., 11 a.m.	Rio de Janeiro	J. Hughes	None	W. Thomas & Co., Liverpool.	Rio a pro- claimed port.	European..	...	24	24	...	Same as above.
113	Ellen A. Read, ship	28 Nov., 8 a.m.	28 Nov., 3 p.m.	Rio de Janeiro	R. C. Perry ...	None	W. Law & Co., Yarmouth, U.S.	Rio a pro- claimed port.	Mixed.....	...	19	19	...	Same as above.
114	Lannberga, barque.	28 Nov., 4:30 p.m.	28 Nov., 11 p.m.	Rio de Janeiro	J. C. M'Dougall	None	F. M'Dougall, Sackville, N.B.	Rio a pro- claimed port.	Mixed.....	3	17	20	...	Same as above.
115	Firth of Clyde, barque.	30 Nov., 2:30 p.m.	30 Nov., 8 p.m.	Rio de Janeiro	R. M'Aulay ...	None	J. Spencer & Co., Glasgow.	Rio a pro- claimed port.	European..	...	19	19	...	Same as above.
116	Anglo-Norman, barque.	30 Nov., 7:30 p.m.	1 Dec., 2 p.m.	Santos	C. Ives	None	C. J. Jamieson, Liverpool.	Rio a pro- claimed port.	Mixed.....	...	17	17	...	Same as above.
117	Errol, ship	2 Dec., 6:30 a.m.	2 Dec., 3 p.m.	Rio de Janeiro	A. H. Smith ...	None	C. Barrie, Dundee	Rio a pro- claimed port.	European..	...	24	24	...	Same as above.
118	Bowman B. Law, barque.	2 Dec., 7 p.m.	3 Dec., 2 p.m.	Rio de Janeiro	E. F. Hurlbert	None	W. Law & Co., Yarmouth, U.S.	Rio a pro- claimed port.	Mixed.....	...	19	19	...	Same as above.
119	Bombay, barque	6 Dec., 6:30 p.m.	7 Dec., 1 a.m.	Rio de Janeiro	A. R. Johnson	None	J. N. Ward, Liver- pool.	Rio a pro- claimed port.	European..	2	15	17	...	Same as above.
120	Lodestar, barque	9 Dec., 3 p.m.	9 Dec., 6 p.m.	Monte Video..	P. Nowlan.....	None	J. Lidgett & Son	Monte Video a proclaimed port.	European..	...	26	26	...	Fumigation of crew's quarters and effects.
121	Hereward, ship.	9 Dec., 11:30 p.m.	10 Dec., 2 p.m.	Rio de Janeiro	P. H. Gore ...	None	Potter Bros., London.	Rio a pro- claimed port.	European..	...	22	22	...	Discharge of fresh water and general disinfection of vessel.
122	St. Mary's Bay, barque.	11 Dec., 6:30 p.m.	11 Dec., 11:30 p.m.	Santos	W. Irom	None	Hatfield, Cameron, & Co., Glasgow.	Rio a pro- claimed port.	Mixed.....	...	19	19	...	Same as above.
123	Caradoc, 4-masted barque.	18 Dec., 7:30 p.m.	19 Dec., 2 p.m.	Rio de Janeiro	J. Jones.....	None .....	.....	Rio a pro- claimed port.	European..	...	32	32	...	Same as above.
124	Cambuskenneth, ship.	19 Dec., 8 a.m.	19 Dec., 2:30 p.m.	Rio de Janeiro	I. Kendal	None .....	.....	Rio a pro- claimed port.	European..	...	27	27	...	Same as above.
125	Birker, barque...	19 Dec., 7 a.m.	19 Dec., 1 p.m.	Monte Video...	A. Sampson ...	None .....	.....	Monte Video a proclaimed port.	European..	...	18	18	...	Fumigation of crew's quarters and effects.
126	Florence, barque	21 Dec. 5:30 a.m.	21 Dec., 10:30 p.m.	Rio de Janeiro	U. S. Higgins...	None .....	.....	Rio a pro- claimed port.	European..	1	19	20	...	Discharge of fresh water, and general disinfection of vessel.
127	East Indian, barque.	31 Dec., 6 a.m.	31 Dec., 3 p.m.	Rio de Janeiro	T. Coath	None .....	.....	Rio a pro- claimed port.	Mixed.....	...	24	24	...	Same as above.

405-C

14

D.

RETURN of Proclamations under the Quarantine Acts in force and rescinded during the year 1894 :—

Date of Proclamation.	Against vessels arriving from—	Date of Rescission.
17 June, 1881	The Empire of China, the British Possession of Hongkong, and other ports or places in the East.	Still in force.
15 October, 1891	The Colony of Mauritius	6 January, 1894.
8 April, 1892	The East Coast of South America	Still in force.
6 July, 1892	Colombo	14 May, 1894.

E.

RETURN of Bills of Health issued to Outward-bound Vessels from the Ports of New South Wales, during the year 1894 :—

Port of—	Number of Bills of Health Issued.
Sydney	786
Newcastle.....	263
Total.....	1,049

F.

RETURN of Vessels cleared under the provisions of the Imperial Passengers' Acts, 18 and 19 Vic. No. 119, from the Ports of New South Wales, during the year 1894 :—

Port of—	Number of Vessels Cleared.
Sydney	97
Newcastle.....	...
Total.....	97

NOTE.—Captain J. Vine Hall and Dr. A. Watson Munro performed the respective duties of Marine Surveyor and Inspecting Medical Officer during the year 1894.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

SEAWORTHINESS OF STEAMERS "LASS O' GOWRIE" AND "RESOLUTE."

(REPORT ON.)

Ordered by the Legislative Assembly to be printed, 22 November, 1894.

[Laid upon the Table of the House in answer to Question No. 13, of 3rd October, 1894.]

Question.

(13.) SEAWORTHINESS OF STEAMERS "LASS O' GOWRIE" AND "RESOLUTE":—MR. ELLIS *asked* THE COLONIAL TREASURER,—

(1.) Has his attention been called to certain correspondence in the Press, signed by Mr. Sam. Smith, Secretary of the Seamen's Union, in which he alleges that "it was commonly known that the 'Lass o' Gowrie' and 'Resolute' were unsafe for many months prior to their narrow escape from foundering, and that the crews of these vessels could get no one to interfere on their behalf, as "they carried no passengers"; also "that the administration of the Navigation Act by the Marine Board is defective"?

(2.) As this is a direct charge of neglect on the part of the President and the officials of the Marine Board, will he cause an official inquiry to be made to ascertain the truth or otherwise of these allegations?

Answer.

The published statements relating to the "Lass o' Gowrie" and "Resolute" are exaggerations. The vessels have both been employed on the coast, and never depart more than a mile or two from the land, moreover they have ample boat accommodation. The "Resolute" is reputed to be a good vessel, and she is still running. The "Lass o' Gowrie" has been laid up since she returned to port some months ago in consequence of a leak in her boiler. Constant complaints are made to the Board by seamen, but none have ever been made by the crews of these vessels.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

COLLISION BETWEEN THE STEAMERS "SOL" AND
"ALATHEA."

(PARTICULARS OF THE ACTION IN THE SUPREME COURT RESPECTING.)

Ordered by the Legislative Assembly to be printed, 27 September, 1894.

The Secretary, Marine Board, to The Under Secretary for Finance and Trade.

25 September, 1894.

THIS case arose from the collision which took place some months ago between the "Sol" and the Parramatta steamer "Alathea."

The collision was to a great extent the result of accident, and the Board endeavoured to settle it amicably; but the demands of the "Alathea" party were so outrageous that it was thought better to meet an action in the Supreme Court than to yield to them.

The Board did not, however, wish to plead non-liability, and only sanctioned the action of their counsel with the view of protecting the public interest against the excessive demands of their opponents. With the point conceded by the jury of the non-liability of the Board, better terms will now be made with the owners of the "Alathea," and something like a fair settlement will be arrived at.

By order,

GEO. S. LINDEMAN.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

NAVIGATION OF THE RIVERS DARLING AND MURRAY.

(PETITION FROM OWNERS AND CAPTAINS OF THE STEAMSHIPS PLYING ON THE MURRAY AND DARLING RIVERS, IN FAVOUR OF.)

Received by the Legislative Assembly, 30 August, 1894.

To the Honorable the Speaker and the Members of the Legislative Assembly.

The humble Petition of the undersigned owners and captains of the steamships plying on the Murray and Darling Rivers, and other the residents of the Murray and Darling District,—

SHOWETH :—

That the residents of the Lower Darling River District, and back country, are solely dependent on the river for obtaining supplies or forwarding produce to market, in the absence of railway communication. That the flood in the Darling River in the season of 1890 has caused many dangerous trees to be washed into the river, thereby endangering the life and property of those who have to navigate its waters, besides being the cause of navigation closing earlier than it would otherwise if these dangerous trees and snags were removed.

The recent floods have also made scours or "cuttings" across the bends, and as a result the ordinary channel has become silted up and unnavigable, while the "cuttings," being much narrower and shallower than the river bed, these "cuttings" form a serious impediment to navigation.

The South Australian Government have, by a series of fences in the Lower Murray, done much to prolong navigation in that part of the river, but these efforts are rendered nugatory so long as nothing is done to improve the New South Wales portion of its waters.

No effort has been made to improve the navigation of the Darling for about ten years past, and as may be naturally supposed, the river has become very bad in consequence, and at no time has anything been done by the Government of this Colony to improve the navigation of the Lower Murray.

Your Petitioners respectfully desire to express their high appreciation of the value of the locks proposed to be erected on the Darling River, believing that thereby not only will water be conserved for settlement, but the navigation of the Darling extended, if not made permanent.

Your Petitioners, therefore, humbly pray that you will be pleased to take immediate action to give effect to the wish of your Petitioners as expressed in this our Petition.

And your Petitioners, as in duty bound, will ever pray, &c.

[Here follow 225 signatures.]

Key to Midway Plaisance

- | | |
|--------------------------------|--------------------------------------------------------|
| N ^o 1 Depot | N ^o 8 Chinese Village and Theatre 150 x 255 |
| " 2 Nursery Exhibit | " 9 Morocco Exhibits 150 x 150 |
| " 3 Dahomey Village 150 x 185 | " 10 Panorama of Volcano Kitawaco 135 x 225 |
| " 4 Captive Balloon 205 x 225 | " 11 International Dress & Costume Co. |
| " 5 Austrian Village 185 x 510 | " 12 Ice Railway 60 x 400 |
| " 6 Italian Village | " 13 French Color Press 40 x 50 |
| " 7 American Indian Village | " 14 Ferris Wheel |
| | " 15 Algeria & Tunis 165 x 280 |
| | " 16 Fire & Guard Station |
| | " 17 Street in Cairo 275 x 381 |
| | " 18 Moorish Palace |
| | " 19 Turkish Village 190 x 450 |

- N^o 21 German Village 225 x 160
 " 22 Panorama of Bernese Alps
 " 23 Natatorium
 " 24 Dutch Settlement
 " 25 Japanese Bazar
 " 26 Bogenbeck Animal Show
 " 27 R. R. Station
 " 28 Venice Murano Co
 " 29 Libby Glass Co
 " 30 Bohemian Ware Co
 " 31 Circular R. R. Tower
 " 32 Adams Express Co
 " 33 Exhibit of Fish Industries
 " 34 Model St. Peter
 " 35 National Hygienic (Influenza)
 " 36 Pezom Concessions
 " 37 Lecture Hall Science of Animal Locomotion
 " 38 Indian Bazaar
 " 39 Vienna Cafe
 " 40 Workingman's Home
 " 41 Irish Village

- N^o 42 Laptland Village
 " 43 Diamond Match Co

MAP OF THE BUILDINGS AND GROUNDS OF THE WORLD'S COLUMBIAN EXPOSITION AT JACKSON PARK, MIDWAY PLAISANCE, CHICAGO, ILL. U.S.A. 1893.

Scale: 1000 FT

Issued by the Department of Construction
 D. H. Buchanan, Director of Works

KEY TO State Sites and Buildings

- | | |
|----------------------------|------------------------|
| N ^o 1 Arkansas | N ^o 11 Iowa |
| " 2 California | " 12 Kansas |
| " 3 Colorado | " 13 Kentucky |
| " 4 Connecticut | " 14 Louisiana |
| " 5 Delaware | " 15 Maine |
| " 6 Florida | " 16 Massachusetts |
| | " 17 Maryland |
| | " 18 Michigan |
| | " 19 Minnesota |
| " 9 Idaho | " 21 Missouri |
| " 10 Indiana | |
| N ^o 23 Nebraska | |
| " 24 Montana | |
| " 25 New Hampshire | |
| " 26 New Jersey | |
| " 28 New York | |
| " 29 North Dakota | |
| " 30 Ohio | |
| " 33 Pennsylvania | |
| " 34 Rhode Island | |
| " 36 South Dakota | |
| " 37 Texas | |
| " 38 Utah | |
| " 39 Vermont | |
| " 40 Joint Territories | |
| " 41 Washington | |
| " 42 West Virginia | |
| " 43 Wisconsin | |
| " 44 Virginia | |

Foreign Sites and Buildings

- | | |
|--------------------|---------------------------|
| A. Great Britain | T. Guatemala |
| B. Spain | K. S. J. |
| C. Germany | F. Turkey |
| D. Sweden | M. Norway |
| E. Venezuela | N. Austria |
| F. Haiti | O. Ceylon |
| G. Brazil | P. France a City or Paris |
| H. Nicaragua | Q. Japan |
| I. Costa Rica | R. Canada |
| L. New South Wales | Y. Siam |
| | Z. East India |

Other Buildings and Arrangements

- | | |
|-----------------------------|--------------------------|
| 2a Fire & Guard Sta | o Military Hospital |
| b Claim Bk | p Van Housen & |
| c Restaurant 3m & Lake Food | q Zoo Comp |
| d H. Telegraph | r Jan. Tea House |
| e Light House Exh | s Arcade Stand |
| f Weather Bureau | t Walter, Baker & Co |
| g Life Saving Station | u Peristyle |
| h Type Life Boats | v Statue of the Republic |
| i Angler's Camp | w Columbus Fountain |
| j White Star Line | x Fountain |
| k Park | y Ferris R. & Exh |
| l Children's Exhibit | z Hydras Cooling Plant |
| m Green House | 1 U.S. Wind Engine |
| n Photo Building | 2 Pump Co |

- 1a Ore Yards Mining Dept
 19 W.C. Blyn & Blyn
 17 Mercantile Tailors Assoc
 16 Custom House Annex
 11 Office Bldg Elec Dept W.C.E.
 10 Sites
 1v Express Buildings
 1w Washington Annex Store Bldg
 1x Eagles' Garage Furnace
 1y R. & Signal Tower
 1z Coal Shed
 2a French Commission
 2b Great White Horse Inn
 2c Banquet Hall
 2d Cliff Dwellers

- 2d Crane Co Store
 2e Westinghouse Co's Office
 2f Photo Annex
 2g NY Insulated Wire Co
 2h Electric Fountains
 2i Store House for Oils
 2j Paint Shop
 2k Dwelling
 2l London Provincial Dairy
 2m Whaling Boat
 2n Pavilion

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

REPORT

OF THE

EXECUTIVE COMMISSIONER

FOR

NEW SOUTH WALES

TO THE

WORLD'S COLUMBIAN EXPOSITION, CHICAGO, 1893.

Presented to Parliament by Command.



SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

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(Reproduced from Photographs.)

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REPORT of the Honorable SIR ARTHUR RENWICK, Executive Commissioner to the World's Columbian Exposition at Chicago, U.S., 1893, to His Excellency the Right Honorable SIR ROBERT WILLIAM DUFF, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Member of Her Majesty's Most Honorable Privy Council, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY :—

Having now completed the various duties which devolved on me, in virtue of the Commission which your Excellency's predecessor, The Right Honorable the Earl of Jersey, G.C.M.G., P.C., was pleased in Her Majesty's name and under the Great Seal to issue to me as Executive Commissioner for New South Wales at the World's Columbian Exposition, held at Chicago, United States of America, I have now the honor to present for your Excellency's consideration and approval my Report on the said Exposition, and more particularly on the representation of our country thereat, as well as on various matters which seemed to me of importance in connection with the performance of the duties of my office as Executive Commissioner.

PLAN TO BE ADOPTED IN THIS REPORT.

The magnitude and importance of the World's Columbian Exposition; the very complete representation it afforded of the natural products, manufactures, scientific applications, artistic representations, ethnological and social conditions of nearly every country in the world; the important and interesting facts connected with its initiation, its representation of the leading features and characteristics of ancient and modern civilization, its World's Congresses, and many other matters, render my task no easy one. To convey even a general idea of the whole is one which would tax the powers and the ability of the most gifted. It will be my endeavour simply to bring under the attention of your Excellency such salient features of the Exhibition as may be condensed in the space at my command. To accomplish this purpose I believe my best plan will be to follow the course of the events which have occurred in connection with the performance of the responsible duties of my official position, and to portray in concise form some of the more important features of this World's Fair, the circumstances more directly connected with its history, its site, its architecture, its exhibits, and, in fine, its general nature, as well as to describe the very important and representative position which our country occupied in connection with the Exhibition.

ABSENCE OF EXPERTS FROM OUR COUNTRY.

I consider it my duty to state at the outset that it has been a constant source of regret to me that our country did not send to this wonderful exhibition of the latest advances of science and art a few specially skilled experts to report on such of the exhibits of the various nations as would be of value to our people. Other countries have invariably adopted this course. At the last Melbourne Exhibition the United States Government sent three experts for this purpose; and from the Report of the Commissioner for the United States at the last Paris Exhibition, I find that a number of such experts were sent by the American Government, and their reports—a mine of useful information to the various scientists, artists, and mechanics, as well as to the people at large of the United States—filled five large octavo volumes. Germany, France, and other countries invariably take advantage of the opportunities presented at great Exhibitions, and even Japan on this occasion sent over a large number of learned men for this purpose. The oversight of New South Wales on this occasion was especially to be deplored in view of the extensive and far-reaching character of this Exhibition. I could scarcely examine the contents of any one of the great departments of this World's Fair without having this serious omission impressed on my mind. Notwithstanding the very critical financial condition of the country at the time of the Exhibition, I am of opinion that the money which might have been expended for this purpose would have been infinitely repaid in the valuable information which would thus have been supplied for the information of all classes of the public. In the performance of the various and continuous duties of my office my time as Executive Commissioner was as fully occupied as it possibly could be; but, with an anxious desire that the lessons of this Exhibition should not be wholly lost to us, I have endeavoured, to the best of my ability, to provide, to some extent, this kind of information, and in my efforts I have been greatly assisted by the particulars generously and cordially supplied to me by exhibitors, by the Press and by the officials of the Exposition. I have also obtained and embodied in this report the views of special experts on several matters which seemed to me of importance to certain classes of our people with regard to the most recent improvements in regard to machinery, and advances in science and the like, as exhibited in this Exposition. In the remarks which I have made regarding exhibits, it will be found that I have dealt but briefly with those from our own country, my object being rather to furnish information in connection with the exhibits of other countries than to enter upon a prolonged description of our own.

INITIAL PROCEEDINGS.

Appointment of Commission and Executive Commissioner.

In the instrument appointing the Commissioners upon whom was to devolve the duty of collecting and transmitting the exhibits to the World's Columbian Exposition at Chicago, dated 28th September, 1891, my name was included, and consequently I had the opportunity of taking part in the proceedings of the Commission from its commencement. Subsequently, on 16th October, 1891, I received my Commission as Executive Commissioner (*See Appendix A*); and in that special capacity, recognising that on me would ultimately devolve the responsibility of providing for the proper display at Chicago of the various representative exhibits collected, I took every opportunity, by attending the various meetings of the committees appointed for the collection of special classes of exhibits, and by examining from time to time the various articles themselves, to make myself thoroughly acquainted with the character of our representation. Subsequently, when the President of the Commission left New South Wales for a time,

time, and the necessity for an Executive Officer to the Commission became apparent, the following resolution was passed at a meeting of the Commission held on February 5th, 1892:—"That during the absence of the President, the Secretary confer with the Executive Commissioner on all matters of importance outside all meetings of the Executive Committee and of the Commission." I had still further opportunity of gaining invaluable information for my future work, and of rendering advice and assistance to the Commission.

Departure on Duty.

The more important portion of its work having been completed by the Commission, and a general idea of the scope and character of the exhibits to be forwarded having been obtained, I considered it advisable to leave New South Wales to undertake my special work at Chicago. I considered it my duty, in the continued absence of the President, and in view of the necessity for an executive head, to recommend to the Commission the appointment of an Executive Vice-President.

Appointment of Executive Vice-President.

The two Vice-Presidents who had been appointed in the original instrument, the Hon. Sir Joseph Abbott, M.P., Speaker of the Legislative Assembly, and His Worship the Mayor of Sydney (Sir W. Manning), I was aware were too fully occupied with their important public functions to devote the time and attention, which I knew from practical experience was necessary for the purpose. After consultation with these gentlemen, I wrote a letter to the Hon. the Colonial Secretary, calling his attention to the necessity and importance of such an appointment, and having had the approval of the Government I suggested at a meeting of the Commission held on June 17th, 1892, that J. F. Burns, Esq., who had been created a Vice-President, should be appointed to fulfil the duties I had up to that time performed, until the return of the President, having previously obtained the consent of that gentleman to act in that capacity.

Insurance on Exhibits effected in London.

On June 28th I left Sydney, and arrived in London on the 16th August. In accordance with arrangements made with the Commissioners in Sydney, I immediately made inquiries as to insurance rates and a number of matters of detail. I cabled to Sydney on this subject, and eventually arranged, in accordance with the advice of the Commission, for the insurance of our exhibits to the amount of £25,000 with some of the best insurance companies in England. When this matter was completed I immediately left London for America (on October 11th), in order to be present at the dedication ceremonies of the Exposition. I arrived in New York on October 19th and left next day for Chicago, reaching that city on October 21st.

THE DEDICATION CEREMONIES OF THE EXPOSITION.

The ceremonies in connection with the Dedication of the buildings of the World's Columbian Exposition, celebrating the 400th anniversary of the discovery of America by Columbus, occupied three days. They began on the night of October 19th with a brilliant ball in the Auditorium, at which the Vice-President of the United States, the members of the Cabinet, the Speaker of the House of Representatives, the Chief Justice of the United States, the Associated Justices, the Diplomatic Corps, the Governors of the States and Territories, the Officers of the Exposition, and many other distinguished persons were present. A civil parade was held next day, at which very large numbers

numbers of people were present. On Friday, October 21st, the Dedication ceremonies proper of the Columbian week reached their culmination in the Dedicatory Exercises at Jackson Park.

Under the noble roof of the Manufactures Building the all-but completed Columbian Buildings were formally tendered by the local corporation to the National Commission, and then to the Vice-President of the United States (acting for the President), who then dedicated them in impressive terms to the memory of the great Genoese and the honor and glory of the Republic.

In the language of an able writer who has described the wonderful scene presented on this occasion :—

No circumstance, save only the lamentable absence of the President of the United States, was wanting to contribute to the solemnity and impressiveness of these ceremonies. On the rostrum sat eminent persons from every quarter of the globe. The Vice-President was supported by members of the Cabinet of his Chief, gathered for the first time in the history of the Government at a point a thousand miles distant from the capital. For the first time, also, since the Republic was born, the Chief Justice and his Associates of the Supreme Federal Bench came together outside of their Court. The Senate and the Representative House of Congress sat together almost *en masse*. The chief officer of the Army and Navy were present, surrounded by the flower of their respective staffs. One of the two living ex-Presidents of the United States held a seat of honour. The Governors of thirty States, Officers of the Philadelphia Centennial Exhibition, Members of former Cabinets, the Mayor of Chicago, great divines, orators, merchants, scholars and lawyers, came to sit beside the officers of the Exposition in their hour of final triumph.

Nor were the other nations of the earth absent from the scene. The heir of Catherine of Arragon sent his Deputy to sit beside the venerable minister of that nation, which, if it did not give aid to the Columbian venture gave birth to Columbus himself. From that far-away Cathay which Columbus thought to find, came ministers still fixed in the laws and customs which never change, though new worlds are found and new nations born. The new Republics of South America, whose heritage is the very soil touched by the foot of Columbus, sent messengers to bear their greetings to their older sisters of the North. Ministers, Consuls, and Commissioners, in a word, of all the nations who were to partake in the Great Exposition, were present to share in the glory of its inauguration.

It was a scene of unique splendour upon which these dignitaries looked. They sat upon an inclined platform against the centre of the east wall of the Manufactures Hall, within sound of the unending music of the lake upon the beach. Above their heads was a mass of patriotic colour. Against the background of the Stars and Stripes hung the ancient standard of Spain with its castles and rampant lions on brown and gold, and the gonfalon of Ferdinand and Isabella with their crowned initials flanking the nether arm of the green cross. On either side of these were the white and pale blue flag of the Exposition with its device of the linked crescents and the laurel crown, and the white and terra-cotta flag which a Danish artist has given to Chicago. Pendent from the roof were the flags of all nations. In the unending arches of the great building the American Flag or "Old Glory" was repeated again and again, mingled with the flags of the friendly nations.

The decorations, though simple, were upon a scale which it is difficult to conceive, unless one were present to observe the large spaces and the immense iron arches almost wholly concealed beneath the graceful folds of bunting streamers. The Speaker's stand and the great inclined platform reserved for the dignitaries was at the centre of the east side of the building. In front of it were the Press seats, hemmed in behind a pretty hedge of blossoming plants. In the centre of the platform was a raised platform in the shape of a semi-circle, extending out towards the audience portion, for the Vice-President, the Speakers, and high officers of the Exhibition, and others. Over the Speaker's table was draped a silken banner of the stars and stripes. Behind the table extended a magnificently carpeted broad aisle which separated the distinguished spectators portion, and over all was a grand festoon of American flags with the American eagle spreading his wings out from the centre. Along the galleries were groups of palms waving their tops among the suspended points of hanging streamers, and from the centre of the ceiling along its full length hung great silken American flags. The great windows at the west side of the building were covered over with cloths of white bunting to subdue the light. The floral decorations in the Manufactures Building were remarkable in design and rare and beautiful in appearance, the immense tree ferns from New South Wales being well to the front, and adding in no small degree to the harmony and beauty of the memorable scene. The decorations of the great building, while not at all diffuse, were sufficient to hide the immense trusses of the structure, break the distances, and make the building look like a grand musical palace. At the south end of the great hall was the stand for the orchestras and choruses, in which about 5,000 people were congregated. About 125 to 150,000 people were assembled in the great building, perhaps the largest number of persons ever congregated under one roof at one time.

In Appendix C will be found a full description of the proceedings at these ceremonies.

Illuminations

Illuminations at Night.

There was a variety of gorgeous illuminations at night in the Exposition grounds, and in fact a special feature of the three days exercises was the striking spectacle of the "Procession of Centuries" given on the Fair Grounds on the nights of October 20th, 21st, and 22nd.

Inauguration of the World's Congresses.

On the evening of the 22nd October, a large meeting, representative of American and foreign distinguished men and women, and consisting of diplomatists and Governors, statesmen and eminent jurists, scientists and artists, Church celebrities and society leaders, took place at the Auditorium to inaugurate the World's Congress Auxiliary. The motto of the Auxiliary was "Mind not Matter," and its object was to consider by means of its various meetings and discussions the present position and future development of all subjects outside of mere material progress. As the Exhibition represented the countless forms of material wealth, and resources, so the Congress was expected to unfold the mental, moral, and spiritual outcome and expectation of humanity, and thus it was anticipated that the humanities would not be overlooked by the necessary, the beautiful, by the useful, or the religious, by the practical everyday forms of life. The various meetings of these Congresses were subsequently held in the Art Institute of Chicago, a large building recently erected on the Lake Shore, near Van Buren-street. The cost of this building was defrayed by the Exposition authorities in part, on condition that the large rooms of the building should be at the disposal of the meetings of the various Congresses and their Committees during the currency of the Exposition. In Appendix D will be found a summary of the proceedings as well as the eloquent speech of Archbishop Ireland on the occasion, and at a later stage of this report further reference will be made to this subject.

ARRANGEMENTS AS TO SPACE FOR OUR EXHIBITS.

Object of my visit to Chicago on this occasion.

The principal object of my visit to Chicago at this time was to examine the various departmental buildings of the Exposition, and to obtain reliable information as to the allotment and location of space reserved for New South Wales. To determine these matters I found it necessary to visit the Exhibition buildings, at Jackson Park, almost daily, and, eventually, to attend on the chiefs of departments in their temporary offices in the Rand-McNally Building in Chicago. I found, to my surprise that, although most of the great nations represented had already been allotted their space in the several buildings, nothing of a definite character had been settled as regarded our country. It is true that our Premier, Sir George Richard Dibbs, had been informed by cable, while in England, that 50,000 feet had been reserved for us; but I found that the principal portion of this space was contained in the stock annexes and other out-of-the-way departments. The space for our valuable and representative mining exhibit had been fixed at about 4,000 feet only, and in many other matters the importance of our representation had been altogether overlooked. Endless interviews and negotiations followed, and at one time I thought that it would be necessary for me to withdraw altogether from representation on this account. But ultimately, through the kindness and unswerving assistance of Director-General Davis and the chiefs of the departments, this important matter was settled almost to my satisfaction. To show the difficulties that surrounded this question of allotment I may instance one case only, that of the space for our mineral display.

In

In order to obtain anything like the space required, several great countries had to be removed. Belgium was removed to another part of the Mines Building, and the boundary of France was modified; and Cape Colony was removed from the location determined for its exhibit. All this had to be done in the face of the fact that official notification had been given to these countries of their allotment; and had it not been for the constant use of the telegraph, and the friendly support of the officers of the Exposition, the matter could not have been satisfactorily determined.

In regard to two of our departmental exhibits I did not obtain a satisfactory settlement. In the Woman's Building only a limited space was granted. In regard to this matter there must have been originally some misunderstanding. This building was erected, not primarily as a building to receive exhibits of woman's work but rather for official purposes; and the exhibits it was to contain were only to be of such a nature as to represent special exhibits of woman's work of a peculiarly characteristic and national nature. In the Fine Arts Building I found that no space whatever had been allotted to us, and that there was none that remained for allotment. In this matter I was advised to apply to Great Britain for space for our purposes, as I subsequently did.

Question of Offices in the Exposition.

Amongst other matters brought under my attention when in London was the question of offices; and in conversation with members of the British Royal Commission, some of whom had already visited Chicago, it was suggested to me that it would be well to obtain a portion of the British Government Building (Victoria House), then being erected for that purpose. A definite offer in this matter was tendered to me by Sir Henry Trueman Wood, Secretary to the British Royal Commission; and an upper wing, containing three or four rooms, was offered to me for the sum of £1,000 for the season of the Exhibition. At the time I deferred acceptance of the offer until I had the opportunity of visiting Chicago. I examined Victoria House when in Chicago, and found that for many reasons it would be undesirable to accept the kind offer of the British Commission. It appeared to me that it would be a most important matter that New South Wales should possess a State House, as it is termed, of its own, where we could always receive our own visitors, fly our own flag, and transact all our business, if this great purpose could be accomplished at any reasonable rate. On this occasion I applied for the necessary grant of land for the purpose from the Exposition authorities, and obtained plans and estimates for the proposed building. The site I selected seemed very suitable, adjoining that granted to the Dominion of Canada, very near that of Great Britain, having Spain and Germany at the rear. The estimates for the building were reasonable, very little more than the amount asked for the apartments in Victoria House. The plan and elevation were settled at once, and I adopted as the most useful and inexpensive form of building a general representation of the old Sydney Post Office. For the sum of about £1,000 we obtained a building, erected of staff and wood only, but very commodious and very imposing, which, as I shall hereafter relate, formed eventually a most useful and conspicuous centre of reception for Australian visitors, a necessary suite of offices, and a Fine Art hall for our pictures.

Arrival of Mr. General Superintendent Hudson.

Having completed all these matters, just before leaving Chicago I received a telegram announcing the arrival of Mr. Robert Hudson, our General Superintendent, at San Francisco. Mr. Hudson's telegram informed me that he had come over thus early to settle the route and
the

the rates for the carriage of our exhibits from Sydney. I was surprised at this information, as I had definitely informed the Commission in Sydney, before leaving, that this was a matter which I should inquire into and report on to the Commission. As a matter of fact I had already seen most of the great railway companies running between Chicago and New York and other Atlantic Ports on the subject with a view to obtain the easiest possible terms. Mr. Hudson, subsequently, showed me an offer he had obtained while in San Francisco, and this offer was so much below that ordinarily quoted, that I could scarcely believe that his information was correct. As I had already arranged for my departure for London, I stated my opinion that if such an offer could be obtained it would be a very fortunate matter for the Commission. Mr. Hudson, after I left Chicago, found that the offer referred to had been confirmed by the railway and steamship companies. It was unfortunate that Mr. Hudson did not refer this matter to the Commission for final settlement, but I am sure that his great anxiety to obtain what then seemed, and since then has proved, most reasonable and satisfactory terms for the conveyance of our exhibits, made him overlook his official duty in this matter.

Departure for London—General Superintendent left in charge.

Leaving Mr. Hudson in charge, so that our representation should have a responsible person at headquarters to attend to a number of matters of detail, I left Chicago on November 10th, 1892. Before doing so I left written and explicit directions with the General Superintendent as to his course of action and plan of conduct during my absence.

REPRESENTATIVE WORK IN LONDON.

Request for Space in Fine Arts Palace and in Mines Building refused by British Commission.

Immediately after my arrival in London on November 20th several matters of importance engaged my attention. Knowing the desirableness of having adequate space in the Fine Arts Palace of the Exposition I had many interviews with the Secretary of the British Royal Commission (Sir Henry Trueman Wood) for that purpose, and Sir Saul Samuel, our Agent-General, gave me special assistance in the matter. As I was well aware that Great Britain did not propose to have a very large exhibit in the Mines and Mining Building I also asked the British Commission for some arrangement whereby my desires in this respect could be complied with. With regard to both these matters I was unsuccessful. While the British Commission expressed the desire to assist us in every possible way it was stated that they were unable to grant my request. At this time, also, I finally dealt with the terms and conditions of the policies of insurance of our exhibits in the English offices in conjunction with Sir Saul Samuel, who afforded me on this and on many other occasions very valuable assistance.

R.M.S. Orient Company's Exhibit.

Another subject which engaged my attention was that of the exhibit of the Orient Steam Navigation Company. This exhibit had been requested in Sydney, and correspondence with the head office had taken place, but no definite result had been arrived at. After several interviews at the head office of the Company I agreed to accept as an exhibit, under the usual conditions, the beautiful model of the R.M.S. "Austral," at that time an exhibit in the Imperial Institute, together with certain photographs of the R.M.S. "Ophir," &c.

Decorations

Decorations supplied by Pain & Co., of London and New York.

At this time, also, I entered into general negotiations with the well known firm of Pain & Co. (who had been engaged by the British Commission), for the supply of flags, trophies, and other decorations for our various courts; my orders to reach them, and to be provided at schedule rate for their supplies, after I had made the necessary arrangements in Chicago.

Return to Chicago.

As soon as the exhibits from Sydney were announced as having arrived in America, I left London on January 21, 1893, and arrived in New York on January 30, and left next day for Chicago, where I arrived on February 1, and at once entered fully upon my arduous and responsible duties as Executive Commissioner.

Weather, &c., in Chicago.

The weather at that time was very severe; the lake was frozen for several miles from the coast line; the temperature rarely rose at mid-day above 16 degrees Fahrenheit, and frequently fell from 10 to 15 degrees, and even 20 degrees below zero. The streets were a mass of snow, and footways were covered with a thick slippery coating of ice, causing accidents, often of a very serious nature, to be quite a common occurrence.

Loss by Freezing of all our Light Wines, Beer, &c.

The first news I received on my arrival was that all our light wines and our ale and porter had been destroyed by the cold, and I was compelled at once to cable to Sydney for duplicate exhibits and to obtain from the local authorities extension of time for their admission, which was at once granted, on my application. The state of the grounds at the Exhibition was simply frightful. To give an illustration of these difficulties, I may mention that in the offices in which we were temporarily located in the Mines building, although there was an immense stove to heat the room, the ink was frozen in the bottles, and correspondence was carried on under great difficulty. Officers in the Administration Building were frequently during this period unable to carry on their work. As if these circumstances were not enough to discourage, I found additional cause of trouble and anxiety in the fact that no catalogue had come with the exhibits. This circumstance, as was explained in correspondence from the Commission in Sydney, occurred in consequence of the overworked state of the Government Printing Office staff at this particular time. I further found when the cases were opened to identify the contents that the labelling intended for the direction as to which department the cases belonged to was in a considerable number of instances wrongly done according to official classification, and thus the expense of removal, on account of the great distance between the buildings, was vastly increased, and all the troublesome processes (permits, official notification, &c.) required in a great custom-house, such as the Exposition was in reality, had to be gone over again and again.

Spaces in the various Buildings marked out.

As soon as I had compared our various goods, as received by the first shipment, with the manifest forwarded by the Commission, I requested the authorities to mark out our various spaces in order that I might prepare our courts for the reception of their exhibits. I soon discovered that I had not only an arduous but also a most expensive task to perform. The vastness of the buildings of the Exposition necessitated the erection of screen walls of timber on all sides; rarely were wall spaces available, and the large number of enlarged photographs which had been prepared for our purposes added to this expense. The floors of the buildings were not strong enough to sustain many of our

our structures, especially in the Mining and Agricultural Courts, and I was compelled to make foundations for this purpose. There was some delay and considerable difficulty in obtaining skilled persons to stuff and mount the several hundred specimens of natural history sent from Sydney. And, lastly, the cases and tables required by all the Departments (except Mines) had to be prepared. Not an inconsiderable item of expense was entailed in connection with the framing of the very large number of enlarged photographs sent, and as the regulation for the admission of exhibits to the Fine Art Palace required all oil paintings to be suitably framed, this item of expense would run into a much larger sum than I had originally anticipated. For several weeks after my arrival the snow fell so heavily that the roofs of several of the great buildings were broken by its weight, and leaks innumerable added to the difficulties connected with the carrying out of our work.

Rearrangement of duties of Officers for purposes of installation.

In consequence of these difficulties, and the great distances between the buildings and other matters, I saw clearly that if our work of installation was to be completed with due economy before the date of opening (the 1st May), it would be necessary for me to adopt a system quite different from that employed in former Exhibitions, and from that which I had originally intended. I therefore determined to divide the onerous duties of preparing and placing the exhibits in the following way:—To Mr. Hudson I allotted the task of placing the exhibits in the Forestry, Agricultural, Machinery, and Transportation Buildings; to Mr. Pugh those in Horticulture, Fisheries, Fine Arts, and Ethnology; to Mr. Carne, with Mr. Ford, Mines; to Mr. Terry, Liberal Arts and Manufactures; whilst I personally supervised all, and guarded with the greatest care the necessary expenditure.

Grand principle of installation.

From this time forward till the opening of the Exhibition, on the 1st May, I was busily occupied from day to day with the various arrangements connected with the display of our exhibits as the various shipments arrived from Sydney by way of San Francisco. The great principle that I continually impressed upon my Superintendents was to produce a conspicuous display, in massive form, as far as possible, in each building, so that the attention of the most careless and casual visitor should at once be attracted to our representation; and I am glad to report that by the arrangements which I made in this respect with the exhibits of our country, I fully accomplished this very important purpose, as will be shown in a latter part of this Report. As showing the appreciation by other countries of my mode of displaying exhibits, I have been informed that the Canadian authorities have given instructions that the Dominion exhibits at the Antwerp Exhibition are to be arranged in accordance therewith.

Extension of space in Liberal Arts Department granted by British Commission and in Fine Art Palace by American Authorities.

I am glad to report that, although the British Commission refused to grant us any space in their Fine Arts Courts for our pictures, I received from that Commission an extension of our space in the Liberal Arts Building (adjoining the British exhibits), and shortly before the opening of the Exhibition in May, by the courtesy of the Director-General and Chief Ives, of the Fine Arts Palace, I received the concession of a bay for twenty of our pictures in the gallery of that building, over the British space. A further privilege was granted to me by the authorities of the Exposition. I was allowed to employ the wall space of our State Building (Australia House) as a branch of the Fine Art Palace, the pictures placed there to be subject to all the rules and regulations affecting those placed in the Palace.

Space

Space in New South Wales Courts.

It may be well to state in this place the exact amount of space our country occupied in the several departments of the Great Exhibition. The exact position of the spaces will be found on Plan, marked in blue colour :—

	Floor.		Wall.	
	sq. feet.	sq. feet.	sq. feet.	sq. feet.
1. Agriculture— Three Courts ... ..	...	8,693	...	13,600
2. Forestry— Main Building	2,400	3,098	...	...
Block Road	594		...	
Cedar Block	104		...	
3. Machinery ... ..	...	1,425	...	1,700
4. Transportation— Main Building	1,071	1,773	...	2,056
Annex	702		...	
5. Fine Arts— Main Building	270	3,870	444	5,444
A. House	3,600		5,000	
6. Fisheries ... ..	...	1,656	...	600
7. Liberal Arts— Three Courts	6,247	6,247	...	10,164
8. Manufactures		5,090	
9. Mines and Mining	8,300	...	1,478
10. Ethnology— Bark Hut	300	4,666	...	6,702
Main Building	4,366		...	
11. Horticulture— Fern Court	3,780	5,749	...	2,450
Fresh Fruit	400		...	
Pressed	364		100	
Wine Court	765		1,250	
Photos	440		1,100	
12. Woman's Work ... ..	...	384	...	1,200
13. Space round Australia House, Asphalt, Tiles, &c. ... ..	...	6,200	...	...
Total, Floor Space ... ..	...	57,151	...	55,252

Summary of Goods forwarded from Sydney.

The various shipments of goods received by me at Chicago for exhibition purposes, as stated in the various manifests, was as follows:—

Ship.	Date of manifest.	No. of packages.	Measurement.		Weight.			Value.			
			ft.	in.	t.	c.	q. lb.	£	s.	d.	
Alameda	28 Nov., 1892	999	9,426	11	149	18	3	3	6,901	0	0
Mariposa	26 Dec., 1892	2,364 & 8,000*	16,760	1	287	12	3	1	15,361	5	0
Monowai	23 Jan., 1893	321	4,142	11	42	7	3	10	4,073	8	2
Alameda	20 Feb., 1893	50	482	3	4	7	3	12	2,893	15	0
Ophir	25 Feb., 1893	7	25	0	0	6	2	8	6,872	0	0
Mariposa	20 Mar., 1893	51	156	6	1	16	2	19	342	13	0
Oroya	25 Mar., 1893	17	29	3	0	7	0	3	7	12	10
Orient	5 April, 1893	22	46	10	0	10	1	27	14	15	10
Monowai	17 April, 1893	25	109	3	1	15	2	6	85	15	6
Alameda	15 May, 1893	84	458	6	6	12	1	14	990	19	6
Mariposa	12 June, 1893	8	85	5	1	7	3	4	251	0	0
Monowai	10 July, 1893	7	103	7	1	0	0	17	183	0	0
Miowera	18 July, 1893	1	7	11	0	2	0	10	11	0	0
Alameda	7 Aug., 1893	3	29	1	9	3	0	26	134	10	0
Mariposa	4 Sept., 1893	1	10	4	0	3	2	3	50	0	0
			31,873	10†	507	12	2	23	38,172	14	10

* Wooden blocks for paving.

† equal to 796 tons, 33 ft. 10 in.

WHY CHICAGO WAS SELECTED AS THE SITE OF THE WORLD'S
COLUMBIAN EXPOSITION.

It will be of interest at this stage to refer to the question, so frequently agitated in connection with this Columbian Exposition; why the city of Chicago was selected by the American Congress as its site.

In the selection of a location for the Columbian Exposition the Congress of the United States encountered a difficulty such as no legislative body had ever experienced when considering such a subject. In older countries the capital ranks so far ahead of other cities that the mere suggestion of an International Exposition carried with it the understanding that the seat of such Exposition should be the national capital. Thus London, Paris, Berlin, Vienna, and other European capitals have been acknowledged to possess an unchallenged right to an International Exhibition whenever their respective countries have decided to hold such a celebration. In the United States, however, the spirit of democracy is carried even to the extent of rivalry between the great cities of the country in these matters. Thus it happened that there were at least five cities of such metropolitan character that any one of them could have adequately provided for the needs of an International Exposition. New York, Chicago, Philadelphia, Boston, and St. Louis were all of the rank of Exposition cities. At any one of these the Columbian Exposition might have been held with fair assurance of success as soon as the announcement of the World's Columbian Exposition had been definitely settled. Between three of these—New York, Chicago, and St. Louis—ensued a friendly contest, as to which should have the honor of entertaining the visitors of the Exposition. The result of this contest was the selection of Chicago, and the more or less graceful acceptance of that selection by the country at large.

History of the Exposition.

The history of the World's Columbian Exposition is a tale of modern miracles; of the achievements of great results in a marvelously short space of time. It is a string of cold facts that surpass fiction in their strangeness, and that will stand for ever as a mighty monument of the admirable enterprise and indomitable spirit of Chicago and its people.

Little more than three years had passed since the first suggestion for an American International Exposition, to mark the four-hundredth anniversary of the discovery of the continent, was made. The Paris Exposition was in full blast when the suggestion reached Chicago, and that city promptly took action in the matter. Very little consideration of the proposition was needed to convince the average Chicagoan that if a Columbian Exposition was to be held at all it must be held in the great Metropolis of the West—his own beloved city, which stands to him for all that is most enterprising and public spirited in American civilisation.

First Public Procedure.

It was on the evening of July 23rd, 1889, that the first public step was taken in regard to securing the World's Fair for Chicago, and then began the memorable struggle between New York and Chicago. The City Council of Chicago, on the date named, formally resolved that it would be good policy to make every effort to secure the Fair, and took the initiative by authorising Mayor Cregier to appoint a Committee of two hundred and fifty citizens to superintend the preliminary work. This Committee was appointed by the Mayor on July 30th, 1889, and held its first meeting in the council chamber at the City Hall on August 2nd. The best known, the wealthiest, and the most truly representative citizens of Chicago attended that meeting. Before the meeting adjourned a Stock Company, with a capital of \$5,000,000,
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was established, and its affairs were placed in the hands of a small Executive Committee. Next day the work of the Committee of two hundred and fifty was divided among numerous Sub-committees, and popular enthusiasm in the work began to develop.

Further Stages.

On August 5th, 1889, an offer was made by George M. Pullman of a site for the proposed Exhibition near the town of Pullman. This site was so large that the entire Paris Exposition might have been put in one corner of it. The offer, while it was not ultimately accepted, served to open the eyes of the people of Chicago to the magnificent possibilities of their city as a World's Fair Site; and on the same day the Trades Assembly, representing all the organised labour of Chicago, unanimously resolved to put forth every possible effort to secure the Fair. Every trade, profession, and branch of business began to organise separately to attain the common object, and the advantages of Chicago were duly set forth in a formal address, issued August 13th, to Congress and the United States. On August 16th the Finance Committee perfected its plans for raising funds, and twelve days later it was announced that half the capital stock of the new Exposition Company had been subscribed. From that time money rolled in rapidly, and on September 20th came the cheering news that the entire \$5,000,000 of stock had been taken up. Among the large subscribers were Charles T. Yerkes, George M. Pullman, and Marshall Field, all of whom have been steadfast friends of the Fair from its earliest inception down to the present time. No sooner had the public announcement been made that the \$5,000,000 was raised than New York's opposition to Chicago developed. The news that the eastern city was a candidate for the Fair was made public on September 25th, and it was said that she would raise the sum of \$10,000,000 as a guarantee for the proper performance of her contract if given the Fair. From September, 1889, to February, 1890, the battle between the rival cities was waged without ceasing, in and out of Congress, and there are few who have not heard of the immense amount of wirepulling and political manœuvring that marked the struggle. All the forces of the East were arrayed against the influences of the West, but the men of Chicago stuck fast to their colours and won the victory.

First Congress reports favourable to Chicago.

The first Congressional reports, made in the last week of October, 1889, were favourable to Chicago, but its representatives relaxed no effort until the great struggle finally ended in victory on February 24th, 1890. On that date Congress passed the Act creating the World's Columbian Commission under the title of "An Act to provide for celebrating the four-hundredth anniversary of the discovery of America by Columbus, by holding an International Exhibition of arts, industries, manufactures, and the products of the mine, soil, and sea, in the city of Chicago, in the State of Illinois." [*The Act will be found in Appendix E.*]

Monetary Difficulties.

Chicago had won its victory, but the difficulties of its representatives were only then beginning. New York had agreed to raise \$10,000,000 as a starting fund for the Fair, and among the conditions imposed on Chicago by Congress was one to the effect that she must do as New York had promised to do. Consequently the next few months were spent in work among the aldermen of Chicago and the State legislators at Springfield, the capital of Illinois, in an effort to secure the appropriation of the second \$5,000,000. Some internal jealousies and dissensions had developed among the stockholders during the winter of 1889-90, even while the fate of the World's Fair was pending in Congress, and for a while these troubles looked dangerous.

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All such feelings had to be nipped in the bud in the case of the Exposition Company or its glorious object would have been endangered. The necessary remedy was applied on April 4th, 1890, at a meeting of the stockholders for final organization. Chicago had already been selected by Congress as the place for holding the Fair, and the eyes of the world were turned upon this city with eager watchfulness. There was tumult over the election of directors at the meeting, and things looked dark and threatening indeed, when the Hon. Thomas B. Bryan, in a ringing speech, warned the stockholders that they were being watched by the entire world, and that it behoved them to act in harmony or throw up their undertaking. The warning was timely, and had immediate effect. Petty jealousies were laid aside, and everybody began to work for the general interest of the Exposition, regardless of personal or individual interests. This policy has happily characterized the management of the Exposition ever since, and to it is largely due the immense effectiveness of the work already done. After some months of weary work among the State legislators, authority was finally secured to bond the city of Chicago for the second \$5,000,000 needed for the Fair, and then the Directors of the Company began to breathe more freely.

Jackson Park as Site of the Exposition first mooted.

From February to September, 1890, the site of the Exposition occupied the attention of Chicago. At an early stage the suggestion to use the lake front near the busy portion of the city was greatly favoured by public opinion, but the difficulties in the way of the acceptance of this locality seemed almost insuperable, and this proposal, like that of Garfield Park in the west side of the city and others, was finally abandoned. The Jackson Park plan of the site, prepared by John P. Root, which formed the basis of those ultimately adopted, was made public on the 5th March, 1890, and, after a controversy extending over several months, the advantages of Jackson Park and the Midway Plaisance became so apparent that this site was finally adopted.

Early Proceedings of Directors.

The first meeting of the Directors of the Exposition Company was held on 13th April, 1890, and the first officers were elected on 1st May. Standing Committees were appointed and official salaries fixed on 7th May.

Increase of Capital Stock.

On 13th June, 1890, the Directors resolved to increase the capital stock of the Exposition Company to \$10,000,000, and this was accordingly done. Subscriptions for the additional stock were received, and it soon became evident that Chicago meant to distinguish itself by liberal treatment of the Fair. The Hon. Thomas W. Palmer was elected President, and Colonel John T. Dickinson Secretary, of the National Commission, 28th June, 1890. These gentlemen retained these positions till the close of the Exposition, and, in common with all other National Commissioners, have done yeoman service for its welfare.

Colonel Davis appointed Director-General.

The foundation of the permanent organisation of the Exposition was laid on 20th September, 1890, when George R. Davis was elected Director-General by the National Commissioners and Local Directors. Colonel Davis immediately set about the work of organising departments, and soon evolved a plan which was adopted after some weeks of disputations, argument, and controversy as to the powers of his office in relation to those of the Local Directorate. It gradually became recognised that the Exposition, to be thoroughly successful

successful from the start, must have an administrative head, and the Director-General was finally left in the enjoyment of supreme power over all the Exhibition departments. Subsequently to Colonel Davis' appointment the work of preparing for the Exhibition progressed steadily, and Jackson Park was surely transformed from a dismal morass into a city of white palaces, exemplifying the most perfect architecture, and conveying to the mind of the visitor profound admiration for the aggregated genius that had achieved so much in so short a time. The appearance of the Exposition Buildings at Jackson Park, and of the charming landscape that surrounds them, has become familiar to visitors, and all that need be added at this stage is that the *tout ensemble* has evoked the wonder of the millions who have had the opportunity of visiting it.

Co-operation of Women.

From the outset of the Exposition undertaking the women of America exhibited the liveliest interest in it, and their co-operation was early invited. On the day after the election of Colonel Davis as Director-General a Board of lady managers was appointed, which, under the presidency of Mrs. Potter Palmer, has laboured without ceasing for the general good of the enterprise, as well as in the specific direction of securing a complete representation of woman's work. In every State of the Union and in every country of the civilised world the influence of the lady managers has been exerted, and, as a consequence, one of the most interesting of all the buildings at Jackson Park was the Woman's Building.

Progress of the Work.

The winter of 1890-1 was a very busy one for the Director-General and his coadjutors. A Board of Architects was appointed, consisting of eminent men, selected generally from the United States. When the work of construction commenced in the spring of 1891 the gigantic and expensive nature of the undertaking was fully recognised, but the indomitable spirits of the chief movers in this great enterprise were not daunted at the prospect. As a consequence, there have arisen from the swamps and the sandhills of the erstwhile dreary "Jackson Park" the most magnificent Exhibition Buildings the world ever saw, set in a framework of picturesque scenic beauty.

State Boards of Managements.

The year 1891 also witnessed the appointment of many of the State Boards of Managements. Nearly all the States provided appropriations for their exhibits, and took an active interest in the success of the Exposition. These appropriations amounted to several millions of dollars, and betokened the sisterhood of the States in a very tangible way. Most of the States making appropriations had separate official buildings at Jackson Park.

Internal Management.

There were comparatively few changes in the internal management of the Exposition. During most of the time there were two governing bodies—the Local Directorate and the Board of Control of the National Commission. As might have been expected, frequently there was friction between these two authorities, and in order to obviate the difficulty, and at the same time simplify matters, a compromise agreement was reached in the month of August, 1892, whereby a Council of Administration, composed of two members from each of the old governing Boards, was placed in supreme control of everything, including the finances. This Council worked with comparatively little friction and gave fairly good satisfaction till nearly the close of the Exposition.

Director-

Director-General Davis' plan for dividing the work of the Exposition into a number of departments was adopted late in November, 1890, and worked well throughout the whole course of the Exposition. The following are the departments, with the names of their respective chiefs:—

- A. Agriculture, Food and Food Products, Farming Machinery, and Appliances—Chief Buchanan.
- B. Viticulture, Horticulture, and Floriculture—Chief Samuels.
- C. Live Stock, Domestic and Wild Animals—Chief Buchanan.
- D. Fish, Fisheries, Fish Products, and Apparatus of Fishing—Chief Collins.
- E. Mines, Mining, and Metallurgy—Chief Skiff.
- F. Machinery—Chief Robinson.
- G. Transportation Exhibits: Railways, Vessels, Vehicles—Chief Smith.
- H. Manufactures—Chief Allison.
- J. Electricity and Electrical Appliances—Chief Barrett.
- K. Fine Arts: Pictorial, Plastic, and Decorative—Chief Ives.
- L. Liberal Arts, Education, Engineering, Public Works, Architecture, Music, and the Drama—Chief Peabody.
- M. Ethnology, Archæology, Progress of Labour and Invention: Isolated and Collective Exhibits—Chief Putnam.
- N. Forestry and Forest Products—Chief Buchanan.
- O. Publicity and Promotion—Chief Handy.
- P. Foreign Affairs—Chief Fearn.

Space in Building.

The total space in the official Exposition Buildings was about 3,500,000 square feet, allowing space for the necessary aisles and pathways. This space proved altogether inadequate to meet the demands made by intending exhibitors, and it was affirmed by the authorities that if everybody had been granted the space asked for, the Exposition Building might have been filled twice over with exhibits.

Terms and Conditions of the Act.

At this stage I may be permitted to refer to the legal and official procedure founded on the Act of Congress. The Act of Congress was passed and approved by the President of the United States on April 25th, 1890, and, as I have said, its full text will be found in Appendix E. The Act declared that it was fit and appropriate that the four-hundredth anniversary of the Discovery of America be commemorated by an exhibition of the resources of the United States of America, their development, and of the progress of civilization in the New World. The Act further declared that such an exhibition should be of a national and international character, so that not only the people of the Union and this Continent, but those of all nations as well, could participate, and should, therefore, have the sanction of the Congress of the United States. To carry out this purpose the Act provided that an Exhibition of Arts, Industries, Manufactures, and Products of the Soil, Mine and Sea, should be inaugurated in the year 1892, in the City of Chicago, in the State of Illinois; a Commission was provided for, consisting of two Commissioners and two alternates for each State and Territory in the district of Columbia, and eight Commissioners and eight alternates at large, all of whom were afterwards commissioned by the President of the United States. This Commission and a Corporation organized under the State of Illinois, under the title of the "World's Columbian Exposition," were jointly charged with the task of making all needful preparations for the Exposition, and conducting it to a successful termination.

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The Commission was composed of representative citizens of the various States and Territories comprising the United States, while the Directory of the Illinois corporation contained some of the wealthiest, best known, and most successful business and professional men in the City of Chicago.

Proclamation of President Harrison.

As the next important public step in connection with this matter the President of the United States issued a proclamation notifying the world that the Exposition would be held at the time and place named in the Act of Congress, and inviting all Foreign Countries to take part in the same.

The Proclamation was as follows :—

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A Proclamation.

WHEREAS satisfactory proof has been presented to me that provision has been made for adequate grounds and buildings for the uses of the World's Columbian Exposition, and that a sum not less than \$10,000,000, to be used and expended for the purposes of said Exposition, has been provided in accordance with the conditions and requirements of section 10 of an Act entitled "An Act to provide for celebrating the four-hundredth anniversary of the discovery of America, by Christopher Columbus, by holding an International Exhibition of Arts, Industries, Manufactures, and the Products of the Soil, Mine, and Sea, in the City of Chicago, in the State of Illinois"; approved, April 25th, 1890: Now, therefore, I, Benjamin Harrison, President of the United States, by virtue of the authority vested in me by said Act, do hereby declare and proclaim that such International Exhibition will be opened on the first day of May, in the year eighteen hundred and ninety-three, in the City of Chicago, in the State of Illinois, and will not be closed before the last Thursday in October of the same year:

And in the name of the Government and the People of the United States I do hereby invite all the Nations of the earth to take part in the commemoration of an event that is pre-eminent in human history, and of lasting interest to mankind, by appointing representatives thereto, and sending such exhibits to the World's Columbian Exposition as will most fitly and fully illustrate their resources, their industries, and their progress in civilization.

In testimony whereof I have herewith set my hand, and caused the Seal of the United States to be affixed. Done at the City of Washington, this twenty-fourth day of December, in the year of our Lord, one thousand eight hundred and ninety, and the Independence of the United States the one hundred and fifteenth.

By the President,

BENJ. HARRISON.

JAMES G. BLAINE, Secretary of State.

Formal invitations to Foreign Governments to participate in the exposition, and to appoint representatives thereto, were issued by the State Department at Washington, together with the regulations adopted by the Commission, the letters of which were transmitted to the diplomatic representatives of Foreign Nations for publication in their respective countries. The following Foreign Countries accepted the invitation of the Government of the United States, and were represented at the Columbian Exhibition, having made the financial provision for the more or less adequate representation of their products and resources:—Argentine Republic, Austria, Barbadoes, Belgium, Bolivia, Brazil, British Guiana, British Honduras, Canada, Cape Colony, Ceylon, Costa Rica, Denmark, Danish West Indies, Ecuador, France, Germany, Great Britain, Jamaica, New South Wales, Norway, Trinidad, Greece, Guatemala, Hayti, Honduras, Japan, Liberia, Mexico, Netherlands, Dutch Colonies, Nicaragua, Paraguay, Peru, Russia, Spain, Sweden, Uruguay, and others. Several countries were represented quasi-officially, such as India, and special representations were made of the customs, the products, and the antiquities of various other countries. The day for the dedication of the buildings was fixed for 19th October, 1892, and it was decided that the opening of the Exposition should take place on 1st May, 1893, and that the Exposition should close not later than the 30th day of October of the same year.

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As regards foreign exhibits, section 11 of the Act of Congress provided that all articles which shall be imported from Foreign Countries for the sole purpose of exhibition at the said Exposition, upon what then shall be a tariff or customs duty, shall be admitted free of payment of duty, customs fees, or charges, under such regulations as the Secretary of the Treasury shall prescribe; but it shall be lawful at any time during the Exhibition to sell for delivery at the close of the Exposition any goods or property imported for and actually on exhibition in the Exposition Buildings or on its grounds, subject to such regulations for the security of the revenue and for the collection of the import duties as the Secretary of the Treasury shall prescribe: "Provided that all such articles, when sold or withdrawn for consumption in the United States, shall be subject to the duty, if any, imposed on such articles by the revenue laws in force at the date of importation, and all penalties prescribed by law shall be applied and enforced against such articles and against the persons who may be guilty of any illegal sale or withdrawal."

Copies of the Customs rules and regulations, prepared by the Secretary of the Treasury, 5th November, 1891, with reference to the admission of foreign goods, will be found in Appendix F, and the general regulations for foreign exhibitors, issued by the Director-General of the Exposition, in Appendix G.

It was also determined that awards designed to indicate some independent and essential excellence in the article exhibited, and as an evidence of advancement in the state of the art represented by it, should be granted, upon specific points of excellence or advancement, formulated in words by a board of examiners or judges, who will be competent experts; and the evidence of such awards should be parchment certificates, accompanied by bronze medals. It was expected that such awards would constitute an enduring historical record of development and progress, and at the same time afford exhibitors lasting mementoes of their success. I shall again advert to this subject at a later stage of this Report.

Board of Lady Managers.

Section 6 of the Act of Congress creating the World's Columbian Commission authorised and required said Commission to appoint "a Board of Lady Managers, of such number and to perform such duties as may be prescribed by said Commission." In pursuance of this authority the World's Columbian Commission authorised the appointment of two Lady Managers from each State and Territory and the District of Columbia, eight managers at large, and nine from the City of Chicago, with alternates respectively—said Board to be convened at such time and place as the Executive Committee of the World's Columbian Exposition should direct, and when so convened to organise by the election of a Chairman and Secretary.

Description of Jackson Park at an early stage, by Miss Harriet Monroe.

In connection with the practical outcome of all these provisions a beautiful and suitable site was selected ultimately for the Exposition, containing about 600 acres, charmingly situated on the shore of Lake Michigan.

A plan of the grounds as they appeared is shown in one of the illustrations, and as an aid to the better comprehension of the outward scene, I avail myself of the description written by an American lady (Miss Harriet Monroe), gifted with artistic instinct, but writing under the

the cold restraint of architectural realities, at a very early stage of the history of the Exposition, as quoted by the President of the Exposition at its first annual meeting :—

The South Park system consists of two great parks, connected by the Midway Plaisance, a strip of land a mile long and 600 feet wide, and united by boulevards with the heart of the city and with the west side and north side parks. Both Washington and Jackson Parks, and the Midway Plaisance as well, embracing 974 acres, were placed at the disposal of the Columbian Exposition. The south side system of cable cars connects with the two parks, and the Illinois Central Railway passes near the western boundary of Jackson Park and with other roads, was directly connected with the Fair during its continuance.

By reason of the greater picturesqueness of a lake shore site, and the greater accessibility of Jackson Park, both by water and land, and for the additional reason that, being for the most part unimproved, it was more readily adaptable to our purposes, Jackson Park was chosen as the principal site of the Fair. The 80 acres at the north which were laid out and under cultivation formed but a small fraction of the entire area of this park, which extends a mile further south, broadening constantly along the curving shore of the lake. In this unimproved portion, much of which was thickly-wooded with native trees, the ground was prepared for a system of lagoons and canals from 100 to 300 feet wide, which, with the broad grassy terraces leading down to them, passed the principal buildings, enclosed a wooded island 1,800 feet long, and formed a circuit of 3 miles, navigable by pleasure boats.

These canals, which have been crossed by many bridges, connect with the lake at two points—one at the southern limit of the improved portion of the park, and more than half a mile further south, at the great main court of the Exposition. At this point, extending eastward into the lake 1,200 feet, are piers which afford a landing-place for the lake steamers, and enclose a harbour for the picturesque little pleasure boats of all epochs and nations, which carry passengers along the canals, stopping at numerous landing places.

This harbour is bounded on the east, far out in the lake, by the long-columned façade of the Casino, in whose free spaces crowds of men and women, protected by its ceiling of gay awnings, look east to the lake and west to the long vista between the main edifices, as far as the gilded dome of the Administration Building. The first notable object in this vista is the Colossal Statue of Liberty rising out of the lagoon, at the point where it enters the land, protected by moles. Beyond this, beyond the first of many bridges, lies a broad basin, from which grassy terraces and broad walks lead, on the north to the south elevation of the enormous main building, and on the south to the structure dedicated to Agriculture.

The main building, extending north-westward a third of a mile, is devoted to manufactures and liberal arts, and received from all nations the rich products of modern workmanship. Recalling architecturally the period of the classic revival, it has the vivacity, the emphatic joyousness of that awakening epoch. The long low lines of its sloping roof, supported by rows of arches, is relieved by a central dome over the great main entrance, and emblematic statuary and floating banners add to its festive character. The north elevation of the classic edifice devoted to agriculture shows a long arcade behind Corinthian columns supporting a series of triple arches and three low graceful domes. Liberally adorned with sculpture and enriched with colour, this building, by its simplicity, refinement, and grace, is idyllically expressive of pastoral serenity and peace. At its noble entrance a statue of Ceres offers hospitality to the fruits of the earth. Beyond it, at the south, 63 acres of land are reserved for the live stock exhibit.

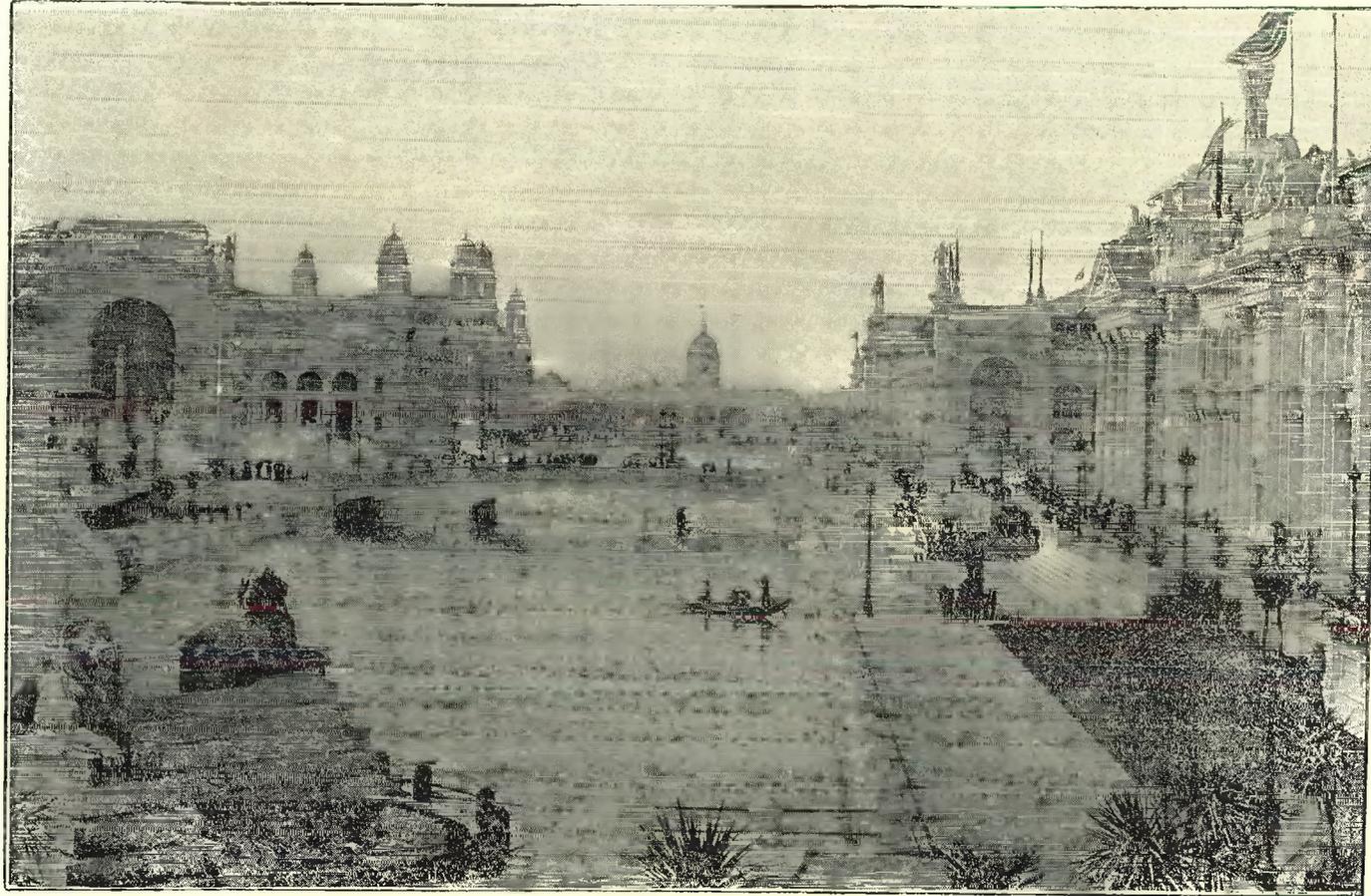
The lofty octagonal dome of the Administration Building forms the central point of the architectural scheme. Rising from the columned stories of its square base 250 feet into the air, it stands in the centre of a spacious open plaza, adorned with statuary and fountains, with flower beds and terraces, sloping at the east down to the main lagoon. North of the plaza are the two buildings devoted to mines and electricity, the latter bristling with points and pinnacles, as if to entrap from the air the intangible element whose achievements it displays.

South of the plaza is the Machinery Hall, with its power house at its south-east corner. A subway at the west passes under the terminal railway loop of the Illinois Central Road to the circular machinery annex within. North of this railway loop, and along the western limit of the park, is the Transportation Building. Still further north, lying west of the north branch of the lagoon, at the point where it encloses the wooded island, extend the long, shining surfaces and the gracefully curving roof of the crystal palace of Horticulture. Following the lagoon northward, one passes the Women's Building, and eastward reaches the island devoted to the novel and interesting Fisheries Exhibit, shown in an effective, low-roofed, Romanesque structure, flanked by two vast circular aquaria, in which the spectator looks upward through clear waters and studies the creatures of ocean and river. This building is directly west of the northern opening of the system of lagoons into Lake Michigan, and in a straight line with the Government Building and the Main Building, which extend along the lake shore to the south-east.

General

GROUP ON SOUTH CANAL.





LOOKING NORTH ON THE SOUTH CANAL.



CENTRAL ARCH OF COLONNADE.

General remarks on the Architecture and appearance of the "White City."

The architecture of the buildings was an imitation of Rome, with occasional borrowings from mediæval Italy or Germany. The great Administration Building, which recalls the splendid central dome of the Paris Exhibition of 1889, was built with the express purpose of being a mighty porch to the World's Fair. The Gate Beautiful of this temple was an appropriate introduction for visitors to the old world of art as here represented. The skill with which the device of men was used in constructing an inner dome, which rose 275 feet in height, as the monumental feature of the World's Fair, was very noticeable. This dome was the largest in the world, except that of St. Peter's at Rome, Michael Angelo's dome being 20 feet wider. Courts of space were situated between the classic and conventional buildings, but the sense of proportion was not marred;—terraces bright with flowers and verdure; the great basin an arm of the lake; long arcades of buildings; great fountains round the bronze gallery of Columbia; at the end of the basin a colossal statue of the Republic.

On the subject of the general appearance of the Exposition grounds, I may state that, in the recorded opinion of competent judges, who have been eye-witnesses of previous Exhibitions, none of the great expositions of the world which have preceded it can be compared with it. The extent of the grounds, the number of the buildings and the beauty of their architectural designs, the wonderful effectiveness of the entrance from the lake, and the charm of the lagoons, running by all the great structures, and bearing upon their glistening waters a perpetual procession of gondolas from Venice, and American electric launches, made it impossible to judge of this Exhibition by comparison with the panorama of any other the world has known.

Viewed from the lake, the White City was a glorious sight; with its domes, its white palaces, statuary fountains, and electric fountains. When the reception of the caravels—Santa Maria, Nina and Pinta, or the Viking ship—took place, the beach was crowded with sightseers; and one was not disenchanted by a nearer view of the city of white palaces. The effect of the great limitless expanse of the ocean-like lake was to give the Exposition an appearance entirely different from that of all former world's Exhibitions.

Scene at night.

While the visitor to the Exhibition was always impressed by the grandeur of the buildings and scenery during the day-time, it was at night that language failed to express the sense of admiration for the picture that dwelt in his mind after viewing the beautiful spectacle. The illumination of the grounds and buildings, with the electric lights running like elfin lamps along the lagoons and under the arches of the bridges, the electric fountains displaying their fantastic and beautiful figures in all the hues of the rainbow, the launches and gondolas floating over the shimmering water, the music and the fireworks, presented a fairy scene of unapproachable, never-to-be-forgotten, and indescribable beauty. On this subject I may be excused if I quote the poetic prose of a distinguished European writer:—

To parody a much-tortured distich, "If thou would'st view the World's Fair aright, go visit it by the pale arc light." Illuminated, the grounds and buildings become an enchanted world. You stand in a region preternatural. The material seems wholly transformed into the ideal. A Platonist might imagine that he saw no longer the gross palpable structures, but beheld their archetypal ideas as they glowed in the mind of the Eternal. The Administration building was but a framework of beaded fire inclosing spaces of erubescant snow. Its dome shone out as a colossal diadem, gemmed with jets of flame upon a ground of gold. Similar rosaries of incandescent wire ran round the colonnade at the foot of the great basin, and lit up the architraves of the intervening buildings. Search lights of various colours flashed about the grounds, flinging by turns every object of special prominence into bold relief. But, though the incandescent burners wreathed
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the palaces with rare splendour, it was the arc light which gave to the illumination its peculiar unearthly semblance. Everywhere within and without the buildings it shed its rays, soft, mysterious, and benignant as of the harvest moon. It was as though the light which never was on sea and shore had at last been made visible to other than poet eyes. It gave the grass an eerie tinge; it lent an intenser whiteness to the masonry; it changed the waters into sheets of pallid flame. The greatest building in the world, with the electric radiance streaming through its miles of glass, seemed to be the very home of the starlight, and its shining sides called to mind Lucretius' *LUCIDA MÆNIA MUNDI*. But fairest of all the fair creations which night and light together formed within the grounds was the effect produced by the exterior of the Agricultural Building. Even in the daylight it is a fairy structure, but seen by the tamed lightning it is a vision of almost heavenly beauty. Viewed from the north side of the basin, with the foreground of gleaming water, its pure white columns standing out against the rich rose-colouring of the inner wall, glowing within and without with the clear, calm light that recalls the luminousness of perfect moral insight, it fills the mind with a positive fervour of spiritual joy. I have seen no picture of the abodes of the blest which comes so near to it in its serenity, its suggestion of the invisible holiness, its atmosphere of bliss. 'This would have given points to the writer of revelations had he seen it!' was a remark which hardly seemed profane in the presence of that mystic spectacle. Precious stones do not appeal to us Westerners as they do to Orientals, and for my part I prefer the white glory of the Hellenic architecture, transfigured by the electric light, to the blaze of all the jewels with which the gorgeous imagination of the East could deck the battlements or pave the streets of Paradise. 'Until I see the walls of the New Jerusalem itself I never expect to see a dream of more exquisite loveliness than this!' So I heard a man say to his friend; and the pure splendour of the scene before him made the enthusiasm of his words seem at least pardonable."

Those who were most ready to depreciate the Fair, and to cavil at the glowing language used over it, had to reckon with the fact that it had the power to turn the heads, to use a common phrase, of an extraordinarily large number of speakers and writers usually sane. There must have been some strange witchery about a spot which tempted so many differently constituted beholders to exhaust the resources of eulogy in the effort to transcribe the impressions it gave them. Yet all this wonderworld was in Chicago; it was the historic achievement of the Lake City.

Before proceeding further a short reference to the principal factor in the creation of this the greatest of all Exhibitions, the City of Chicago itself will form I trust a not uninteresting chapter of this report.

CHICAGO—THE EXPOSITION CITY.

While undoubtedly the World's Fair at Chicago has been the most wonderful exhibition of all time, perhaps the city itself and its characteristics are no less remarkable than the Exposition. Chicago is a typical American metropolis, whether we consider its age, its extent, or its development. Other great cities, such as London and Paris, where great Exhibitions have hitherto been held, are familiar to the people of Australia, but Chicago, if known at all, is vaguely known only as the site of one of the greatest fires in the world, or as a western American city having immense stock-yards and granaries. But the careful observer will find that Chicago itself was truly the greatest exhibit at the World's Fair. It is a supreme monument of American enterprise, and its marvellous history is one of the most extraordinary that has ever been narrated.

Its Wonderful Growth.

Sixty years ago the population of Chicago, according to the Government report, consisted of three families, occupying log cabins; to-day it is the second city in the United States, having a population of

NOTE.—The chief authorities consulted in this description are:—
 The History of Chicago, 3 vols., 1670-1884; by A. T. Andrews, 1884
 Chicago Antiquities; H. H. Hurlbut, 1881.
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of rather more than one and a quarter millions, a fact which entitles it to the rank of seventh among the great cities of the world. The three log cabins mentioned in the Government report of sixty years ago have now multiplied into a city possessing over 2,000 miles of street frontage, a river frontage of nearly 50 miles, and a lake frontage of nearly 20 miles. Condemned half a century ago as an unhealthy swamp, the Chicago of to-day boasts an exceptional sanitary record, its average rate of mortality, 17·49 to 21·00 per 1,000, comparing favourably with any centre of population of equal dimensions in the world. A little over fifty years ago Chicago was barely deemed of sufficient area to be admitted to the dignity of a city. To-day it comprises upwards of 170 square miles within its municipal limits. Twenty years ago the city was devastated by a disaster unequalled in modern history, a conflagration which destroyed nearly twenty thousand buildings, resulting in a loss of \$190,000,000, of which loss, however, not a trace remains in the city of to-day.

Value of Property.

The original founder is reported to have bought the site of the city and 300 miles round for the sum of 5s., two hundred years ago. Within the memory of men now living the whole ground-rent of Chicago could have been bought in open market for \$1,000. It would hardly have brought that sum in 1812, the day after the garrison of Fort Dearborn was massacred by the redskins. Corner lots that went for \$15,000 in 1845 are worth \$200,000 to-day. The Union Block, sold for \$2,000 in 1841, is now worth a million. Customhouse Block was bought, in 1833, for \$500,—it is valued to-day at \$750,000. In the Michigan Avenue, forty years ago, land sold at a dollar a foot which now would be snapped up at \$400.

The city adds to its population, under ordinary circumstances, at the rate of about 50,000 per annum, and a motley population it is, as I shall presently show, consisting chiefly of Germans, who, however, gradually become American citizens, and speak the English language eventually. Such a city, the mother city of the world's greatest Exhibition, deserves something more than a mere passing notice.

Names applied to City.

Chicago is variously named "The Phoenix City of the West," "The Garden City," "The Windy City," for reasons which will be obvious when this report has more fully described its characteristics.

Its Site and Area.

It is situated on the south-west shore of Lake Michigan, in lat. 41° 53' 6·2", long. 87° 38' 1·2" west, being 854 miles distance from Baltimore, Md., the nearest point on the Atlantic coast-line, 911 miles from New York, and 2,417 miles from the Pacific Ocean. It has, as mentioned before, a frontage on the lake of about 20 miles, inclusive of the parks at either extremity of the city, and this, with a river frontage of 41 miles, affords both dockage and harbourage. The area of the city is 181·5 square miles. It is 24 miles long and 10 miles wide. Its mean elevation is 25 feet above Lake Michigan and 582 feet above mean sea-level. That it should be but 60 years old and yet second city of the United States in point of population, and seventh in the same respect in the entire world, exhibits wonderful progress. Even the earliest residents of the place never dreamed that Chicago would attain commercial importance, and the time is within memory when the inhabitants feared the ruin of their town by canals and railways. To-day, however, it is the centre of fully one-third of the railway mileage of the United States and the most rapidly prospering city on the continent.

Three

Three Divisions of the City—North, South, and West Sides.

From the lake at Water-street, the Chicago River extends west about half a mile to Canal-street, where it divides into two branches, one extending in a north-westerly direction through that portion of the city, and the other southward for about $1\frac{1}{2}$ miles to 14th-street, when it makes a sweep to the westward as far as Bridgeport, among the lumber-yards. Here it again divides into two unimportant secondary branches, reaching, one west, the other south, and then empties itself into the Illinois and Michigan Canal, through which it is united with the Des Plaines River. Thus the main stream of the Chicago River divides the eastern portion of the city into two parts, one of which is known in common parlance as the "South Side," and the other as the "North Side." These two branches again separate the north and south sides from the west side, all that portion of the city lying west of those branches being known by that title.

Swing Bridges.

Communication between these different portions is kept up by means of fifty-three swing bridges, situated at the most important street crossings. These are further supplemented by three tunnels, one connecting the south with the west side at Washington-street, the second forming a similar link between the north and south sides at La Salle-street, and the third is located at Van Buren-street.

Summary of History.

The summary of its extraordinary history may be briefly stated. In 1801 a swamp; in 1811 a small military post (Fort Dearborn), soon to be abandoned, and to be the scene of a terrible Indian massacre; in 1821 again an insignificant military station; in 1831 a village of twelve houses, without mail-routes, post-roads, or post-office; in 1841 an incorporated city with 5,752 inhabitants, and an export trade amounting to \$328,635; in 1851 rapidly assuming commercial importance, on the eve of possessing railway communication with New York, its grain shipments increased to 4,646,831 bushels, its population numbering 34,437; in 1861 its grain, pork, and lumber interests all enormously developed, its population almost quadrupled, and its shipments of bread-stuffs increased tenfold within a single decade; in 1871 rich, proud, and magnificent, bidding fair to outstrip the most famous commercial cities of either the Old or New World; but suddenly, on one memorable October night, almost swept out of existence by the Great Fire, only to rise triumphantly from its ashes in more than its former splendour, a monument of indomitable spirit and energy; in 1893 the greatest railroad centre, live-stock market, and primary grain port in the world. Such, in brief, is the history of this wonderful city, the capital of the wealth-producing west.

The Great Fire.

It is but twenty-one years ago since this central business centre was a heap of smoking ruins, the net loss of property being \$200,000,000. The story may be shortly stated: At 9 o'clock on the 9th October, 1871, Mrs. O'Leary's cow kicked over a paraffin lamp in a shanty in De Koven-street. There was a high wind, the weather was dry, and the flames simply ate up everything covering a broad territory $3\frac{1}{2}$ miles along the lake front and a mile back into the city. The population of this tract was 100,000, and 18,000 buildings were burnt, including eight bridges, yet only 200 persons perished in the fire. The entire loss was estimated at \$190,000,000, of which only \$44,000,000 were covered by insurance.

Population.

Population.

The population of Chicago is very cosmopolitan, as the following statistics for last year will show:—

NATIONALITIES COMPRISING THE POPULATION OF THE CITY OF CHICAGO (1892).

American	292,463	Hungarians	4,827
German	384,958	Swiss	2,735
Irish	215,534	Roumanians	4,350
Bohemian	54,209	Canadians	6,989
Polish	52,756	Belgians	682
Swedish	45,877	Greeks	698
Norwegian	44,615	Spanish	297
English	33,785	Portuguese... ..	34
French	12,963	East Indians	28
Scotch	11,927	West Indians	37
Welsh	2,966	Sandwich Islanders	31
Russian	9,977	Mongolians	1,217
Danes	9,891		
Italians	9,921		1,208,679
Hollanders	4,912		

The estimates for 1893 show an increase on this number of about a quarter of a million, due, doubtless, to a large extent to the Exhibition. The negroes are said to number 13,000.

Municipal Government.

The Municipal Government of Chicago, like that of most American cities, consists of a Mayor and Common Council, with Departments of Health, Law, Police, Fire, Education, Public Works, Building, and Finance, and the City Clerk's, Treasurer's and Collector's Departments. The Mayor, City Clerk, Treasurer, Attorney, and Aldermen are elected by the people for a term of two years, the other officers and employees being appointed by the Mayor or by the heads of the various Departments. The Mayor's power is supervisory over the various Departments, controlling the police, and with a right of veto of any ordinance passed by the Council. His salary is \$7,000 per annum. The Common Council or Board of Aldermen meets every Monday evening, and is composed of sixty-eight Aldermen, two from each of the thirty-four wards into which the city is divided. The Mayor is *ex officio* the Presiding Officer of the Common Council, in his absence an alderman being chosen to fill his place. To pass an ordinance over the Mayor's veto requires a two-thirds majority of the Council.

Finance.

The revenue of the city and its expenditure are about the same, amounting to \$25,000,000. The bonded debt of the city amounts to \$13,545,400, bearing interest at $3\frac{1}{2}$ to 7 per cent. The bonded debt has been increased by the issue of 4 per cent. bonds \$5,000,000, as authorised by the State Legislature for the expenses of the World's Fair, which will make the city debt a little more than \$18,500,000, which is a much smaller debt than that of any other city of a similar size. The revenue covers cost of maintenance of Police, the Fire Department, Education, Water Supply, Sewerage, and many other matters.

Drainage.

Chicago deriving its water supply from Lake Michigan,* the disposal of its drainage was a serious and perplexing problem until, by a triumph of engineering skill, the current of the Chicago River was reversed, and the stream made to run out of Lake Michigan into the

* Lake Michigan, the second in size of the five great fresh-water lakes of North America, and the only one lying wholly within the United States, is 320 miles long, 70 miles in mean breadth, and 1,000 feet in mean depth. It is 578 feet above sea-level, and has been found by careful and accurate observation to have a lunar tidal wave of 3 inches. With an area of 22,000 square miles, Lake Michigan is the third largest body of fresh water on the face of the globe. Its principal harbours are Chicago, Milwaukee, and Grand Haven. With the lower lakes and the St. Lawrence River it forms a natural outlet for one of the richest grain-growing regions in the world.

the Illinois and Michigan Canal, and thence through the Illinois River to the Mississippi. The drainage system is very thorough (except when the pumping system gets out of gear, and at the close of winter, from the overflow of melted ice and snow, there is difficulty, as well as in the height of summer). There are over 888 miles of sewer, with more than 30,468 catch-basins and 33,726 manhole openings, and engineers are always busy with plans for improving the sewerage.

Water Supply of the City—"The Cribs."

Foremost among the public works of Chicago is the costly and unique contrivance by which it derives its supply of water from the lake. Two miles from the shore there is fixed a very substantial structure, termed, for want of a better name, "The Crib," within which is an iron cylinder, 9 feet in diameter, going down 31 feet below the bottom of the lake, and connecting with two distinct tunnels leading to separate pumping-works on shore. The first tunnel constructed, communicating with the pumping-works at the foot of Chicago Avenue, is 5 feet in diameter; this was commenced March 17th, 1864, and finished March 25th, 1867, costing \$457,844.95. The second tunnel, conveying water to the west side works, at the corner of Blue Island Avenue and Twenty-second Street, is 7 feet diameter and 6 miles in length. At the shore end of each tunnel the water is forced by enormous engines through the city. The total outlay for the whole system was about \$17,000,000. There are over 1,346 miles of main and distributing pipes, and the daily capacity of all the plants is 250 million gallons. In 1887 a contract was entered into for the construction of a new tunnel from the foot of Peck Court, to be 8 feet diameter, and to extend 21,441 feet (4 miles) out into the lake, connecting there in 45 feet of water with a new crib. This work is now nearly completed (1893). The capacity of this tunnel will be 130 million gallons per day, and it is now about to be put into active use.

Fire Department.

Chicago is most complete in its Fire Department, which has its head-quarters in the basement of the City Hall. It possesses 72 steam fire-engines, 22 chemical engines, 28 hook-and-ladder trucks, 2 river fire-boats, 1 stand-pipe and water-tower, 421 horses, and a staff of 970 men. By the fire-alarm telegraph system, established at a cost of nearly a million dollars, an alarm can be instantaneously flashed to the nearest station from any part of the city. The Department has an adjunct of considerable importance in the Fire Insurance Patrol, established in 1871 by the underwriters of the city, an organisation admirably equipped and highly efficient.

Water Traffic.

To a stranger the system of water traffic is peculiar, inasmuch as it neither possesses nor requires dock accommodation. The river, entering the city from the lake, crosses the business quarter at right angles, and then, dividing to right and left, gives the city a river frontage, of a kind, of 22 navigable miles. All along the banks of the river and its branches you see the huge elevators or great timber-yards where the ships discharge and load their cargo. To cause as little inconvenience as possible to street traffic there are fifty bridges in Chicago, most of which are worked by steam-power, and swing open to allow ships to pass. Delay is, of course, considerable, but the convenience of water transit to the warehouses is very great.

Shipping Returns.

Half a century ago the arrival of such a squadron as Columbus commanded 400 years ago would have been an event of importance in Chicago. To-day it is the second port in the United States in respect to

to tonnage, and the first in number of vessels arriving and clearing. Three hundred and thirty-nine vessels, of 71,260 tons aggregate burden, and of a total value of \$3,088,350, are owned and registered in the port of Chicago. In 1890, 21,054 vessels, aggregating to 10,288,688 tons, entered or left for the great lakes, a daily average of 57 vessels; in 1891 the arrivals were 10,354 coasting-vessels and 153 vessels engaged in foreign trade—a total of 10,507, with a tonnage of 5,138,253. The clearances numbered 10,235 coasting-vessels and 312 vessels engaged in foreign trade, a total of 10,547, with an aggregate tonnage of 5,150,615. In the month of August the arrivals averaged 56 per day, and the clearances 56. The duties collected on foreign imports amounted to \$5,182,476.

Lake-patrol.

The lake is patrolled by six steamships of the United States navy, antique in type, and valuable more as surveying-vessels than anything else. One or more of the fleet are often at anchor off Chicago.

Grain-elevators.

In other countries grain is conveyed in sacks or bags, but this mode of handling the immense quantities brought to and sent from Chicago would be useless. Instead of treating the grain as a solid, it is in bulk treated as a liquid in the Chicago elevators. These elevators are gigantic grain-pumps built like dredgers. A great leg, like an elephant's trunk, filled inside with an endless belt carrying buckets, each holding 18 lb. of grain, is thrust down into the ship's hold, where the grain is lying loose; the belt revolves, the buckets fill themselves, and are whisked up to the top of the building at the rate of 10,000 bushels an hour. It then works down by gravitation, weighing itself, and delivering itself just as it is wanted.

Buildings.

The mammoth buildings of Chicago, or rather its so-called "skyscrapers," are well known. Within the city limits there are about 180 square miles, but the business centre of the city is concentrated in the space of about half a mile square, and this is the occasion of the growth of the gigantic buildings found within this locality. The provision of the elevator or lift in every possible direction in these buildings alone makes them possible. Some of the buildings have no fewer than fifteen or sixteen elevators constantly running, so that no time is lost in getting up from one storey to another. Some of the buildings have restaurants and gardens on the top. In consequence of the loose alluvial soil upon which this city is built, considerable difficulty was experienced in connection with the foundations of these large buildings, and the great weight which must necessarily rest upon them. As a matter of fact, the soft soil in many places is not less than 30 or 40 feet deep. In order to make a solid base, on which to rest some hundreds of thousand tons (the weight of some of these buildings), steel girders and cement grouting are used. Pads, 18 inches thick and 18 feet square, made of alternating courses of steel beams, laid crossways, then filled in and solidified with cement, form the sub-structure on which these immense buildings are erected. The construction of the walls is also peculiar. The outside shell of the building has nothing whatever to do with the internal structure, and could be taken down without injuring the solidity of the main building, which is made of steel girders bolted together. The outside wall is often filled in with terra cotta and similar ornamental material. It would be impossible to refer at length to this very interesting matter, and therefore I shall only mention a few particulars in connection with some of the more striking buildings.

Masonic

Masonic Temple.

The Masonic Temple building has nineteen full storeys, or twenty-one, including the attic and promenade deck. Its height is 302 feet. Compared with its neighbour, the Auditorium, which is 270 feet, it looks much more towering. The building contains 7,000 electric lights, 1,328 radiators, 11 miles of steam piping, 24 miles of gas and water pipes, 4,700 tons of steel beams, and 17 elevators, with a daily carrying capacity of 50,000 persons. It has 170 feet frontage to State-street, and 114 to Randolph-street. The cost was \$4,500,000. It has a complete power plant, including two 500 horse-power Corliss engines, eight 125 horse-power Scotch marine steel boilers, 8 feet diameter, weighing 17 tons each, and all the necessary line shafts, friction clutches, flues, piping, belting, tanks, reservoirs, foundations and pipe cover. The total weight of the machinery furnished was 325 tons. It has a drill room on the eighteenth storey, large enough to hold 1,500 people, and a garden on the roof, in which an orchestra plays while refreshments are served.

Monadnock Block.

In the Monadnock Block, another immense building, the fact that everything connected with the establishment is under one roof, greatly facilitates the transaction of business. It is the largest business block in the world, sixteen storeys high, has 1,000 feet frontage to the street, and can accommodate 6,000 business persons. It has twenty elevators. It was in this block that aluminium elevators were first used. The Board of Trade building has a tower 300 feet from the pavement. Here the prices of the breadstuffs of the world are fixed.

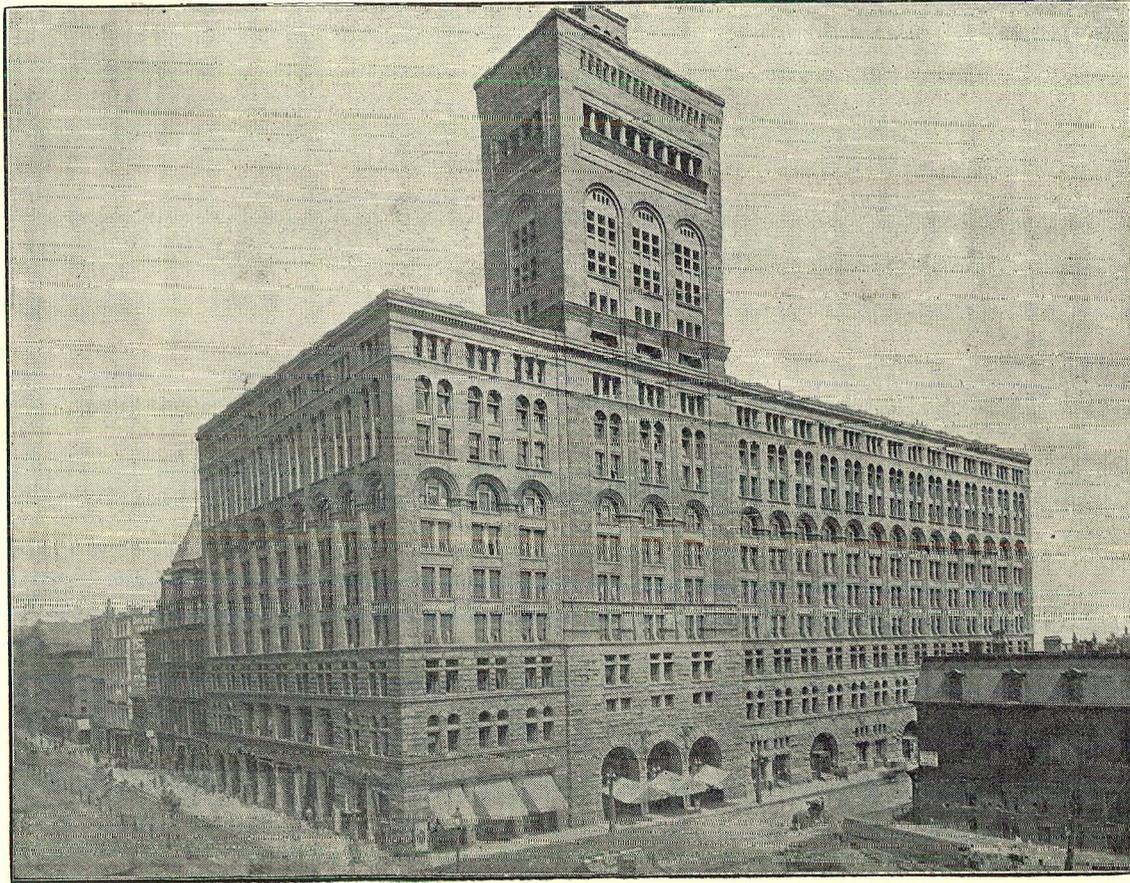
The Auditorium.

The Auditorium is one of the great sights of Chicago amongst her mammoth houses. It contains a grand opera house, a fine hotel, a public hall, and a large number of offices, stores, shops, a Government weather station, &c. Our illustration gives a good idea of the exterior, by which it will be seen that the style of architecture is severely simple, the designers not having erred in regard to over-ornamentation. It is built on Michigan-avenue, and overlooks the Lake Front Park and Lake Michigan itself. The architects are Messrs. Adler and Sullivan, of Chicago; and though decoration has been no more sought by means extraneous to the necessities of construction than in the Forth Bridge itself, yet, like the latter structure, it impresses the beholder by the grandeur of its proportions and the overwhelming effect of its stupendous mass. On the other hand, rich, bold, and original ornament enriches the interior. The total street frontage on Wabash-avenue, Michigan-avenue, and Congress-street is 710 feet. There are ten storeys in the main building, the height being 145 feet. The height of the observatory tower above the main building is 95 feet, and the lantern above the tower extends another 30 feet. This gives a total height of 270 feet. The area occupied by the main tower measures 70 feet by 41 feet; the foundations cover about two and a half times a greater area. The entire weight of the building is 100,000 tons, the tower weighing 15,000 tons. The exterior is largely of granite, the interior being of steel, brick, terra-cotta, marble, and wood.

The drainage levels and all sewage in this, as in many others of the great buildings, has to be lifted by a special pumping plant situated in the basement, and delivered into the sewers. The foundations were a matter of great difficulty, as they are for the most part below the level of the Lake, less than 300 yards distance. To support the great superincumbent mass of this building, the foundations were spread
over



THE MASONIC TEMPLE, CHICAGO.



THE AUDITORIUM, CHICAGO.

over a species of platform or raft, the structure being made up of timber covered by concrete enclosing heavy steel rails and I beams. A level of 17 feet was adopted as a standard depth of the foundations, but the foundations of the tower were taken to 18 feet below surface. As the bottom of the foundations is 3 feet below the level of the lake, the water often reaches them, and therefore arrangements are made to admit water to the timbers at the base, or to flood them, if necessary, by artificial means if the water level in the lake falls. The volume of earth excavated in the foundations of the Auditorium was 28,860 cubic yards. The quantities of materials used were as follows:— 1,000,000 feet of timber, 231 tons of steel rails, 77 tons of steel I beams, 2,565 cubic yards of broken stone, 2,921 cubic yards of sand, 2,650 barrels of cement, 933 cords of rubble stone, 4,296 cubic feet of dimension stone, and 1,280,000 bricks. In the whole building the number of bricks is said to be 17,000,000. There are 50,000 square feet of Italian marble and mosaic, 800,000 square feet of terra-cotta, 60,000 square feet of plate-glass, 25 miles of pipes, and 230 miles of electric wires. There are 10,000 electric lights, and 13 electric motors for ventilating apparatus, besides four hydraulic motors. There are 21 pumping engines, 13 elevators, and 26 hydraulic lifts for moving stage platforms in the theatre.

The theatre occupies the centre of the block, and has seating capacity for 4,000 persons for theatrical performances, but if it be used as a meeting hall, and the stage space is occupied, it will hold double that number. The theatre is so large that its full dimensions are not required on ordinary occasions, and arrangements are made to shut off a part of the galleries and reduce the size of the proscenium by a rising and falling screen. The total cost of the Auditorium building was £640,000, which appears small considering what has been obtained for it.

As a matter of curiosity, an estimate was once made of the number of persons present at one time in one of these mammoth buildings, and it was found to be over 20,000.

Meat and Grain Industries.

The markets of the city, and the stockyards deserve notice. The World's Fair City is more widely known to-day than any other American commercial centre, not excepting the Capital, or the great Atlantic seaports, as that of a great grain and live stock market only, the importance of its lumber trade, and the extent of its manufacturing industries being, for obvious reasons, less widely known. Meat packing is the oldest of Chicago's industries. The single butcher's shop which represented the meat trade of early Chicago has given place to an industry which annually receives upwards of 10,000,000 head of live stock, valued at \$200,000,000, and exports upwards of 1,000,000,000lb. of dressed meats, beside 1,000,000 cases of canned meats and barrels of pork. The human family further looks to Chicago as the food dispensary for an annual supply of nearly 100,000,000 bushels of wheat, corn, oats, rye, and barley, in addition to nearly 2,000,000 barrels of flour. The Union Stock-yards, in which the enormous business of the cattle trade centres, covers not less than 400 acres of ground, with 3,300 pens—1,800 covered, and 1,500 open. Provision is made for handling at one time 25,000 head of cattle, 14,000 sheep, and 150,000 hogs. The yards contain 20 miles of streets, 20 miles of water troughs, 50 miles of feeding troughs, and 75 miles of water and drainage pipes. Artesian wells, having an average depth of 1,230 feet, afford an abundant supply of water, and there are also 87 miles of railroad tracks, all the great roads having access to this vast market, the entire cost of which was \$4,000,000. About 1,200 men are employed at the stockyards proper.

Meat.

Meat-packing Industry.

The meat-packing industry is carried on in immediate proximity to the stockyards. As an example of the extent of the business, it may be stated that that controlled by Messrs. Armour and Co. occupies 70 acres of floor space, and employs about 4,000 men. Some 18,000 to 25,000 men are daily employed in the various packing houses, which number varies according to the season of the year. It is in these places that a visitor can see the rapidity of machinery, which caused a noted European writer sarcastically to remark that "a live pig went in at one end of a machine, and in a moment emerged from the other end of the machine as sausages." As witnessed at any of the great slaughter-houses, the process of killing may be thus shortly described: The drove of pigs marked for slaughter were driven up an inclined plane towards the chamber of death, and entered a pen in the landing where the killing was going on. At the door a running noose was slipped round the leg of the nearest pig; in an instant the rope was pulled tight, and the pig was jerked head downwards and swung on a long iron runner, dipping downwards towards the other end of the room, where stood the vat over which they bled to death. Standing ready to receive his prey was the slaughterer, with a long, sharp knife in his right hand. Seizing the pig by one ear, with his left hand he plunged the knife into its throat, gave it a murderous twist, and drew it out. The warm blood spurted over his hand, but the pig had already begun to slide towards the vat; another pig was swinging, ready for sticking, and so the procession went on. A dozen or more pigs, in progressive stages of inanition, were bleeding to death; those further down were almost motionless, the last stuck were struggling horribly. It is stated that one man can kill 5,000 pigs a day. At Swift's establishment I found that the capacity was—Cattle, 5,000 per day; sheep, 7,000 per day; hogs, 10,000 per day. Number of visitors to this establishment (Swift's) from middle of June to 23rd September, 75,642; week ending 23rd September, 10,700; largest number on one day, 22nd September, 2,596. In the Union stockyards 8,000,000 pigs, 3,500,000 cattle, and 1,000,000 sheep are handled every year. Of these, 6,000,000 pigs and 2,000,000 cattle are slaughtered in Chicago.

Chicago as a Grain Centre.

Chicago, from its admirable geographical situation, is the natural depôt for the exchange of the commodities of the east and west. Into her grain elevators, to which I have already referred, pour the harvests from the vast fields of the north-west, and in her markets they are exchanged for the products of the east, and the importations from foreign countries. The first shipment of wheat from Chicago took place in 1839; in 1842 the exports were 586,907 bushels; in 1855, after the opening of railroads to the east, they increased to 21,583,221 bushels of grain, about two-thirds of which consisted of wheat. In the year 1891 the total receipts of breadstuffs were not less than 231,821,529 bushels, valued at about \$136,040,000, and the exports 207,988,862 bushels. There are 27 registered grain elevators, with an aggregate capacity of 30,075,000 bushels.

The lumber receipts in 1891 were 2,045,418,000 feet, and the exports 865,949,000 feet.

Manufactories.

At the close of 1891 there were in the city 3,250 manufacturing establishments, excluding those of food products. The number of employees was 177,000, and wages amounted to \$96,200,000. The capital employed was \$109,000,000, and the value of their products was estimated at \$555,000,000. Besides these there were 6 rolling mills, 28 foundries, 89 machinery and boiler works, and 70 galvanized iron, tin, and roof slating works. There are no fewer than 2,000 factory chimneys in this city.

The

The Board of Trade manages the principal portion of the business connected with farm products, and is, of course, largely speculative, the visible supplies of the country being sold many times over in a season. The Board of Trade Clearing House statement of 1891 showed clearings of \$104,083,529.67. Transactions are permitted in lots of not less than 1,000 bushels of grain, or 250 barrels of pork. It is quite an exciting scene to visit this building (where strangers are permitted free in the gallery during business hours), and the excitement which prevails during crises quite rivals that seen in any of the similar centres of commerce in other great cities.

The Boulevards.

In a former part of this report I have stated that Chicago is sometimes called "The Garden City." This appellation is derived from the beautiful and artistic parks and boulevards which it possesses. The boulevards is the Chicago substitute for the London "square," and has much of the privacy of that peculiar institution. By municipal arrangement a certain proportion of property holders, along any residential street, when they wish to exclude business traffic from the roadway, can do so by a simple formality, provided the street does not lie next to any similar street used for traffic. The Park Commissioners of Chicago for that district, after due notice, take the matter in hand, improve the roadway, and put up notices stating "For Pleasure Driving." No traffic team is allowed to pass over the street so marked, and its inhabitants sleep in peace, and dream in comfort. The parks and driveways aggregate 3,290 acres, while the boulevards of Chicago, already completed, are nearly 100 miles in total length. The boulevard system connects the parks by a continuous chain of magnificent driveways, circling the city with a band of excellent roads, bordered with trees, metalled to the highest excellence for driving, and edged with cool green lawns on either side. The park system, with the adjacent boulevards, are under the control of three sets of Commissioners, one for each of the three divisions of the city.

The Parks.

The parks themselves are very similar to those in other great cities, and are adorned with artificial lakes, statuary, fountains, and similar ornamentation. One of the most attractive sights to be seen in Chicago is the immense number of vehicles of all kinds on Sundays in summer, driving along the boulevards and through the parks, and in winter the effect is equally remarkable, when, instead of carriages, sleighs are substituted. The celebrated lecturer, Max O'Rell, once had the opportunity of viewing the beauties of these boulevards during the leafy season of summer, and expressed his opinion that no drive in the world was equal to that which he had seen in the Chicago boulevards.

Telegraphs, Telephones, and Messenger Service.

It is needless to say that the system of telegraphy and of telephones is very perfect in every respect in Chicago, and so perfect, in fact, is the telephone system, that nothing can happen in any part of the city but it is immediately telephoned to police headquarters and other centres, and one of the most common sights in Chicago is to see the patrol waggons, the ambulances, and the fire-engines driving along the streets, summoned perhaps from different quarters of the city by messages thus received. One company alone in Chicago has no fewer than 8,500 telephones (generally abbreviated into "phones" in that city) and 1,800 miles of wire. In many of the leading hotels, drug stores, and other similar places, the use of a telephone can be had free or for a small fee.

Educational.

Educational Institutions.

I have had the opportunity of visiting some of the educational institutions of Chicago, and I must say that it is greatly to the credit of this city (the distinguishing characteristic of which is, undoubtedly, the pursuit of wealth, with an energy and singleness of purpose almost unexampled) to have made such splendid provision as it has for educational and literary purposes. Two hundred and fifty-three public, primary, grammar, and high schools; fifteen colleges of law, medicine, and theology; half a dozen academies of art and science; and two universities, are provided for by the liberality of the public of this city. It would be invidious on my part to enter into a discussion, or even into a consideration, of the peculiarities of the educational system of the State of Illinois, and of Chicago in particular, but the details above furnished show that the people are at any rate desirous that abundant provision should be made for educational purposes generally.

Public Libraries.

The public libraries of the city are: the Chicago Public Library, the Newberry, and the Crerar Libraries, all important institutions with large numbers of volumes, not only for reference but also for circulation. The two latter have been provided by private individuals, are amply endowed, and largely made use of. In the Public Library there are over 177,000 volumes, although the institution is less than twenty years old. It increases at the rate of thirty volumes per day, so that every year a good-sized library of some 10,000 books is stowed away on its shelves. Nearly one hundred persons are employed in connection with the care of these books. There is a daily average output of 3,654 volumes, which either leave the library in the delivery-waggons supplying the branch reading-rooms, or are carried out by individual members. Out of the care of these thousands of books that are daily put in circulation there was developed a complete system of book-keeping by which the whereabouts of any one of them, however widely scattered, can be learnt at a moment's notice. Distribution by station is increasing every year, at the expense of the home circulation given out individually at the main library, so that it now requires the entire time of twelve attendants and four waggons making two trips daily. There are thirty reading-rooms and distributing stations throughout the city of Chicago. The main reading and reference rooms are not neglected; 62,000 people visited the reading-room during one month, and in the same period 10,000 availed themselves of the privileges of the reference-room. The system adopted seemed to me almost as perfect as that in the public library of Dundee, Scotland, where the arrangements are very perfect indeed.

Post-office.

The Chicago Post-office furnishes statistics which perhaps show the metropolitan character of the city better than any other data which may be quoted. Thus it appeared that during a single year over 500,000,000 mail packages passed through the office, in addition to 27,000 tons of mail matter transferred from incoming to outgoing trains. The present post-office building, which was erected twenty years ago, at a cost of about \$4,000,000, has already been found inadequate to the wants of the department, and an agitation is now in progress to rebuild it on a scale that will make the Chicago Post-office exceed in cubic measurement even the great mail distributing centre at St. Martin's, London. In addition to receiving and dispatching local mails, the post-office at Chicago is the headquarters for the Sixth Division Railway Mail Service, which employs 856 railway clerks in the distribution of mails on cars throughout Illinois, Iowa, Nebraska, and Wyoming. The Inspector in charge at the Chicago Post-office has under his jurisdiction 10,000 postmasters and their employees, dispersed through the States of Illinois, Iowa, Wisconsin, Michigan, Minnesota, and the Dakotas. *The*

The Press of Chicago.

There are 531 newspapers published in Chicago, and the extent of their circulation may be gauged from the statement that 20,000,000 lb. of serial matter finds its way through the Chicago Post-office annually. The character of the Press is very different from that of the English or Australian, but this is too large a subject to enter upon in this report.

Chicago as a Railway Centre.

Chicago is perhaps the greatest railway centre in the world. Eighty thousand miles of line centre in this city, a number the largeness of which will come more forcibly home to the mind, when it is remembered that in all Great Britain, the original home of railroads, there are only 20,000 miles. For the clearance of the enormous volume of traffic thirty-five distinct railway lines terminate here, with seven handsome and commodious central terminal depôts, and over 100 other stations. The railroad lines reach from Chicago to the Atlantic and Pacific Oceans, Lake Superior, Gulf of Mexico, and all the great cities of the United States and Canada, as well as the borders of Manitoba and Mexico. These lines vary in length from 50 to 7,000 miles. One thousand three hundred and sixty trains arrive and depart each twenty-four hours, 260 of which are through expresses. A passenger may enter at Chicago a luxuriously furnished sleeping-car, and without leaving it reach any of the principal seaboard cities of the United States, as well as railway lines leading into Canada in the north and Mexico in the south. Nor is the accommodation in regard to street railways less abundant, cable and electric cars are seen everywhere. It is stated that there are 396 miles of street railways in the city of Chicago, running to all parts of the city, and furnishing accommodation to nearly 600,000 persons each day.

Illumination.

There are now in the city 2,335 miles of illuminated streets, mainly lighted with gas, the lamps of this description numbering over 37,000, but there are in addition 1,100 electric arc lights, the wires for which are principally carried in the subways—a system of iron tubes laid underneath the pavements of the streets—thus abolishing to a certain extent the objectionable feature of overhead wires.

Hotel System.

The hotels are very numerous, and some of them very large. With regard to their excellence of service and splendour of appointments some of them are unequalled anywhere. Some of these hotels are on what is called the "European plan," that is, the rooms are rented with gas, bath, &c., at so much per day, the meals being taken at the restaurant of the hotel or elsewhere at pleasure; others are on the "American plan," where a fixed price per day covers all expenses. Some hotels are on the combination plan, which includes both systems.

Hospitals, &c.

There is a very well regulated system of hospital and dispensary service, and the buildings provided for such purposes, while not remarkable either in extent or in superior excellence of administration, are sufficient. The charities generally are of two classes, public and private. The former, as is the case in most of the States, are under the control of county commissioners, removable, with other civil servants, on change of government. Applicants for admission to hospitals, &c., as well as applicants for relief, are dealt with by the county agent, who is the executive officer of the board. There is also a Charity Organisation Society, exercising a general watchfulness over philanthropic work. All the usual forms of assistance to the poor and the afflicted seem to be amply provided.

Sanitary

Sanitary Statistics.

I have already referred to the intense cold of the winter. In summer the temperature is very high during July and August, reaching 95° Fah. in the shade, and occasioning many cases of sunstroke. Notwithstanding these great extremes, and other unfavourable circumstances, such as the original insanitary site of the city, its rapid growth, and the crowded condition of some of its districts, tenanted by foreigners, the general health of the city is remarkably good. It is worthy of record that while in May, 1892, the death rates of the larger cities of the United States were as follows :—

New York	...	...	25·73	per thousand persons.
Boston	...	...	23·70	„ „
Philadelphia	...	...	22·21	„ „
Brooklyn	...	...	20·55	„ „

that of Chicago was only 20·25 per thousand—a remarkably low rate for a city of its size, and one reflecting great credit on the management of the health department of this city.

Religions.

In a cosmopolitan city like Chicago, every form and variety of religion, or no religion, is represented. Churches are to be found everywhere, and are well attended and well supported. But on Sunday theatres are open, games are indulged in, picnics are made, and all the forms of the so-called Continental Sunday indulged in. In fact one of the great sights of Chicago is the extraordinary procession of vehicles of every kind to be seen in the boulevards on Sunday, as I have already stated.

Results of the Exhibition to Chicago.

It would require more space than I have at my disposal to refer to all the peculiarities of this wonderful city; but as I have said before, undoubtedly one of the reasons which entitled Chicago to occupy the distinguished position of host, on behalf of the United States, at the World's Columbian Exposition, was not only its importance and energy but also its truly representative character as an American city.

The effect of the Columbian Exposition on Chicago will be well worth the large sums she has lavishly expended. Hitherto, a great commercial centre—and that only; a great cosmopolitan city, from the mixed races which formed her population, as a result of this Columbian Exposition she will be recognised throughout the world, not only as a great inland metropolis, but as a truly American city which has passed beyond the mere commercial stage, and has become possessed of a society reflecting culture, refinement, and artistic taste. For the promotion of this latter characteristic the Exposition, through its superb educational and artistic facilities and the example of the learned and distinguished guests from all parts of the world, must give an impetus to intellectual development which will be felt through all its subsequent history. Hitherto the reputation of Chicago has certainly not been that of an æsthetic city, but the subtle influence of this great Exhibition, reacting on a people proud of their city and its wealth, have created and will continue to create, that element of culture and tact which alone is required to enable Chicago to even surpass its rivals, and stand before the world as one of its highest types of civilization.

OPENING CEREMONIES, 1ST MAY, 1893.

The opening ceremony of the Exposition took place, as appointed, on the 1st May, 1893. The day, like many preceding it, was at first cloudy and wet, but before the hour of noon the sun shone forth and gladdened the multitude who attended the ceremony. Although most of the buildings were in an unfinished state as regarded the reception and arrangement of the exhibits, yet much had been done during the previous week to make the roadways and exterior arrangements of the grounds and waterways ready for the reception of the public. An immense amount of work had been effected in the interior decorations of the buildings, and as regarded the completion of the various courts of the countries represented; still, here, as has been the case in nearly every previous Exhibition, much required to be done. It was our proud boast that the country we represented, with its various courts and exhibits in every building but one, was fully prepared on the 1st of May. The exception was the Anthropological Building, which was not sufficiently complete until a month later to receive its exhibits. Even here we had raised the walls of our courts, and only waited the completion of the building to arrange our exhibits. Just as New South Wales had the credit and honour of being the first country to place its exhibits in the World's Exposition, so, now, it was the most complete on opening day. Of course many small details requiring after consideration and management were subsequently attended to, but as a whole the New South Wales exhibits stood out as a well-arranged and complete section of this great Exposition.

President Cleveland was received with great enthusiasm. He appeared in simple morning dress of an ordinary citizen, without a ribbon, a badge, or a medal, a striking contrast to the brilliantly uniformed representatives of royalties and of military powers who were present. It was impossible for those at a distance to hear the utterances of those who took part in the ceremony, and to the vast multitude the proceedings must have been entirely spectacular. The Chaplain of the United States Congress offered the invocatory prayer, but only a word here and there could be caught even by those in his vicinity. I was glad to hear the reverend gentleman in his supplication refer to Her Most Gracious Majesty immediately after the head of the Republic and before the rulers of other powers.

Then followed the recitation of W. D. Croffut's "Prophecy," a poem descriptive of Columbus' vision of the wonders to be wrought by his hoped-for discovery of the New World, but this was even less audible than the prayer. Its real significance was the fact that a woman (Miss Jessie Couthoun, who recited it) was seen by the vast multitude to take a prominent and lengthy part in the inaugural programme.

President Cleveland made only a short speech; in fact it would have been an act of vanity on such an occasion to address at length so vast a multitude. His voice was the only one of all the speakers on the occasion which reached any considerable portion of the great audience. His closing words were:—"Let us hold fast to the meaning that underlies this ceremony, and let us not lose the impressiveness of this moment. As by a touch, the machinery that gives life to this vast Exposition is now set in motion; so, at the same instant, let our hopes and aspirations awaken forces which in all time to come shall influence the welfare, the dignity, and the freedom of mankind."

As was stated by one present on the occasion, the scene which followed on the President's hand touching the magical button was probably as impressive a combination of sight and sound as any person in that great spectatorium had ever experienced. Down fell the veil from the face of the gilded statue of the Republic. Up rose the enormous jets of water which make the sea of fountains. Salvos of artillery

artillery boomed from the great guns on lake and shore; and cheers from the great multitude, and so ended the ceremony. In Appendix H will be found the text of the speeches of President Cleveland and of Director-General Davis on the occasion, and the poem of Croffut.

I may here mention that the mechanical device with which President Cleveland started the big Allis engine was a very simple machine. The name of the device is the Electro-automatic Engine, and it was contained in a handsome silver-trimmed oak case, about a foot square, and was surmounted by a 10-inch silver-plated gong. The case was firmly secured to the platform about two feet from the stem of the auxiliary valve. Projecting from one side of the case was a small sprocket wheel, connected by a brass drive-chain with a similar sprocket wheel on the stem of the engine's throttle valve. By closing the throttle valve, the motive power of the device, a powerful spring was wound up and the power thus created was held ready for action. Wires were run to the grandstand, and when President Cleveland touched the button the circuit was closed. The spring being freed, the sprocket wheels turned, the gong rang, the valve opened, and the big engine moved.

Later in the day President Cleveland walked through the Columbian Avenue, the main avenue of the Manufactures Building, and there met the representatives of the various nations, and in front of their courts and buildings was introduced to the Executive Commissioners and the members of their staffs. He was accompanied by the Vice-President (Ad. Stephenson), Members of the Cabinet, the Chiefs of the Exhibition, and other distinguished public men.

It was with great pleasure that I was able to cable to the Chief Secretary of our Government and the President of our Commission in Sydney that our courts were complete on opening day, 1st May. It would be superfluous for me now to refer to all the difficulties we had to surmount to accomplish the desired object. The congratulations we received on the occasion, not only from Australia but also from the representatives of foreign countries and the officials of the Exposition, not to speak of the sense of satisfaction we ourselves enjoyed from the accomplishment of one of the principal objects of our absence from our beloved country, amply rewarded us for all our arduous endeavours.

The Staff.

It will be advantageous at this stage to refer to the arrangement I considered it prudent to make in connection with the future working of our representation. In order to economise our further expenditure, and to maintain due efficiency, I, at this time permanently, fixed the staff to be retained in the various courts, determined the salaries to be paid, and the course of daily routine to be followed, and a number of other details. I may here state that all the gentlemen on the staff were Australians, with the exception of one assistant in the Mines court, who was retained on account of his usefulness in matters of repairs and practical work generally; and further, the assistants were for the most part the persons who had been promised appointments by me in Sydney before leaving, and had at their own expense come over to Chicago.

JURY AWARDS.

Considerable discussion took place in the early history of the Exhibition with regard to the method of making the jury awards. The system adopted previously at European Exhibitions, generally known as the jury system, was brought in contrast with that proposed by the Exhibition authorities, and known as the "One-Judge System." It was contended that while the former system awakened interest, cultivated a spirit of emulation, stimulated rivalry, and gave judges an opportunity to shut off the multitude of merely ordinary exhibits, it had

had serious faults, making, on the one hand, but an approach to justice and teaching nothing of the elements of declared merit ; while, on the other hand, it fostered the least generous sentiments, and opened wide the door to corrupt schemes and practices of every conceivable kind. It was stated that the system now proposed was in the main an inheritance from the Philadelphian Centennial Exhibition of 1876, and had all the merits of the older system without its faults. Under it the competency of the judges became more of a necessity, and was more certain to be secured, while integrity was subject to feebler assaults. It dealt not with a case in which if one wins all others must lose, but with one in which the fullest possible justice may be done to each and all. Under this system the report of the judge, revised and confirmed by the Departmental Committee, is the real award ; and that committee, having once put the stamp of its final approval of the proposition of a judge, gave to the award the full weight of its authoritative judgment. I may add that unquestionably this system was the one initiated and endorsed by the Act of Congress providing for the Exposition.

At the various meetings of the Foreign Commissioners, held from time to time at the early stages of the Exhibition, this subject was fully and warmly discussed, and eventually Austria, Belgium, France, Great Britain, Italy, Russia, Sweden, and certain other countries placed their exhibits *hors concours*. On the other hand the Executive Commissioners representing those countries, whose most important exhibits were natural products, thought that the proposed system would not be disadvantageous to them, and declined to sign the protest. It was apparent to me that the countries exhibiting fine arts and the results of their manufactures, the skill of ages and the highest scientific products of the world, were in quite a different category from ourselves, whose most important exhibits were in the shape of natural products ; and hence I acted with those who declined to sign. At a subsequent stage, Great Britain, under instruction from the Commission in London, as well as other countries, withdrew from the signatories and joined us. At this stage it was proposed that a conference by committee should meet the Awards Committee, and finally, by concessions on both sides, the principles of award contained in Appendix I were adopted, and rule 3, giving awards, was modified thus, the changes being contained in the proviso :—

Rule 3. The individual members of the said thirteen committees shall be, so far as possible, competent experts, and shall perform such duties and examine such exhibits as shall be assigned them by the Executive Committee on Awards. Provided, however, that it shall be the right and duty of the Departmental Committee of each department in every case where the character of the exhibit or the general interests involved be such as in the judgment of a majority to warrant and justify it, to notify the Executive Committee on Awards that there ought to be a special committee appointed to assist the individual judge in conducting the preliminary examination of a particular exhibit, and also indicating the number whereof such special committee shall consist; and thereupon the said Executive Committee on Awards shall in every case promptly appoint such special committee. And in case the said assisting special committee, or a majority thereof, shall be in accord with the conclusion of the individual judge, they shall indorse their approval on his report over their signatures on the result of their examination of such exhibit, and transmit the same to the Department Committee on Awards. There shall be a foreign representation upon each one of these thirteen committees, and the number of foreign judges will be fixed when the character and extent of the participation of the various foreign nations shall have been ascertained.

Notwithstanding these and other amendments, France continued throughout obstinate and remained *hors concours*. To New South Wales four judges in the ordinary male section and one woman judge were allotted ; and as there were no Commissioners present from our country, and I considered it very advisable for many reasons that we should be represented in Mines, Horticulture, Manufactures, Liberal Arts, Forestry, Transportation, I nominated the superintendents of our courts for the position—Mr. Hudson in Forestry (temporarily in Transportation), Mr. Pugh in Wines and Horticulture, Mr. Carne in Mines, Mr. Bruce in Wool (Agriculture), Mr. Terry in Liberal Arts (temporarily).
Mr.

Mr. Pugh's special department, Wines, not being ready for jury purposes at the commencement of the work, I arranged that Mr. Superintendent Terry should act in the interim as a judge in Liberal Arts till the judging in the Wines section should commence. Miss Margaret Windeyer was also nominated by me as a judge under the provision for Women Judges, and was appointed to Manufactures (Artistic Section). All these nominations were confirmed by the National Commission. I may state in this connection that Mr. Bruce afforded much valuable assistance, the result of his long experience, in arranging the wool classes and similar matters for the Exposition Authorities, and his selected points were generally approved by the exhibitors.

SUNDAY OPENING.

The propriety of opening the Exposition on Sunday was a much discussed subject, and from a very early period in the history of the Exposition the press of the United States teemed with articles on the subject. Eventually it was decided by the local authorities that the opening should take place, and action was at once proceeded with by legal process on the part of those opposed to Sunday opening to decide the lawfulness of the course of action thus adopted. The decision of the United States Circuit Court of Appeals, after ruling in favour of opening had been given by the Circuit Court, was rendered on June 18th, 1893, by Chief Justice Fuller pronouncing the unanimous decision of the Bench in favour of Sunday opening. Under the provisions made with the Foreign countries represented at the Exposition there was no compulsion in regard to the opening of the Government and State buildings or of individual exhibits, and consequently a large proportion of these were closed. Our State Building and our exhibits, like those of Canada and Great Britain, France, and many other countries, were closed on Sunday, notwithstanding the general opening of the Exhibition.

The Exhibition remained open on Sundays till Sunday, July 16th. In consequence of the small attendance, especially of the working classes, for whose special benefit the opening had been provided, the authorities determined that the Exhibition should be closed on Sundays. Appeal was made by Mr. Clingham against this procedure, and the matter was argued before the local Court, when the presiding judge (Goggin), after a very extraordinary deliverance, decided to grant a continuance for sixty days. Before this period elapsed the closing day of the Exhibition occurred, and the curious spectacle was afforded of an Exhibition legally open but practically closed to the public.

The decision of the United States Circuit Court of Appeals, as I have said, was delivered on Saturday, 18th June, by Chief Justice Fuller, with whom were Judge W. J. Allen, of the southern district of Illinois, and Judge Romanzo, of the western district of Wisconsin, and the decision was unanimous. The following statement comprises the chief points involved in the decision :—

The three judges determined that they had jurisdiction of the case. Directly, it did not involve the construction of any part of the constitution of the United States. The decision of the Circuit Court, from which the appeal had been taken (Judges Woods and Jenkins, Judge Grosseup dissenting), was based on other questions—as to the contract between the World's Fair Corporation and the United States Government, and on matters of policy relating to Sunday observance, not on the constitutional inquiry as to whether Congress could enact a law enjoining a closed Sunday. The constitutional question being eliminated the jurisdiction of the Court could not be doubted.

The decision held that the possession of Jackson Park was in the local directory, and not in the general government. The grounds are within the State of Illinois. Territorial jurisdiction had not been relinquished. The actual possession of the property, under State authority excluded the federal government from contest, except as to the powers delegated by law to the national Commissioners and as to the Government buildings and exhibits. These powers did not authorise Congress to order the gates closed regardless of State laws, and contrary to the directions of the Local Board.

The decision relating to the supposititious contract between the World's Fair authorities and the general government was explicit, clear, and emphatic. The Chief
Justice



BRITISH GOVERNMENT BUILDING, "VICTORIA HOUSE."

Justice said that the souvenir coin appropriation was not a mere donation; its terms constituted a contract with conditions attached; the Fair had not violated any of the conditions previous to their violation by the Government; by the action of the Government in withholding a part of the money the Fair was absolved from the Sunday-closing provision of the Souvenir Act; but, however this might be on further consideration of the rights in the case, the remedy of the Government was in an action at law for damages, not in an equity proceeding to close the Fair gates. All this, however, was technical. It was equity and common sense, but it was more.

The decision had a greater significance. It penetrated to the foundations on which the federal government rested. It vindicated and established the fundamental principle of State Home Rule. It contained the saving essence, the vital inspiration of the constitution of the United States, which reserves to the States and to the people all the powers not delegated to Congress. The delegated powers are few and simple. All personal rights and rights of property; all police powers except those exercised in the administration of federal laws; all the protections for the homes and firesides; all the laws and regulations relating to Sunday observances, at the World's Fair or elsewhere; all that relates to the well-being of the communities in the various States are subjects of State legislation and State police control. Congress cannot make a valid law determining how Sunday, or any other day of the week, shall be observed at Jackson Park, nor at any other public park, nor in the streets and highways, nor in the hotels and places of amusement, nor in houses of worship, nor in the homes of the people. In this respect the decision was a landmark on the road of human progress.

The decision was a welcome and priceless addition to the interpretations of law regarding the constitutional limits between State and Federal legislation. It recalled every thoughtful mind to the precepts of Jefferson, and of contemporary statesmen, by whom the lines of jurisdiction possessed by the Federal and State Courts and by the Federal and State legislative bodies respectively were bounded and defined.

THE OFFICIAL BUILDINGS OF THE NATIONS REPRESENTED AT THE EXPOSITION.

At no previous Exhibition have so many different nationalities been represented. The official list of the Exposition contained names of the representatives of no fewer than fifty foreign nations and thirty-seven colonies. Almost all of them contemplated, at one time or another, the erection of separate buildings. But the time was short, and space limited, and the consequence was that a large number eventually declined to build.

Foreign Buildings.

The seventeen foreign buildings which have been erected, and which no doubt proved one of the attractions of the Exhibition, were, with the exception of the Japanese building, which was located on the Wooded Island, grouped together in a small triangular space bounded roughly by the north inlet of the lagoon, the lake shore, and the north pond. This triangle lay directly across the park from the Women's Building and the Midway Plaisance. The location was the most retired and beautiful in the grounds, as all the buildings were close to the lake, and many of them looked out upon its water. The elevated railway wound between them, and the Illinois central railroad was easily accessible in the direction of 59th-street.

It would be impossible in this Report to find space for a full description of all these foreign buildings and the United States buildings, and, consequently, I shall describe, briefly, only the more important and imposing structures, selecting from the Foreign Government buildings those of Great Britain, Germany, Sweden, and Japan; and from the States buildings, those of Illinois, New Jersey, Pennsylvania, and California.

Victoria House.

A description of these buildings naturally begins with that of Great Britain, which was located on a little peninsula just north of the north inlet, and so close to the lake that it seemed as if a rough sea might fill its cellar with water. Just across the inlet from it, to the south, was the coast-line battleship, with its big guns pointed menacingly at the British head-quarters. The spot was destitute of shade, and being so close to the bridge over the inlet had more dust and noise than its neighbours. This building was called Victoria House, and at a distance looked rather insignificant, but as soon as one entered and inspected it

he

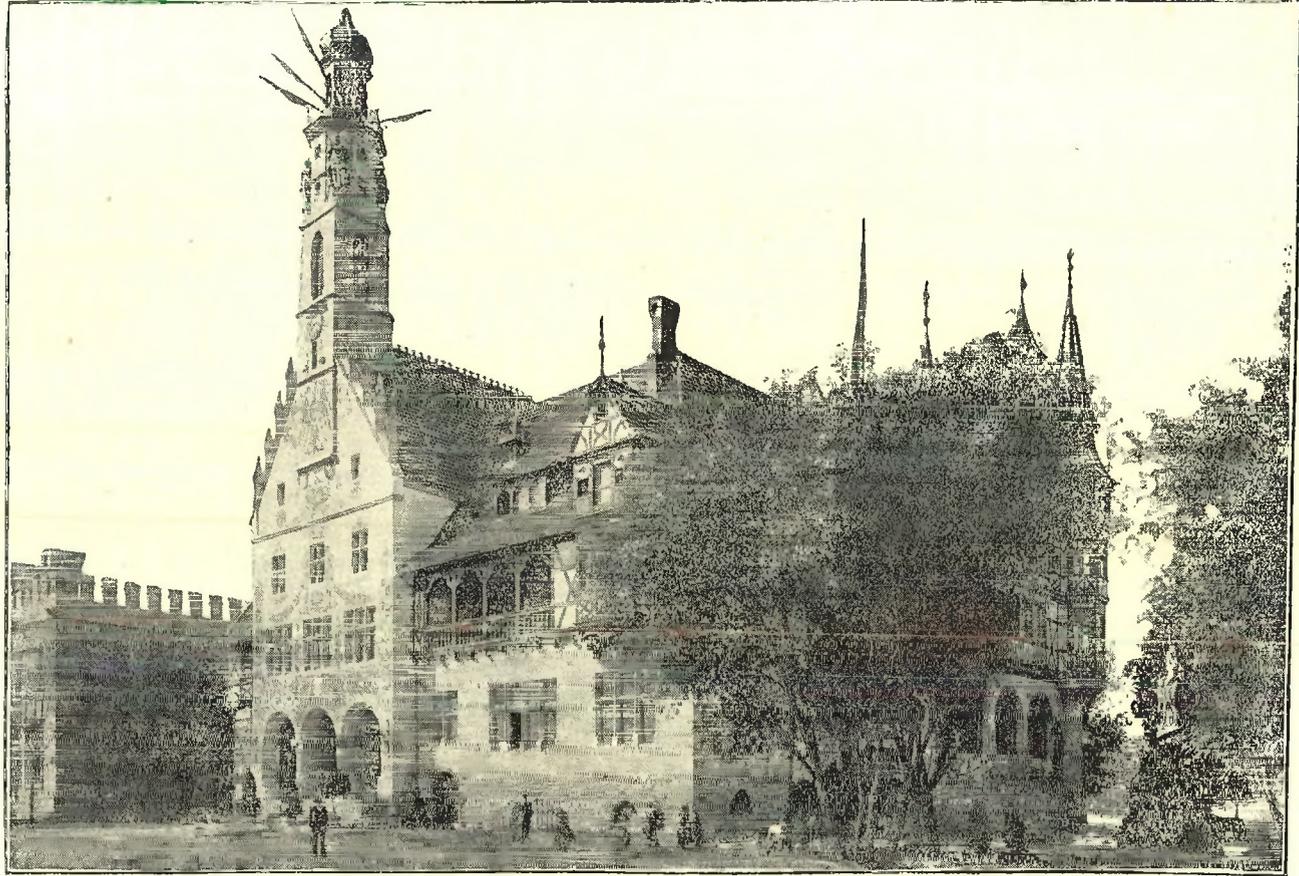
he found that it was quite English in its quiet but splendid elegance and comfort. For the erection of this building the English Government is reported to have appropriated £15,000, and private parties increased the amount to £25,000. From the outside one would wonder where the money was put; and so he might from the inside if he were a mere superficial observer. But a careful inspection easily accounted for the expenditure of that liberal sum. Victoria House was a good sample of an ordinary half-timber country-house in England of the Elizabethan period. The entire interior, including woodwork, ceilings, wall-paper, and carpets, was brought from England, and its different parts were copied after a number of famous English country-seats. The hall and staircase were after Haddon Hall, the residence of Lord Hardwicke, in Cheshire; the ceilings were after Queen Elizabeth's palace at Plas Mawe, in Wales; the reception-room was after Crewe Hall, in Staffordshire; the library was after Eaton Hall, near Chester; and the dining-room was after Campden House, Kensington, the residence of the Duke of Argyll. The plan of the buildings showed three sides of a quadrangle, with the open side facing the lake, and enclosed by a raised terrace, with iron rail fencing. The centre portion in front, or on the inland side, was recessed, with steps leading to the covered porticoes, which opened into the central hall. On one side of the hall was the library and reception-room, and on the other side the Commissioner's room. On the first floor were a number of rooms devoted chiefly to office purposes. The walls and ceiling of the principal rooms were panelled. Col. Edis, the architect, who designed the building, also furnished special designs for the internal fittings and furniture.

The German Government Building.

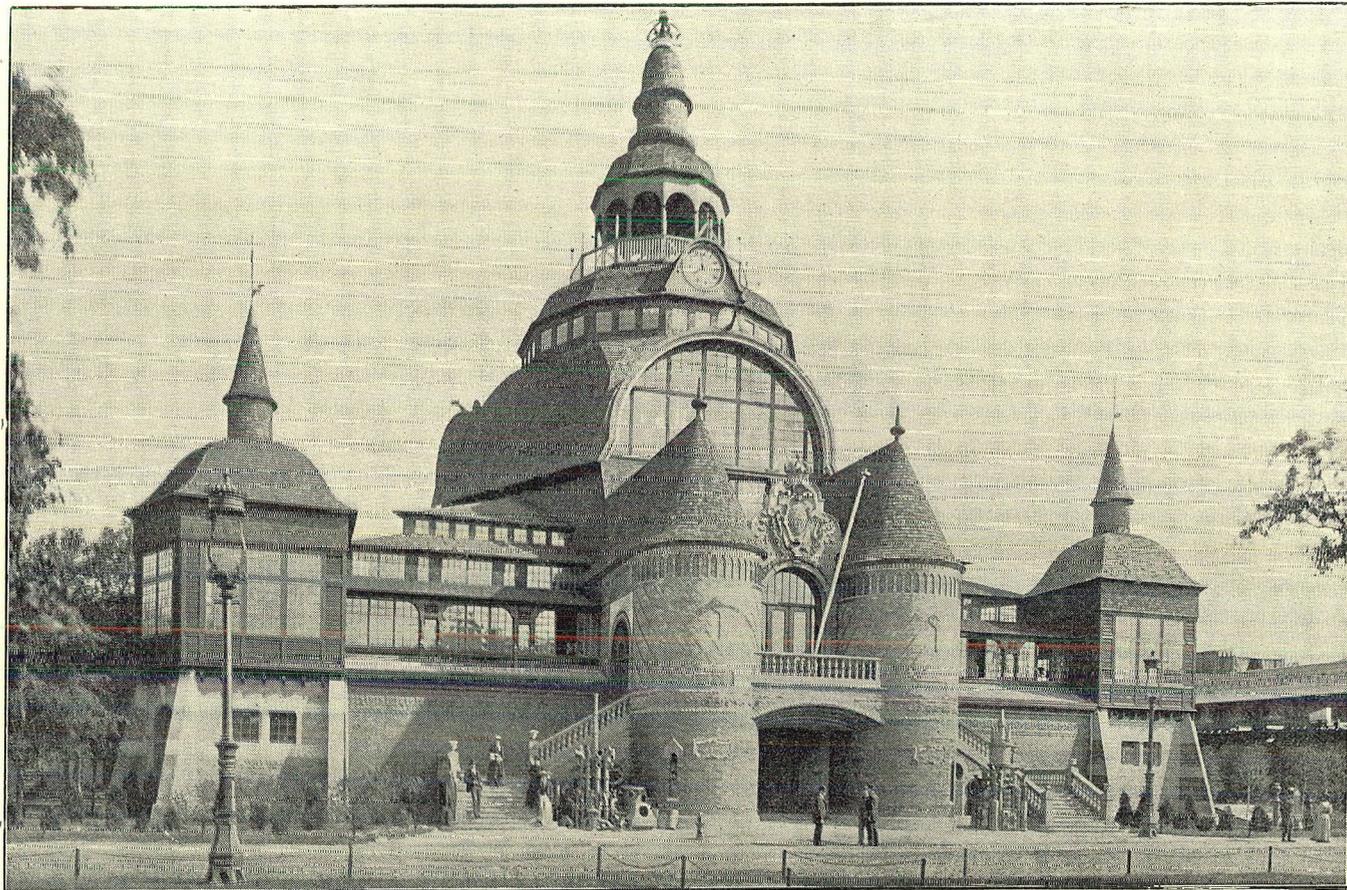
The great German building was the costliest, and, as was generally conceded, the finest foreign building in Jackson Park. The name given it and inscribed over its portals was simply "Das Deutsche Haus," and everything about it was obviously and intensely German. The plans of this handsome edifice were drawn by the Government architect, Johannes Radke, in Berlin. The building had an imposing frontage on the lake shore of about 150 feet with a depth of 78 feet. The tower which overtopped it like a kind of Byzantine minaret, with pillars and a dome, measured 150 feet from the ground. Over the main entrance, in gothic lettering, was a characteristic German motto, meaning:—

Fruitful and powerful,
Full of corn and wine,
Full of strength and iron,
Tuneful and thoughtful
I will praise thee,
Fatherland mine.

In the belfry were hung three huge bells which will ultimately be removed and placed in the church at Mercy, now in course of construction at Berlin, in memory of the late Empress Augusta. The building was a combination of several styles, but although thus somewhat contrasting in its several parts it was not lacking in harmony as regarded the total effect. The centre was in the form of a chapel, rich in decorations. Bay windows, projecting balconies, turrets, &c., gave the structure a most picturesque appearance, closely resembling that of an old German Rathhaus or city hall. The massive walls were decorated in fresco in South German style. The rather steep roof was covered with shining glazed tiles sent from Germany. The roof corners, water spouts, &c., down to the large lantern in front of the tower, were of shining brass or mellow hued bronze. The interior of the building was even finer and more impressive than the exterior. After passing through the magnificently decorated reception rotunda, to the left of which was the grand reception-room and the office of the Imperial German Commissioner, the second hall was reached. This inner hall, with the exception just noted, extended over the entire space in the building,



GERMAN GOVERNMENT BUILDING.



SWEDISH GOVERNMENT BUILDING.

building, covering an area of 2,000 square feet. The pillars everywhere were heavy, solid, and short throughout, and the arches semi-circular, the style being early German renaissance. Balconies rose in tiers on all four sides, the heavy timber and castings used in their construction being rich and decorative. Subdued colour effects were everywhere visible, and the niches and corners contained poetic paintings. The construction of the building cost \$250,000. This building contained a certain portion of the German exhibits to which I shall refer hereafter. More particularly the German publishers had arranged here a comprehensive general exhibit of their books, more especially of rare scientific and classical works, of which I subsequently shall give a fuller description. A reading-room for the public was provided. A second exhibit contained in the building comprised some very fine stained and painted windows and oriels, magnificent church vestments of silks, velvets, linens, brocades, &c., costly and artistic vessels for sacred use, handsome missals, Prayer-books and Bibles, and lastly, plastic church art such as statues and statuettes of saints, crucifixes, &c.; in fact the exhibits contained in this building were both numerous and valuable.

Swedish Building.

The Swedish building was certainly one of the most striking objects on the grounds. The design was mainly the product of the architect's fancy, but in working it out he had been inspired, in a general way, by the Swedish churches and houses of the sixteenth and seventeenth centuries. As far as possible the characteristics of the old Swedish architecture were illustrated.

In preparing the plans for this building a hexagon was inscribed between the sides of the triangular floor plan and the boundary of this figure decided the shape of the main hall of the building. The corner spaces of the structure formed each a separate room of considerable size, and galleries ran round the building, strikingly indicating its peculiar shape. The hexangular main hall was 60 feet square, and pitch of the cupola was 70 feet. On the top of the latter was a steeple, carrying a flagstaff from which the Swedish ensign floated, about 150 feet above the ground. The entire area of the floor was 11,000 square feet. The building was made in Sweden, where it was temporarily put together. It was afterwards taken to pieces, sent across the ocean, and erected on its three-cornered site at Jackson Park. Its entire cost was 40,000 dollars. The design of this pavilion was the product of the personal taste and fancy of the architect (Mr. Gustaf Wickman, Stockholm), guided by the style of the Swedish churches and gentlemen's country houses of the sixteenth and seventeenth centuries, and as far as possible the characteristics of the old Swedish architecture were retained. The lower part of the front wall of the pavilion consisted of modern brick, terra-cotta, and cement work. Except the part just mentioned, the entire structure was built of wood in accordance with the old Swedish fashion, the whole of the roof and walls were covered with shingles, the outside of the woodwork being impregnated with a preserving liquid to prevent decay. The huge crown on the top of the steeple as well as the framework around the bell were gilt, and the inside of the pavilion was painted in light colours, and richly decorated with bunting, coats of arms, crests, &c.

Within this building were arranged the principal exhibits of Sweden, consisting of a very complete exhibit of famous Swedish iron ores, and manufactured products of the same, as well as China goods and glass products, gold and silverware, wood pulp, and other manifold articles turned out by the numerous paper manufacturers in Sweden. There were some lovely embroideries and other needlework, but perhaps the greatest attraction of the pavilion was a representation of a genuine Swedish home, consisting of four rooms fully furnished and decorated
according

according to the custom of the country; beside pictures and panoramas and photographs and oil paintings there were in the galleries a number of exhibits illustrating the school system and the gymnastics of a Swedish institution.

Japan.

On the north end of the Wooded Island was the Hooden Palace of the Japanese Government. It was finished and dedicated with elaborate ceremonies on 31st March, 1893. It consisted of three low-pitched buildings connected by corridors; and representing three different epochs of architecture. It was designed by a native architect and erected entirely by native workmen. The work of the interior decoration was placed in the hands of the Tokyo Art Academy, and corresponded both in ornamentation and furniture with the three periods represented in the architecture. The material used was unpainted wood, which was worked up in an ingenious and effective way to display its colours, and on which had been put an exquisite polish. All of these showed in their exterior colouring the tint of sandalwood, except the sliding squares which served both as doors and windows, and which consisted of a lattice work of black, highly polished wood, over the inner surface of which was a white semi-transparent paper. The periods represented were the eleventh, fifteenth, and eighteenth centuries. The north wing, illustrating the eleventh century, showed the most prosperous area of the Fuji-wara period, while the south wing corresponded in date to our Columbian era, showing Japan as it emerged from the war of two dynasties into a clearer art life, whose key-note was purity and simplicity. The interior of this pavilion was furnished and decorated to represent the Ginkajura, the villa of an Ashikaga Shogun.

STATE BUILDINGS.

The northern portion of Jackson Park, although containing the great palace of Fine Arts and the foreign government buildings, was mainly devoted to the official buildings erected by the several American States and Territories. After the organisation of the National Commission, the World's Columbian Exposition, and the Board of Lady Managers; each in its own way, assisted by the Commissioners from the various States and Territories, commenced to ask each State for an appropriation for a special exhibit in the shape of a building which would represent the State. Some of the responses were prompt, and others held back for one reason or another. There were as many as some forty odd structures belonging to as many States and Territories. Strange as it may seem, the largest State in the American Union, Texas, was the only backslider; while the smallest, Rhode Island, had a beautiful little structure of Doric architecture. The Texas people commenced a handsome building, the plans of which were in keeping with the dignity of the "Lone Star State," but the Legislature refused an appropriation, and popular subscriptions ran low, and in consequence the undertaking was abandoned. Each State building was the especial pride of the people from the commonwealth that furnished the money for its successful completion. The State Buildings were a sort of headquarters for the different peoples, where members of the States could meet each other during the rush days of the exposition. Most of them had club rooms, banquet hall, and reception rooms, where their own people might feel at home some thousand miles from their home State.

Illinois.

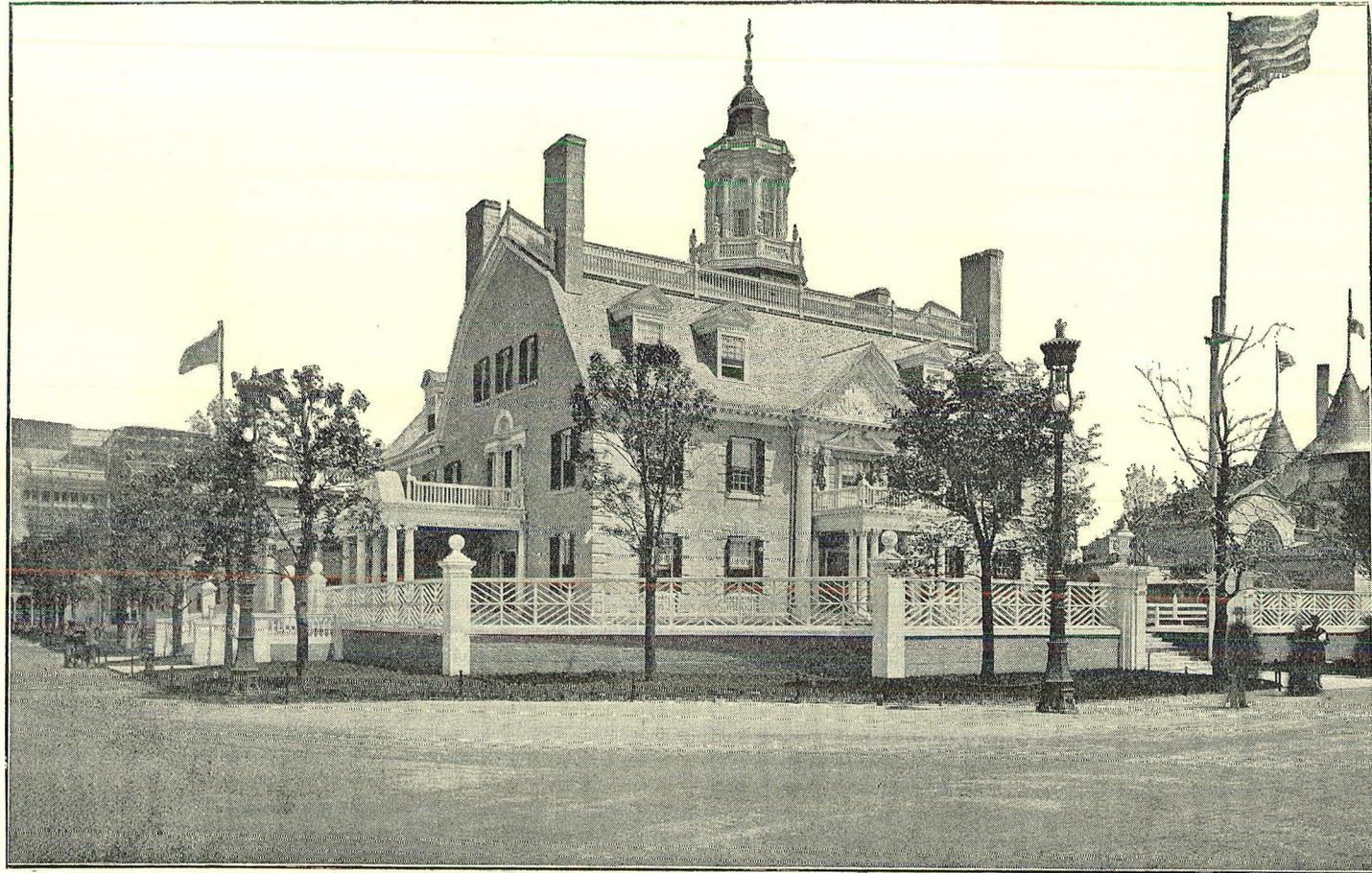
The Illinois building was in the form of a Greek cross, one axis of which was 450 feet long by 160 feet wide; the other, 285 feet long and 98 feet wide. At the intersection of the arms of the cross the dome rose, having an internal diameter of 75 feet, and an inside height



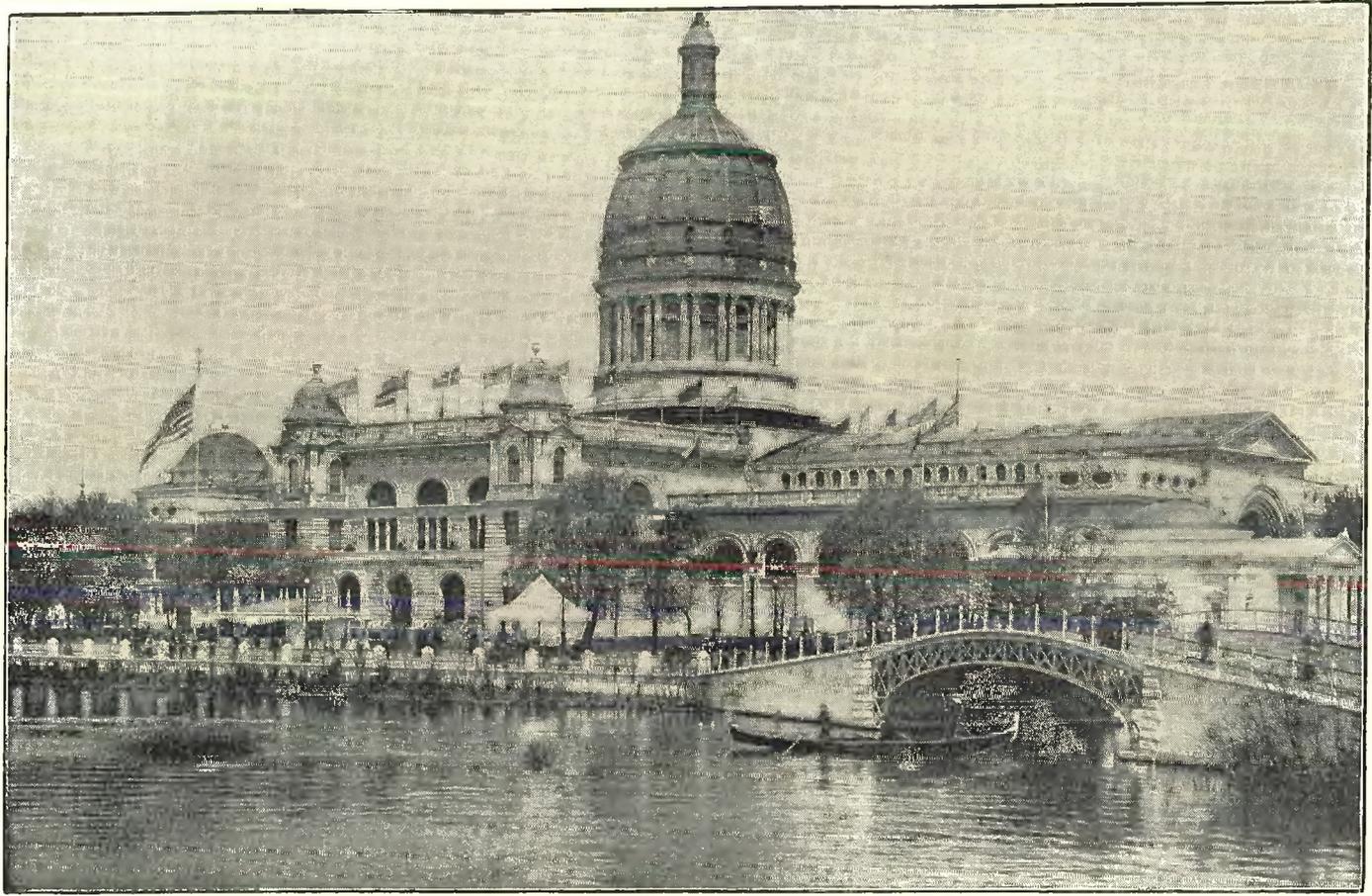
WOODED ISLAND, HORTICULTURAL BUILDING, &c., FROM ROOF OF MANUFACTURES AND LIBERAL ARTS BUILDING.



BIRD'S EYE VIEW OF WOODED ISLAND, &c., FROM NORTH-WEST CORNER OF ROOF OF MANUFACTURES
AND LIBERAL ARTS BUILDING.



MASSACHUSETTS STATE BUILDING.



ILLINOIS STATE BUILDING.



NEW YORK STATE BUILDING.

height of 152 feet. Two galleries circled the interior of the dome, one 15 feet, the other 96 ft. 6 in. above the floor. On the entablature rose the drum, covered with galvanized iron. A round lantern, 12 feet in diameter and 35 feet high, crowned the whole, its height above the ground being 234 feet. At the east and west ends were large entrances. Within the building were rooms for the Governor of the State and his suite; others for the members of the State Board; a great exhibition hall, ante-rooms, and rooms for the accommodation of the Women's Board. There were rooms at the east end for school exhibition purposes, one being devoted to the purposes of a model kindergarten. In the northern end was a fire-proof room called the memorial hall, which contained historical objects usually kept in the State capital at Springfield.

New York.

The New York building was one of the most splendid on the grounds. It extended over an area of 14,538 feet, exclusive of terraces, porticos, or exedras, which covered an additional area of 3,676 feet, and was 214 feet in length, 142 feet in depth and 96 feet in height. The approach was from the south by a flight of fourteen steps, 46 feet wide, giving access to a terrace, 15 ft. x 80 ft., from which the loggia, 46 ft. x 17 ft. 6 in., was reached. At the entrances to the building were casts of the celebrated Barberini Lions, and the four pedestals lamps lighting the place were reproductions of the best examples in the museum of Naples. The porticos east and west of the building had a diameter of 50 feet, the open portion of which was covered, in the Italian fashion, by a coloured sail. On either side of the main entrance, in the niches outside the building, were placed the busts of George Clinton and Roswell P. Flower, the first and present Governors of the State. In the other niches in the facade of the second storey were two heroic-sized figures of Henry Hudson and Christopher Columbus—the four works of art being the production of Olim Warner. The exterior of the building was lighted by electricity. Above the arched entrance was the great seal of New York (10 feet high) illuminated by myriads of tiny lamps set close together. The main floor of the building consisted of a vestibule 17 ft. 6 in. x 46 ft. x 33 ft. 10 in. On either side of this vestibule were three niches in mosaic. The entrance hall, 46 x 84 feet and 20 feet high, was light in colour, the main mural decorations being on the grand staircase hall, 37 feet x 46 feet; the dome ceiling being 46 feet high. These paintings were adapted from Pompeian designs not previously used by any artist. In the well of the staircase was a room, 36 x 46 feet, in which was placed the relief map of the State on a scale of an inch to a mile. On the west of the entrance hall were the women's state apartments, consisting of three rooms, each 28 ft. 7 in. x 32 ft. 8 in., and 20 feet high. The walls of the suite of rooms were covered by a light silk of renaissance pattern, and the floors of hard oak were covered with Indian rugs. On the east of the entrance-hall was a similar suite of rooms, designed for the use of men, painted and furnished according to the general design. On the same floor were the lavatories, &c. The second floor consisted of a staircase hall, giving access through three double doorways to the reception hall, 84 x 46 feet and 45 feet high. The general scheme of the decoration was white and gold. On the west of this hall was the Women-manager's Board, 32 ft. 8 in. x 56 ft. 7 in. and 15 feet high. In the eastern wing was the museum, 32 ft. 8 in. x 56 ft. 7 in., and 14 feet high, which was filled with historical relics and documents relating to the history of the country and State. Adjoining was the general manager's board-room, 22 ft. 6 in. x 28 ft. 7 in. Two other rooms, 18 feet x 21 feet, completed the space on this floor. The roof formed a triple terrace garden enriched by terra-cotta pots, decorated with palms, bay-tree and flowering shrubs, and furnished with awnings, arbors, tables, and chairs.

Pennsylvania,

Pennsylvania.

This building was in colonial style, reproducing the historic clock-tower of Independence Hall, Philadelphia. The first and second storeys were of Philadelphia pressed brick, the floors of native marble and wood, and the walls ornamented with wainscot panellings from Pennsylvania Forest. The front entrance entered into a central rotunda 30 feet in diameter and 40 feet high. To the right and left were general reception, toilet, and dressing rooms. In the rear the exhibition room extended the entire width of the building, and its walls were ornamented with portraits of distinguished Pennsylvanians. Many rare documents and relics of historic interest were displayed, the most important of which perhaps was the old Liberty Bell, whose tocsin proclaimed to all the world the birth of the Republic. The crack in the bell was peculiar. The inscription on the bell was as follows:—

PROCLAIM LIBERTY

Throughout all the land unto all the inhabitants thereof.—Levit., xxv. 10.

By order of the Assembly of the Province of Penn'y for the State House, in the
City of Phila., 1752.

Broad staircases led to the second storey of the building, where the waiting-room and offices of the Executive Commissioner were located; also a room for the use of press correspondents, and another containing Pennsylvania newspaper files. The doors and windows of the second floor opened upon broad verandahs, and outside staircases led to the roof-garden. Historical maps, books, portraits of governors and other prominent citizens and relics, were exhibited. Surmounting the main façade of the building were several pieces of statuary, the Pennsylvania coat of arms, figures of William Penn and Benjamin Franklin, heroic in size (about 12 feet high), and the allegorical groups at the right and left angles of the building, which were indicative of mines and mining on the one hand, and of science, manufactures, and agriculture on the other, with the central figure in either case surrounded by sheltering and guiding spirits. The cost of the building was \$90,000.

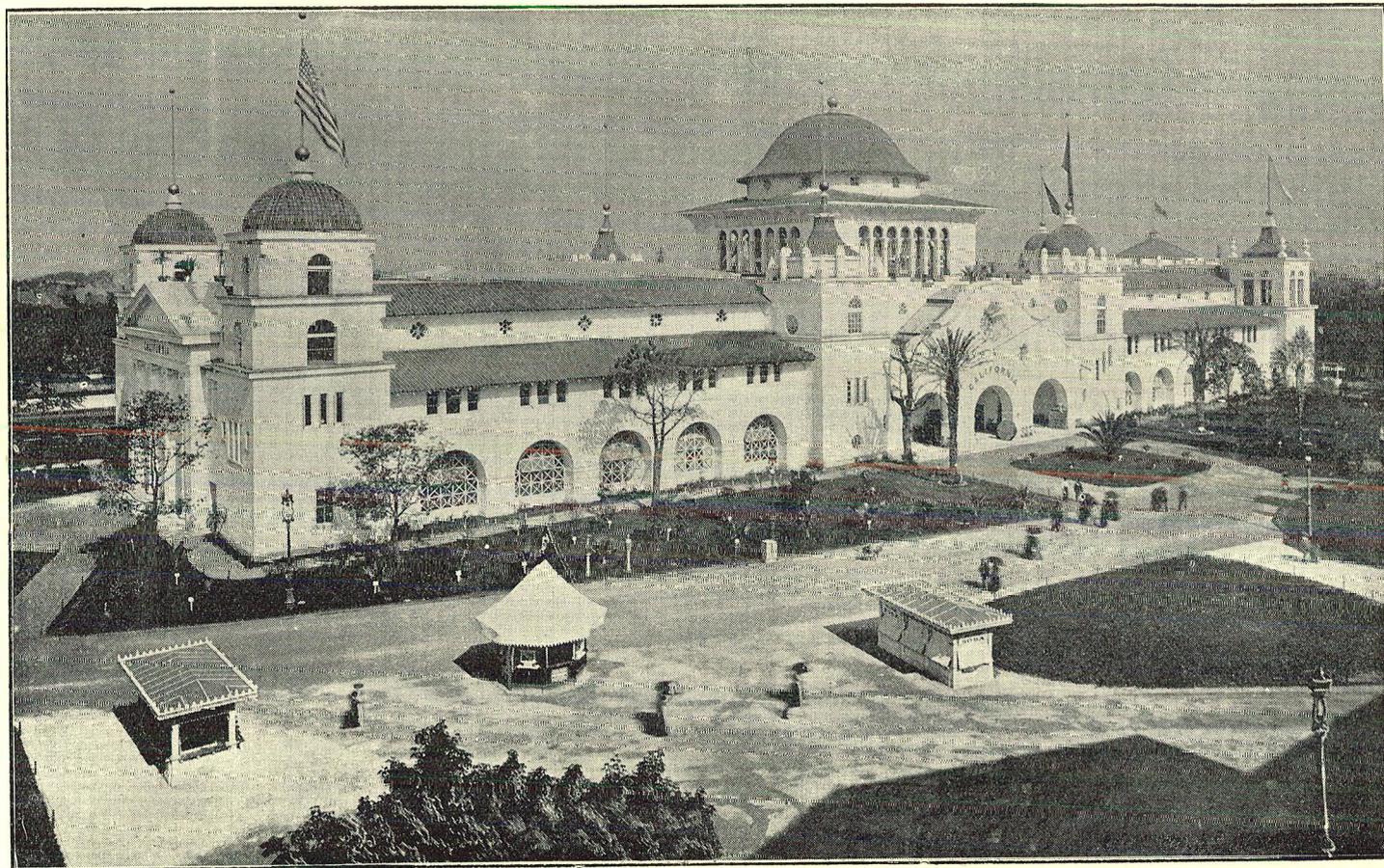
California.

The California building was a reproduction of the typical mission that once was common in that State. Its length was 345 feet, the width 144 feet, height from the ground to the eaves 50 feet, to the roof-centre 65 feet, and to the top of the dome 113 feet. The walls were a close imitation of the adobe or sun-dried brick, used in the original structures; the roof was covered with tiles similar to those covering the Jesuit Mission-houses. The principal features of the building were copied from the beautiful old mission at Santa Barbara, the façades represented those of San Luis Rey and San Luis Obispo. The whole mass was relieved by a large central dome, around which was an open roof-garden filled with semi-tropical plants. The building was further embellished with the rich moulded windows over the arched entrances, and made musical by the old mission bells in its towers. Exhibits were arranged along the sides of the building on the ground floor, and consisted of minerals, petrified woods, wines, fruit, and a number of other matters. The offices were grouped on the second storey.

Some of the other State buildings were very characteristic, and all were more or less expensive. There can be no doubt that a very large sum was spent on the separate State buildings, the total amount having been estimated at about a third of a million sterling. The fact bears out what I have already said as to the strong local spirit and keen rivalry that exists between different cities and States in America. Some of the newer and the less thickly populated of them
collected



PENNSYLVANIA STATE BUILDING.



CALIFORNIA STATE BUILDING.

collected or appropriated very considerable sums for Exhibition purposes, a fact which shows how stimulating is a new country, and how energetic is a youthful community. These State buildings formed the most curious town ever built. Surely never before was gathered together a collection of houses so diverse in architectural character.

OFFICIAL BUILDINGS OF THE EXPOSITION.

Preliminary Remarks on Official Buildings.

In order to give a general idea of the magnificent structures provided for the exhibits of the world at the World's Columbian Exposition I have embodied, in the succeeding paragraphs, information obtained, not only from my own observation during many months, while the buildings were in course of construction, but what is much more to the purpose, from the best official records which have been freely placed at my disposal for the express purpose.

Grand Terminal Station.

On arrival at Jackson Park—while there were many entrances in the Stony Stony Avenue and other streets leading to the Exposition, as well as at the Lake front at the various piers, the proper official entrance was at the Grand Terminal Station, a handsome structure, situated west of the Administration Building and forming the west side of the Grand Plaza. It was of the Roman-Corinthian style of architecture, and in general plan was divided into three sections of which the central was 200 feet in length by the full depth of the building, while the east and west sections were three storeys in height, and contained the waiting-rooms, check-rooms, lunch counters, and the general railway offices. The gallery above was 25 feet wide and extended entirely round the central section, having a length of about 600 feet. Two broad stairways, built in the highest art known to moderns, led up to this gallery from the main floor. This gallery was both a waiting-room and a convenient place for the meeting of friends. In the upper part of the great hall there was a frieze of clock faces, 24 in number, and 5 feet in diameter, giving the time of the day or night at the principal cities of the world. On examination of these clock faces I found that the one representing Australia had the name of Melbourne with the time of the day at that city represented on it. I wrote at once to the authorities, pointing out that New South Wales was the only Australian Province officially represented at the Exposition, and that the Metropolis of Australia was the capital of New South Wales, and that its name was Sydney, and I requested that the necessary alterations of name and time might be effected. I am glad to report that my request was complied with, and the visitors to the Exposition had then the opportunity of knowing the exact time in Sydney corresponding with the hour of the day in the city of Chicago. The great hall, in its principal features and proportions, was adopted from the hall of the baths of Caracalla at Rome. The constructive material consisted of wood and iron, and the exterior and inner finish and decorations of "staff."* Rising above the station were two illuminated balls of metal and glass, 10 feet in diameter, showing clock-faces in every direction, giving local time. Here also was the "Lost
and

* *Staff*: This was the incombustible material with which the great buildings, the hundreds of columns, pediments, capitals, and all the profuse general ornamentation, as well as the gigantic statuary groups and allegorical pieces, were constructed. It was composed of a mixture of plaster of Paris and a small percentage of cement, in which were introduced frequent fibres of hemp, jute, or sisal grass, to give it toughness, so that it might be sawn, nailed, or bored at will. It was cast in moulds. The plaster and cement were first wet up to the consistency of treacle, and a layer was then spread on the well-lubricated wax moulds. Then followed a layer of the long, tough fibres; over this was poured another coating of liquid plaster, covering in the fibre and filling the mould to the required depth. In the case of statues and statuary groups the models were first fashioned in clay, and then coated in Staff. The workmen employed on this material and work were chiefly Italians, Frenchmen, and Germans, who are quite familiar with the art and practice of Staff-making.

and Found" Department, which was the receptacle for the innumerable articles left by visitors about the building. In connection with this matter a notice was sent to all the officials at the State, Government, and Official buildings, to send here such articles as inattentive visitors might accidentally leave behind them, and the necessity for this notice was recognised everywhere. The entire system of railroads was concentrated in this terminus upon thirty-five tracks. The cost of the main building was \$250,000, and of the landing-platforms connected with it \$50,000, making a total of \$310,000.

Whilst referring to this matter we cannot help admiring the sagacity which induced the organisers of the Exhibition to land their railway visitors just on the most imposing portion of the grounds. An excited and expectant railway passenger turned from the train into a long tunnel or dreary alley, when he expects something beautiful and surprising, is apt to become jaded and weary, so that when the view does gradually unfold itself it has lost half its charm.

First Glimpse of the Palaces.

The view that burst upon the delighted visitor to the Columbian Exposition, immediately he left the depôt within the grounds, far surpassed any effect achieved at previous Expositions, and it would be hard to find a parallel anywhere. The noted architectural spectacles of the world, which owe their charms to diversified surroundings, were, of course, out of the comparison, for the Chicago Exhibition had no aid from Nature beyond the magnificent setting afforded by the blue waters of Lake Michigan. Neither has Chicago historic associations by which the imagination can assist the eye. The architects of the Exhibition were dependent wholly on their own genius and noble precedents in architectural design, and they did their work well. Fortunately for Chicago she had not to depend for the success of a spectacle upon the vicissitudes of the weather to the same extent as in many other places, although she had to fight during the last six months of preparation with difficulties of climate of which Australians know nothing; so that a blue sky and a lake sparkling in the sunshine was a thing not to be despaired of, day after day, as it would have been in some less-constant climes. Before the summer had passed, visitors often longed for some veiling of the sunshine, but that was not a matter for the architects to consider. The task set them was to produce a holiday and festal impression, and to do this, as was done, without sacrifice of dignity, was, perhaps, as great a professional triumph as could have been achieved.

The names of the skilful architects who designed these glorious works of art were:—

Messrs. F. L. Olmsted & Co.—Landscape Architects of the Grounds, &c., &c.
 Mr. Richard M. Hunt, New York—Administration Building.
 Messrs. Adler & Co., Chicago—Transportation Building.
 Messrs. M'Kim, Mead, & Co., New York—Agricultural Building.
 Mr. W. L. B. Jenny—Horticultural Building.
 Mr. George B. Post, New York—Manufactures and Liberal Arts Building.
 Mr. Henry Ives Cobb, Chicago—Fisheries Building.
 Messrs. Peabody and Stearns, Boston—Machinery Hall.
 Messrs. Burling and Whitehouse—Choral Building.
 Messrs. Van Brunt and Howe, Kansas City—Electrical Building.
 Messrs. Holabird and Roche, Chicago—Stock Ring and Pavilion.
 Mr. S. S. Bemen, Chicago—Mines and Mining Building.
 Mr. Charles B. Attwood, Chicago—Fine Arts Building, Music Hall, Casino, Terminal Railway Station, Guards' Stations, Fire-stations, Balustrades, Bridges, &c.

The ironwork was in most cases designed by Mr. Shankland.

For the purpose of convenient record the following statement of the dimensions of the Great Exposition Buildings will be found useful, and at the same time will convey a more complete idea of their vast extent than could otherwise be easily given.

Dimensions

Dimensions of the Buildings.

Buildings.	Dimensions in feet.	Area in acres.
Manufactures and Liberal Arts ...	787 x 1,687	30.0
Administration ...	262 x 262	1.6
Mines ...	350 x 700	5.6
Electricity ...	345 x 690	5.5
Transportation ...	256 x 960	5.6
Transportation Annex ...	425 x 900	8.8
Woman's ...	199 x 388	1.8
Art Galleries ...	320 x 500	3.7
Art Gallery Annexes (2) ...	120 x 200	1.1
Fisheries ...	165 x 365	1.4
Fisheries Annexes (2) ...	135 diameter	0.8
Horticulture ...	250 x 998	5.7
Horticulture Greenhouses (8) ...	24 x 100	0.5
Machinery ...	492 x 846	9.6
Machinery Annex ...	490 x 550	6.2
Machinery Power House ...	490 x 461	2.1
Machinery Pumping Works ...	77 x 84	
Machinery Machine Shop ...	106 x 250	
Agriculture ...	500 x 800	9.2
Agriculture Annex... ..	300 x 550	3.8
Agriculture Assembly Hall, &c. ...	125 x 450	1.3
Forestry ...	208 x 528	2.5
Sawmill ...	125 x 300	0.8
Dairy ...	100 x 200	0.5
Live Stock (2) ...	65 x 200	0.9
Live Stock Pavilion... ..	280 x 440	2.8
Live Stock Sheds ...	.....	40.0
Casino ...	120 x 250	0.7
Music Hall ...	120 x 250	0.7
		153.2
United States Government ...	345 x 415	3.3
U.S. Government Imitation Battle-ship ...	69.25 x 348	0.3
Illinois State ...	160 x 450	1.7
Illinois State Wings (2) ...	.....	0.3
		158.8

The Exposition Buildings, not including those of the Government Building and the Illinois State Building, had also a total gallery area of 45.9 acres, thus making their total floor space 199.7 acres. The Fine Art Building had 7,885 lineal feet, or 145,852 square feet of wall space.

Destruction by Fire of Cold-Storage Building.

Happily the glories and success of the Columbian Exposition were not marred by more than one serious event throughout its duration; but this catastrophe, which took place on the 10th July, 1893, has to be recorded, as it was attended with great loss of life, and what was relatively of minor importance, the destruction of a large quantity of exhibits from participating countries, the loss, however, of this Colony being comparatively slight. This event was the destruction by fire of the cold-storage building, in which wines, beers, and perishable goods were stored on behalf of exhibitors. The fire broke out in broad daylight, while the grounds were crowded with visitors to the Fair. The flames first appeared on the top of the wooden cupola, which surmounted the smoke-stack, 191 feet high, and built of steel piping encased in wood. The flames spread with great rapidity, and within a very short time a large number of firemen belonging to various companies in the city of Chicago, with engines, arrived on the spot. In the discharge of their duties the firemen ascended the interior of the tower of the building, and so rapid was the spread of the flames that the escape of most of those who reached the upper portions of the tower was cut off, and twenty lives were lost, while many persons were dangerously injured. This unfortunate affair created an intense sensation not only in Chicago but in all parts of the world to which the information of the sad event was cabled. The building was 130 feet by 255 feet in area, with a tower reaching 220 feet from the ground. The structure was built by the Hercules Iron Co., at a cost, with machinery, of 200,000 dollars. Perishable articles were stored at

at the northern end of the building, and at the southern end were the ice freezing-tanks and the offices of the Company. The building was constructed with wood and iron, covered over with staff, the same material as that which was used generally throughout the World's Fair.

The Official Buildings.

I now propose to describe briefly the various official buildings, in order, referring to our own representation in them, as well as to the exhibits of leading character of other countries. It would be impossible for any one person to do justice to any single department of the exhibits, so extensive and so varied were these representations. All I hope to accomplish is to give a simple expression to the views and opinions I have formed of the more striking features of the various exhibits as they have occurred to me, whilst in daily observance of them, during the currency of the Exhibition, and to afford such information as may hereafter be of some value to those interested in the special subjects referred to.

ADMINISTRATION BUILDING.

Before proceeding to the various official buildings in order, a reference to the Administration Building is necessary.

Its grand and imposing appearance.

This building was one of the gems of the Exposition palaces, and stood in the most imposing position at the head of the great basin. Pictorial representation may give a general idea of the appearance of the building, but never can afford a standard by which its noble proportions may be judged. The design, which was the work of a New York architect (Mr. Rich Morris Hunt), was bold in general features and rich in ornamentation, the whole combining to form an impressive and pleasing structure in strict harmony with the purpose it was intended to serve. It was situated immediately south of the Mines and Electricity Buildings, north of Machinery Hall, east of the grand Terminal Railway Station, and west of the basin. The gilded dome of the lofty building was a most conspicuous object, and attracted the gaze of every visitor on reaching the grounds. In plan the building was rectangular, and measured 260 ft. 6 in. on each side; and consisted of four pavilions, 84 feet square, one at each side of the four angles of the square, and connected by a great central dome, 120 feet in diameter and 220 feet in height, leaving at the centre of each façade a recess 82 feet wide, within which were the grand entrances to the building. The roof which covered these pavilions was flat, and was made continuous by exterior galleries, which afforded a most delightful promenade for visitors. The first great storey was of the Doric order, of heroic proportion, surrounded by a lofty balustrade, and having the great tiers of the angle of each pavilion crowned with sculpture; the second storey, with its lofty and spacious colonnade, was of the Ionic order.

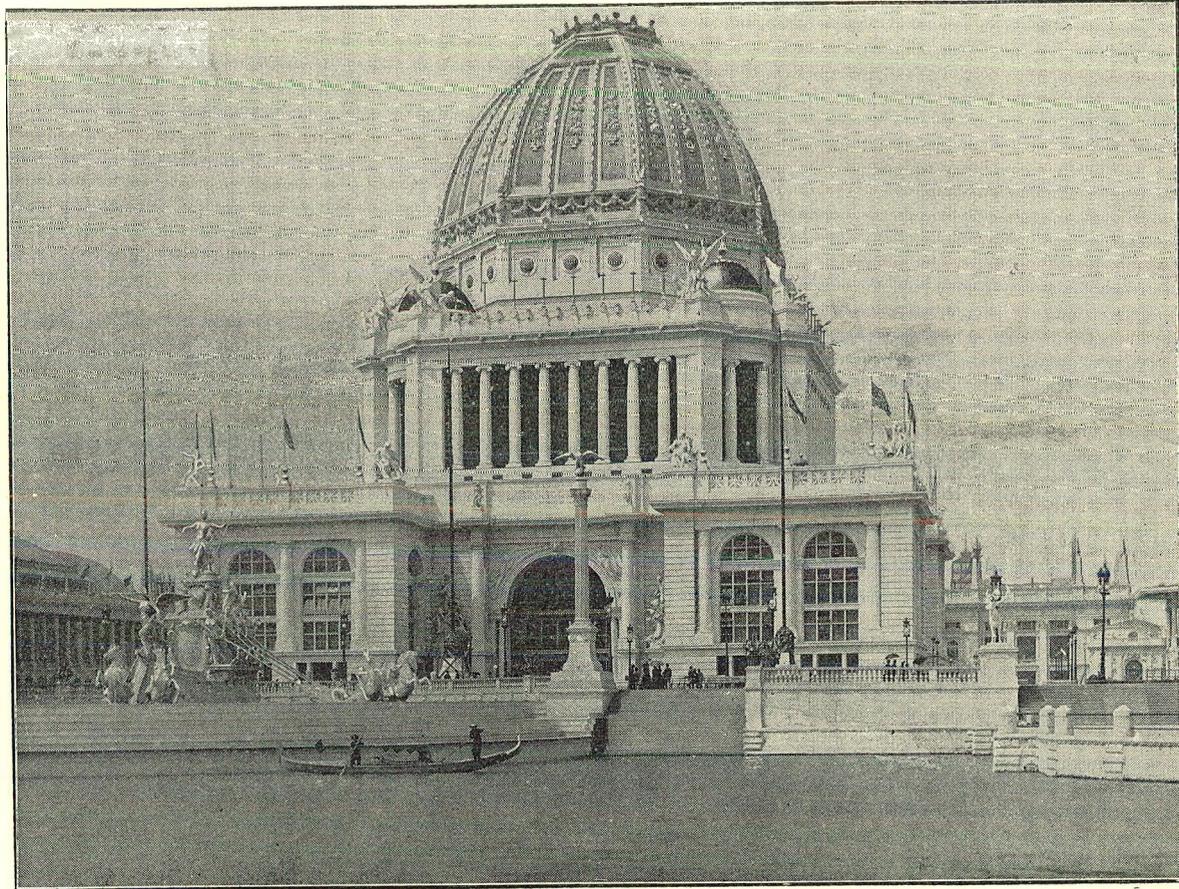
The Entrances.

The four great entrances, one on each side of the building, were 50 feet wide and 50 feet high, deeply recessed and covered by semi-circular arched vaults, richly coffered. In the rear of these arches were the entrance doors, and above them great screens of glass, giving light to the central rotunda. Across the face of these screens, at the level of the office floor, were galleries of communication between the different pavilions.

Interior Features.

The interior features of this great building even exceeded in beauty and splendour those of the exterior. Between every two of the grand entrances, and connecting the intervening pavilion with the great rotunda, was a hall or loggia, 30 feet square, giving access to the offices, and provided with broad circular stairways and swift-running elevators.

The



ADMINISTRATION BUILDING.

The Dome.

Above the balcony was the second storey, 50 feet in height. From the top of the cornice of this storey rose the interior dome, 200 feet from the floor, and in the centre was an opening 50 feet in diameter, transmitting a flow of light from the exterior dome overhead. The under side of the dome was enriched with deep panellings, richly moulded, and the panels were filled with sculpture in low relief, and immense paintings representing the Arts and Sciences. In size this rotunda rivalled, if it did not surpass, the most celebrated domes of a similar character in the world.

Pavilions.

The building was divided into four grand pavilions known as A, B, C, and D, occupied from the ground to and including the third floor by officials of the Exposition, express, telegraph, and telephone companies, bank, press headquarters, café, Columbian guard, &c. Above the third floor were four tunnel passages leading from one pavilion to another. The fourth floor was a circular colonnade for sight-seers, and from the fifth floor stairways led to the top colonnade.

In the building provision was made for the offices of the President of the United States Commission and of the Director-General; the Council of Administration; the President and the Secretary of the Exposition; the President of the Board of Lady Managers; the Secretary of Installation; Collector of Customs; National Commission; Postal and Telegraph Companies; Publicity and Promotion; the Official Publication; Press Association; Foreign Affairs; Express Companies and Bank.

The framework of the dome of the Administration Building was of steel; the foundation was on piles, driven down to the hard clay, and upon them were built up standards of continuous lattice work. The dome was framed of eight main ribs, one at each angle of the octagon, and in many ways each portion of framework was strengthened and stiffened to add to the general security of the work. Within the dome, round its walls in suitable panels were painted the names of all the great countries represented at the Columbian Exposition, and I was gratified to observe during the earlier stage of the Exposition the name of Australasia on one of the panels; some time later, however, in consequence of a supposed affront to some of the foreign nations, whose names were not recorded in this conspicuous manner, several of the panels had the names on them removed, and amongst these was that on which the name of Australasia had been placed. I immediately wrote the Director-General, calling his attention to the action which had now been taken, and pointing out that at great expense, and extraordinary toil and labour, our country had come to this distant land, and that it was only a matter of due and proper courtesy that our country's name should be distinctly recognised amongst the nations thus publicly represented. Soon afterwards I received a letter from the proper authorities, stating that the whole matter had been reconsidered and that in a few days the name of New South Wales as a represented country at the Exposition would be placed on one of the panels; which was accordingly done to my entire satisfaction; and in this and in many other matters I have been placed under great obligation to the Director-General of the Exposition.

Decorative Statuary.

I have already referred to the sixteen huge panels in which were inscribed in golden letters the names of the great countries of the earth represented at the Exposition. Extending around the dome, on top of the arches in which these panels were placed, was a strip of huge white moulding, handsomely carved and with its cuts and crevices

crevices worked in gold. Resting on this moulding were eight huge panels, one at each side of the octagon, each having a gilt slate supported by two winged female figures, and on each slate was the record of some great discovery or event in the history of the world's progress. Above these panels was a row of light terra-cotta coloured panels, through the top of which at regular intervals were let in small square latticed windows. Further up, on another stretch of moulding, were painted the names of men whose discoveries and inventions have been of great importance in the progress and development of the world. Beyond these was a row of plaster medallion showing the heads of the different types of women of the world, and still further up, at the summit of the great dome, were eight panels, each having a handsome plaster group. The central figure in each of these was a woman with outstretched arms and holding in each hand a wreath to crown some one of the figures bent before her. The central figure was the genius of the World's Columbian Exposition, the initial letters of these words, W.C.E., being inscribed over her head, and the kneeling figures in front representing Literature, Science, Arts, and Industries, upon which recognition and honour are being bestowed.

Upon the outer and upper dome Dodge painted his picture "The Glorification of the Arts and Sciences," the idea of which was the representation of Apollo sitting on a lofty throne and conferring honours on the victors in War and the leaders in Science and in Art. The form of a warrior was bent before him, and other favourites approached on the broad steps that lead to the throne. In the procession which extended around the dome were figures representing Music and Poetry, and the Arts, the Sciences, and Industries. There were also four winged horses drawing a model of the Parthenon, and over it were winged females drawing back the canopy from the amphitheatre in which all such gatherings were held by the ancients.

The external sculpture was the work of Karl Bitter, of New York. The building was decorated with twenty-eight groups and a number of single figures and relievos. Bas-reliefs of a larger size were especially used for adorning the interior of the dome. The most remarkable were those groups which were placed at the sides of the entrances; they were 34 feet high and represented the four elements, Fire, Water, Air, and Earth. At one side of an entrance the element was seen in its natural, unsubdued condition, and at the other side it was shown as in the service of man and subdued by him. Each of these groups was full of symbolical figures, and was placed in such a position with regard to the neighbouring great buildings as to be very characteristic. For example, opposite the Machinery Hall, Fire was symbolised, and opposite the lagoons, and looking out on the Lake, was the Water group. The Pavilions were decorated with twelve groups, each having three, allegorising the elements, their capacities, inclinations, and dispositions. Strength, patriotism, religious sentiment, charity, love of liberty, &c., &c., were thus symbolised. In the highest points, at the sides of the four smaller domes which surrounded the main dome, there were eight more groups allegorising the culminating points of human culture in Art and Science, Industry and Commerce, War and Peace, Theology and Justice. The leading motive of these groups, with their winged female figures, was to display a most charming interruption to the architectural masses.

The M'Monnies Fountain.

This fountain stood at the head of the basin immediately in front of the Administration Building. There were two electrical fountains, 50 ft. in diameter, to the right and left of the M'Monnies Fountain, two smaller fountains in front of the Fine Arts Building, and one in front of the Women's Building. Certainly no more striking and perhaps no more perfect a work of art could be found among the groups

groups and figures of sculpture which adorned the grounds than M'Monnies Fountain. It arrested attention even amongst the wealth of attractive objects which were visible in that portion of the park, and grew upon the imagination as one observed and comprehended the exquisite detail in which the artist executed a design of bold and large conception. Mr. M'Monnies was the sculptor, of whose fertility of imagination and skill in production this pæan was the creation. The idea presented by the work was that of Columbia, the genius and apotheosis of modern liberty. The ship of State floated in the centre of a circular basin or lake, and was idealised by a triumphal barge. In the prow was a winged figure of victory heralding the advance of freedom by blast of trumpet, and bestowing laurels on her champions with the disengaged hand. The barge was attended by eight sea-horses, each bestridden by the animated figure of a youth, who urges his steed forward. The rowers were eight female figures, representing Music, Architecture, Sculpture, Painting, Agriculture, Science, Industry, and Commerce. These stood on platforms, which rested on shields and mouldings of emblematic device; the forward poise of the bodies as they leant to the oars, and the tresses and drapery blown to the rear, conveyed the sense of rapid motion. At the helm was a hoary, omnipotent Time. Amidship, on a massive pedestal bearing the arms of the Republic, was throned Columbia, calm and erect in conscious strength, but pose and features expressing vigilance as became one who knew the price of liberty. Her feet rested on the globe in token of Freedom's triumph, her right hand rested lightly on the back of the chair around which her garlanded and happy children knelt; in the left hand she extended the torch that lights the world. Victory at the prow; Time at the helm; the Genius of Liberty sailing with serene confidence towards the Future. Such was the story of the sculpture. The proportions of the work were on a grand scale. The smallest figure was 12 feet in height.

Electric Fountains.

The culmination of brilliant effects was produced when the great electric fountains on either side of the M'Monnies Memorial were brought into play. They were much larger than anything of the kind attempted before, and were put in at a cost of \$50,000. The basins in which the apparatus was fixed were 60 feet in diameter. The floors were pierced for 304 jets altogether, by means of which the water was sent to a height of 150 feet. Like the rest of the display, the prettiest effects were produced by concealed lights, thus doing away with the marring by the glare of the exposed light while adding the charm of mystery to the source of the illumination.

The whole apparatus was controlled by electric signals from one of the domes of Machinery Hall. From there the different lights were turned on, and the transition from one form to another, and from one colour to another, controlled. A 36-inch main supplied the water. Illumination was by 38 arc lights of 100 amperes each, requiring nearly 1,000 horse-power in operation.

Mode of Production of the Colours in the Fountain.

The production of the lovely changing colours—the torrent of silver changing to mellow amber, then pale green, then cerulean, then opaline, iridescent, then like a Vesuvian cataract of fiery lava, then a cascade of molten silver—took place through the aid of coloured glass. In the floor of the fountains was a trap-door leading to the operating room, a great circular cellar about 35 feet in diameter and 8 feet high, filled with a wilderness of machinery, pipes, switch-boards, search-light reflectors, and electric wires; the water in the lagoon was nearly level with the ceiling, and a force-pump was used to keep out the soakage. The tops of the round rock-covered chimneys, through

through which the light streamed, were covered with heavy plate-glass laid in putty, and, of course, water-tight. Above this glass was the nozzle of the fountain. Below it, in the circular room, and directly underneath, were the search-light carbons burning in a reflector similar to the style of a locomotive head-light, which projected the powerful rays upwards against the sky. The changing colours were produced in a very simple manner. Between the electric light and the glass top of the low chimneys was a horizontal wheel about 6 feet in diameter. This wheel had six sections, divided somewhat in the shape of a six-cordate clover leaf. In each of the leaves or sections was a differently coloured glass, and the wheel when turned produced the effects desired. The question may be asked as to how the same light was cast upward through the dozen chimney holes of the fountain at the same time, and how the dozen glass wheels were turned simultaneously, one under each jet. The wheels were all connected with a simple system of shafting and bevelled cogs, so that the operator turned them all at once, bringing the same coloured glass between the search-light and the stream above it with the mechanical accuracy of machinery. In one of the sections of each wheel the glass was omitted, to give the white light or molten silver effect. The explanation of the mode in which the two widely separated fountains played the same colors and in the same manner simultaneously, although the operators could not see each other work, was as follows:—The operator in the tower of Machinery Hall commanded a view of both fountains, with which he had electric communication. By the simple turn of a switch he produced a white, green, blue, opalescent, or red light in front of the wheel turner, indicating thus the color of the glass next to be brought into play; and, in a similar manner, the style in which the fountains were to play. The water-head was furnished by the great pumps in the Worthington pumping station west of the Colonnade.

As the observer stood beside the MacMonnies Fountain in the Grand Court of Honour and gazed on each side of him he could not fail to admire the remarkable statuary encircling the main basin, and he would be particularly struck by the characteristic series of native American wild animals as well as a series of six rostral columns. Referring to these latter the sculptor, Mr. Johannes Gelert, stated that the principal idea intended to be conveyed was that of a great naval triumph such as the discovery of America truly was, and to serve this prime motive there was a sixfold repetition of the columns. On the pedestals were graven the names of great discoverers and the shafts were adorned with rostra or the prows of ships and emblems of triumph. On the double capitol stood the sailors' tutelary deity, Neptune or Poseidon, resting in his divine car, full of proud triumph and well pleased with the grand results of his sailors' great discovery. In addition to these triumphal columns there was a display of statuary characteristically American, and it was a happy inspiration which led the sculptors not to confine themselves to representations of inanimate forms and beautiful reproductions of inanimate ideas which have been elaborated to their utmost extent by the ancient Grecian and Roman masters, of which this noblest and most imperishable of the arts, while modern artists may hope to equal, it is utterly impossible for them to excel the ancient artists in the portrayal of the human figure, or in the evolution of graceful ideas as applied to columns, arches, and architectural ornamentation. The determination therefore to depart from conventional forms and to introduce into the landscape the figures of American animals was a happy one, especially when it is considered that the large majority of visitors to the Fair, American as well as Foreign, were more or less unacquainted with such representatives of the wild beasts of the country as the grizzly bear, the buffalo, and the panther. These conceptions likewise served another purpose, namely, to aid in the perpetuation of the forms of these animals long after they themselves are extinct species. It is a fact well known to naturalists
that

that many kinds of the marine and land animals of America are doomed in a short time to utter extinction; and prominent among them were the animals so ably represented by these sculptures. Most life-like and realistic were the animals surmounting the various bridges. Mr. Keney's thus described those for which he was responsible:—

“Old Ephraim,” at the north-east corner of the bridge, opposite the south-west corner of the Manufactures and Liberal Arts Building, was a male grizzly bear guarding the approach to his lair. He has been marching down the canyon, when his quick ear catches some note at discord with nature's harmonies. This rivets his footsteps in his tracks, suppresses his breathing almost, and so he stands with set ears, straining eyes, protruding lips, expanded nostrils, impressible to the next tone which shall rouse his nature into madness.

“As down the glen he strode along,
Vanished the blacktail's branching prong,
And even the finch's low sweet song
Stopped in the pine above him.”

“A Grizzly Grave-digger,” at the south-east corner of the bridge and opposite the south-west corner of Manufactures Building, represented a female grizzly which had dug up the head of a wild sheep she had buried and was pawing and playing with it, rolling it between her huge forepaws, each garnished with claws curved like reaping-hooks, set for some red harvest. All the varied nature of the bear was called into life; aroused by the proximity of the dead game she gloats over it in anticipation of the feast. Suddenly a magpie utters its cry of alarm—her play ceases.

“A Prairie King,” on the north-west corner of the bridge over the lagoon between Machinery Hall and Agricultural Building, was represented by a bull buffalo walking around the outskirts of his herd on the outlook for some danger which threatened. An imposing figure with shaggy, grim frontlet, and short, thick horns, the ponderous head, low swung to the rhythm of his walk, its sweeping beard almost touching the grass at his feet; a warrior of his tribe, whose towering front has stood guard when the savages of the desert have swarmed around.

“At sound of the Whoop,” on the south-west corner of the bridge, over lagoon between Machinery and Agricultural Buildings, was represented by a cow buffalo, which, hearing the whoop of the coming red men, stands with uncouth head high lifted, and shaggy fore-legs gathered beneath her. From her thin, nervous hindquarters to the tips of her sharp, curved horns, all was tense as a bow string, for there flashed in advance of those ringing screams a vision of the nude, brown horsemen of the plains, whose blotched mustangs are bearing them onwards, the old time destroyers of her race.

“The Still Hunt,” on the north-west corner of the bridge over the lagoon, opposite the west entrance to the Manufactures Building, consisted of a figure of an American panther, which represented, as did all the animals of the bridges executed by Keney's, that they were in some way watching the approaches. In fact, the gathering of the immense muscles, the limbs tremulous from restrained impulse, and the concentrated gaze all told their story, and left no doubt in the beholder's mind of the spring about to hurl the great cat upon his prey.

“At Bay,” on the south-west corner of the bridge, over the lagoon, opposite the west entrance to the Manufactures Building, was represented by a female American panther. Someone was approaching her fastness, and her first impulse was resistance. She had partly risen, and, with planted fore-feet, straining quarters, and swaying tail, displayed her fangs, while her down-drawn ears, wrinkled face, and passion-

passion-blinded eyes told at a glance that she thirsted even now in her savage feline breast for the wild grapple of the coming contest in all its fury, its blood, and its death.

Describing the statuary so ably executed by him, Mr. A. Phimister Proctor said:—"Two sullen moose, with shaggy manes, disproportionately long legs, short thick necks, and ugly noses stand one at each side of the bridge leading to the Agricultural Building. The animals' antlers are their only beauty, but the sculptor has given a faithful representation of them, and there are duplicates on the Colonnade. With heads raised, and nervous alertness and attention expressed in every graceful line, four elks stood in front of the Administration Building, while others were placed at intervals along the lagoon in attitudes as watchful as though they were gazing upon the purple heights of their familiar mountains. Two polar bears stood on the west end of the middle bridge, fronting the Administration Building. They gazed across an imaginary field of ice, and seemed to sniff the air for indications of seals or unfortunate Arctic explorers."

At the south end of south canal, immediately in front of the great Stock Pavilion arch, stood an accurate reproduction of the famous Egyptian obelisk known as Cleopatra's needle, the original of which, presented to the United States by the Khedive of Egypt, now stands in Central Park, New York. Its fellow was removed to London twenty years ago and set up on the Thames embankment. Hieroglyphics, representing the scenes from the history of Egypt occurring long before the historic era, contained upon the needle in the New York Park were omitted, although originally intended to be reproduced. At the base of the obelisk were four immense lions, to which the sculptor, Mr. M. A. Waagen, had given a very life-like appearance.

THE STATUE OF THE REPUBLIC.

An inscription to the following effect was written on the base, in English, Latin, and Greek:—

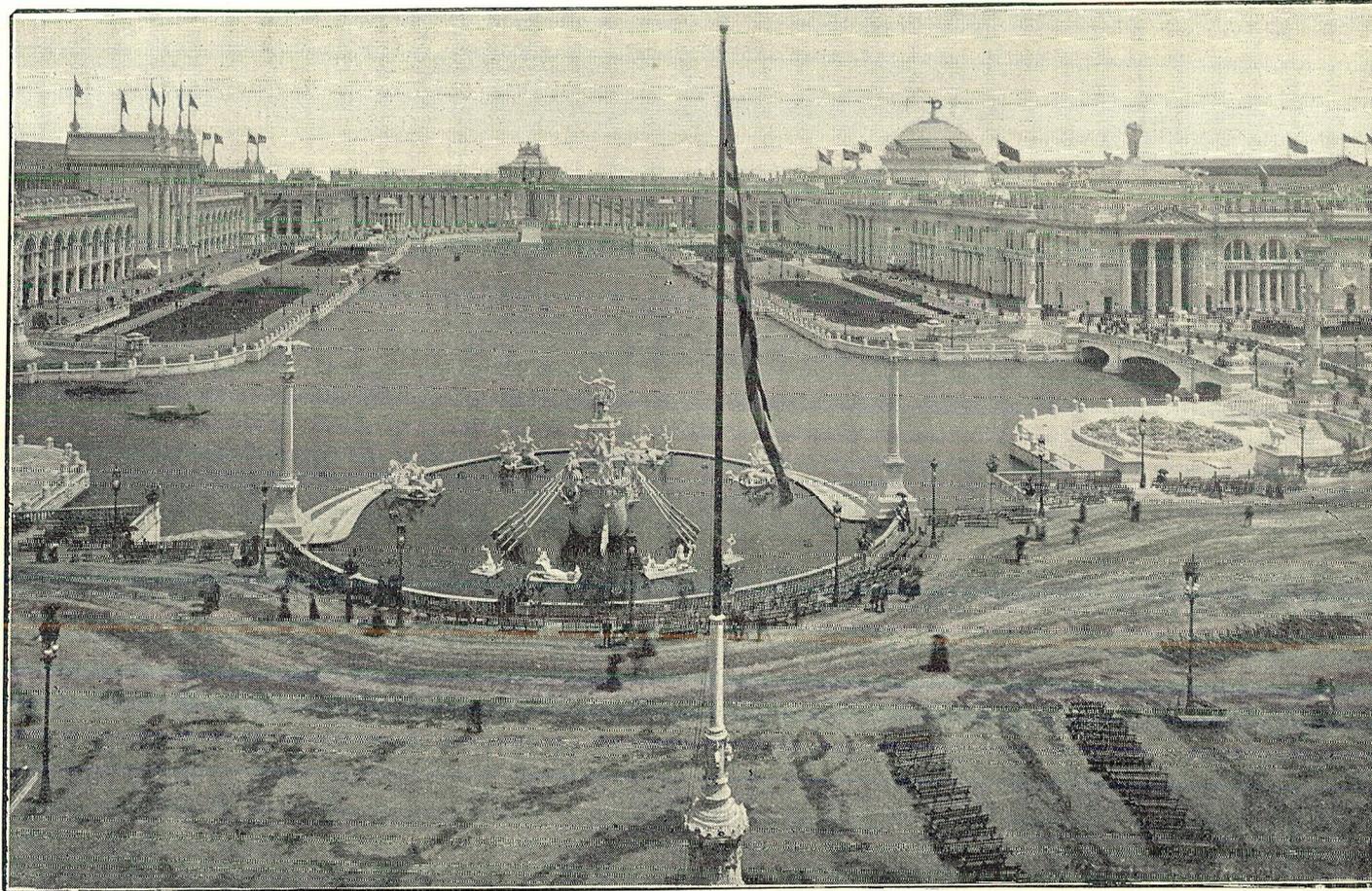
Annis quadringentis posteaquam Christophorus Columbus incognitum antea orbem terrarum Americam gentibus aperuit hunc in locum conveniunt homines omnium fere nationum quid quisque in artibus quid inventis rebus quid in agricultura præstiterit amico certamine inter se comparantes.

Four hundred years after the discovery of this continent by Christopher Columbus the nations of the world unite in this spot to compare in friendly emulation their achievements in Art, Science, Manufactures, and Agriculture.

This heroic statue was placed at the east end of the Grand Basin in the Grand Court of Honour. It was the work of Daniel Chester French. The form of the statue was clothed in a Grecian robe, but the head and features were distinctly modern and of the American type. It was a keen type of face, thoughtful, almost severe, but with great elements of beauty. Upon the head was a wreath of laurel leaves—the common emblem of victory—and around it a halo of electric lamps forming a semi-circle of light. The arms were lifted, but not imploringly, for one hand held a staff carrying the symbol of liberty (the Phrygian Cap), and the other a globe surmounted by an eagle. The bird of Freedom spread its protecting wings over the nations of the earth. The little finger of the statue measured just 2 feet 3 inches from knuckle to nail. A better idea of the dimensions of the work may be obtained when it is stated that the distance between the chin and the top of the head is 15 feet; the arms were 30 feet long; the nose was 30 inches long; the wedding-ring finger was 10½ inches round; the length of the forefinger was 45 inches. There was room on the hand to hold four men of ordinary size. Inside the statue was a stairway for the convenience and accommodation of the attendant. Without the plinth the statue measured



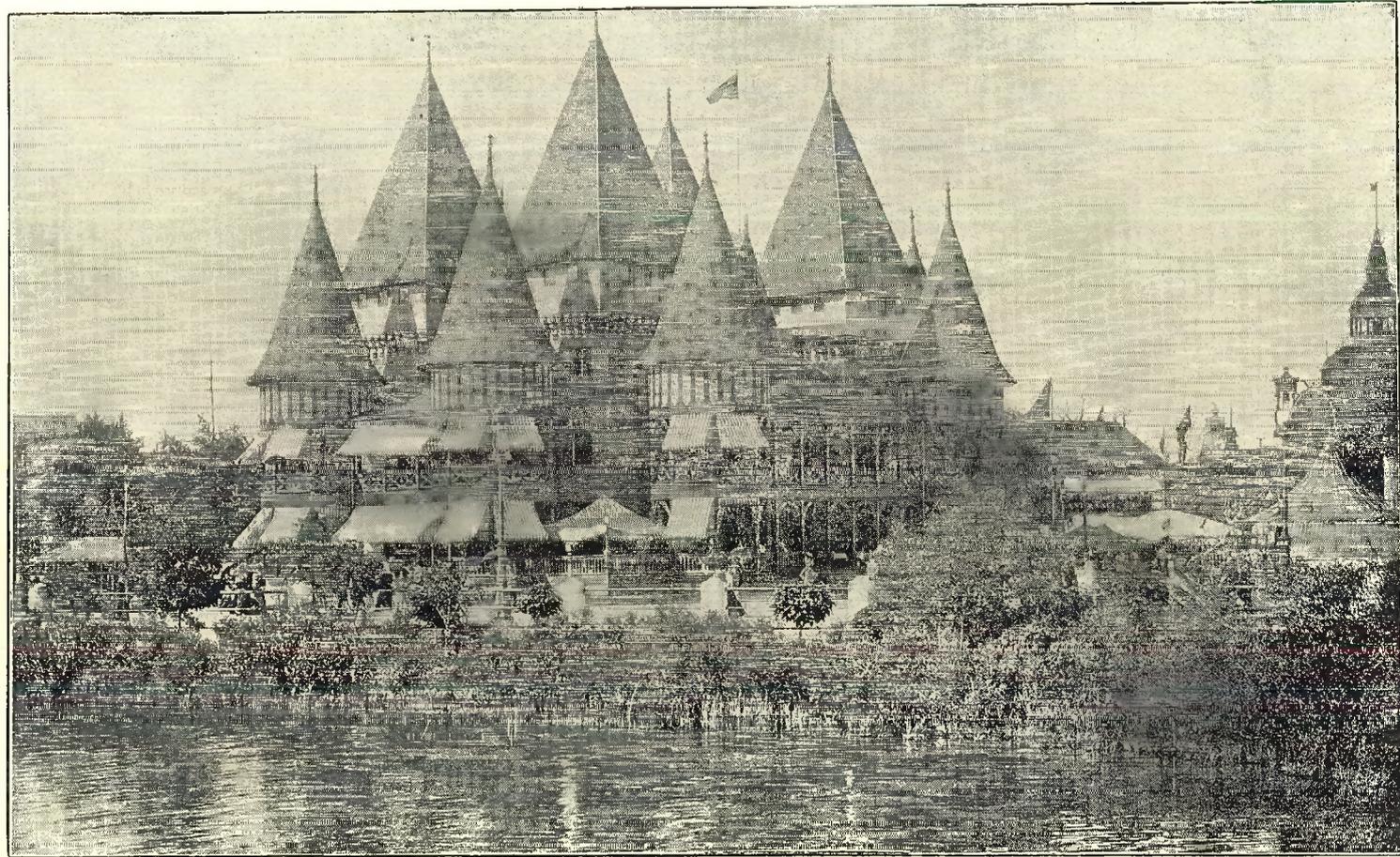
LOOKING WEST ON GRAND BASIN.



LOOKING EAST ON GRAND BASIN.



COLUMBUS ARCH IN CENTRE OF PERISTYLE.



A TYPICAL RESTAURANT, "CAFÉ DE LA MARINE."

65 feet; the total weight was 35 tons; the head alone weighed $1\frac{1}{2}$ tons. With characteristic and becoming modesty the able sculptor thus describes his grand creation: "My colossal statue of the Republic stands at the easterly end of the great lagoon facing the Administration Building. The statue is 65 feet in height to the top of the head, and rests upon a pedestal 35 feet in height. On account of the almost perfectly symmetrical arrangement of the architecture about it I have treated the statue in a formal and almost archaic manner. The figure stands firmly upon both feet; both arms are raised; in one hand she holds a staff with liberty cap and streamers, in the other a globe surmounted by an eagle. On her head is a laurel crown. Her heavy robe, which suggests a lawyer's gown, is open in front, and reveals a breastplate of scale armour and a sword half-hidden by the drapery. The statue is made of plaster and gilded." Mrs. Schuyler Van Rensselaer says that "its bulk impresses one much less than its beauty, for it is in scale with its surroundings and in harmony with their form and spirit. It is not an independent work of art; it is a piece of architectural sculpture as truly as though it had been designed for attachment to some building. It is an integral part of the splendid architectural panorama amid which it stands. In this place a statue of the more usual kind—a realistic figure in a natural attitude of repose or in vigorous action, or a graceful ideal figure with flowing outlines, contrasted gestures and varied masses, lights and shadows—would have been distinctly inharmonious. This figure, with its almost rigid outlines, the parallel gesture of the two uplifted hands, and its majestic movements so dignified as to be almost hieratic repose, is exactly what is wanted."

In the rear of the statue of the Republic, connecting with its classic columns the Casino and the Music Hall, was the artistic Peristyle, designed by C. B. Attwood, and resembling in the centre portion the Arc de Triomphe of the Place du Carrousel in Paris. On the Peristyle, on a panel beneath the far-famed Columbus Quadriga, was the following inscription:—

"But bolder they who first off-cast
Their moorings from the habitable Past,
And ventured chartless on the sea
Of storm-engendering Liberty."

The Peristyle was composed of forty-eight columns, twenty-four on either side, which symbolized the States and territories. On each column was a figure 14 feet high, and below were the names of the different States. This colonnade reached 234 feet from each corner building to the Columbus Portica. Over the water-gate, and surrounding the Columbian Arch in the Peristyle, immediately behind the statue of the Republic, was the quadriga representing "The Triumph of Columbus." Columbus stood in a chariot drawn by four horses, which were led by two women, and at either side of the chariot was a mounted herald bearing a banner. Mrs. Van Rensselaer, whom I have already quoted, has described the quadriga as embodying "An idea which seemed radically novel. No one remembers to have seen a quadriga designed as this one was. The four horses did stand simply abreast and by themselves, guided only by the Victory erect in her chariot. Between each pair advances a female figure, holding them to right and left by their bits. Thus those who face the quadriga see at each end a horse, then a woman's figure, and in the centre two horses. Even from words the interest of such a composition appears. We see one of the most original and one of the most delightful sculptured conceptions of modern times."

Heroic figures, 15 ft. in height, by the sculptor Theodore Baur, representing Eloquence, Music, Fisher Boy, Navigation, and an Indian Chief, many times duplicated, appeared on the Casino, Music Hall, and Peristyle. The conception of these figures was strong, and the sculptor's inspiration carefully carried out in their modelling.

On

On either side of the arch were groups representing the Genius of Navigation and Discovery, with supporting figures for each on the projecting prow of a vessel. These were the work of Bela L. Pratt, of New York.

The Music Hall, 200 feet long and 140 feet wide, was at the north end of the Peristyle, and contained an auditorium capable of seating 2,000 people, with room for an orchestra of 75 pieces, and a chorus of 300 people. The structure was three stories high, and was an architectural gem, both as to exterior and interior. The style was Roman Renaissance. The main entrance was between lofty Corinthian columns, through a broad loggia, and under arched doorways. On the main floor was the auditorium, oval in form, with the stage overlooking the lake at the east end. In front of the stage was a level space with a capacity for more than a thousand seats, while back of that rose tiers of seats. An orchestra of 300 could find seats on the stage, while the hall could seat 2,500. On the second floor was a recital hall, which could be turned into part of the main building by arranging the curtained intervening wall. A flattened glass dome furnished light for the main auditorium. The galleries on the third floor, running nearly the length of the building directly under the roof, could be used to increase the seating capacity of the house. Below the cornices of the Casino and Music Hall the names of the world's great musicians, composers, and singers. In the north-eastern angle of the landward side of the Peristyle was located the Lowney Pavilion, designed by Charles B. Attwood, which stood close to Music Hall. The design for the pavilion came from the Roman Temple of Vesta, and was quite artistically carried out.

East of the Peristyle and extending into the lake was the Main Columbian Pier which was one of the notable sights of the Exposition. Directly in front of the Casino it reached out 2,500 feet into Lake Michigan, and was 250 feet wide. The view to be obtained from the outer end of this pier was something that would be never forgotten by those who took it.

Extending from one end of the pier to the other up and down its centre was a movable side-walk of Multiple Speed Railway on which 5,610 persons could stand or sit and be carried along at different rates of speed, one-half of the walk moving at the rate of 3 miles per hour, and the other half just twice as fast. This walk was built on flat cars, 315 in number, and formed an endless train 4,300 feet long, and was propelled by ten ordinary street car electric motors. On the faster platforms were seats capable of holding four persons each, and just as easily as the passenger stepped on from the stationary platform to the slower moving walk can he step to this from the former swifter. The fare was 5s. a ride. This pier was one of the longest in the world.

The Exposition Pier had an area of $13\frac{1}{4}$ acres, and its general width was 250 feet. It was commenced 1st September, 1892, and finished by 15th December of that year. The pier was 12 ft. above the level of the lake while the depth of water along it varied from 8 to 18 feet.

UNITED STATES GOVERNMENT BUILDING.

The United States Government exhibit consisted of the Government building in which the various departments of the United States Government were represented; a naval exhibit represented by the battleship fully equipped and moored within the shelter of the mole which protected the northern entrance to the lagoon from the lake, built of brick and cement, as well as the actual materials employed in the construction of a real warship. In accordance with the Act of Congress, approved April 25th, 1890, the executive departments of the United States



U.S. GOVERNMENT BUILDING.

States Government made a very interesting and creditable display which was placed under the control of a special board of management in which the several departments were represented by some of their most important Government officials. For the display of these collective exhibits a large building was erected near the lake south of the main lagoon and of the area reserved for the foreign nations and the several States. This building was classical in style, and in its general character was said to resemble the National Museum and other Government buildings at Washington. It was constructed of iron, brick, and glass at a cost of 450,000 dollars, and covered an area of 350 feet by 420 feet. Its leading architectural feature was a central octagonal dome 120 feet in diameter and 150 feet high. The exhibits in this building were arranged in series according to departments. The south half of the building contained the exhibits of the Post-office Department, the Treasury Department, the War Department, and the Department of Agriculture, while the north half contained the exhibits of the Fisheries Commission, of the Smithsonian Institution, and the Department of the Interior. The State Department exhibit extended from the rotunda to the east end, and that of the Department of Justice from the rotunda to the west end of the building. The allotment of space for the different departmental exhibits was as follows:—War Department, 23,000 feet; Treasury Department, 10,500 square feet; Department of Agriculture, 23,250 square feet; Department of the Interior, 24,000 square feet; Post-office, 9,000 square feet; Fishery Department, 20,000 feet; and the Smithsonian Institution the balance of the space. Amongst the many important exhibits to be seen within the building were the mint presses at which medals in various metals (commemorative) were struck off of the Exposition. In the War Department there were representations of all the branches of the American service, including many interesting details. In the Post-office Department there was established a working post-office, so arranged that it afforded all the advantages of a post-office for the Exposition and at the same time enabled visitors to study the interior workings of a model city post-office. There was a display made of all the articles of postal equipment, postage stamps, stamped envelopes, and paper, to which was added a collection of curious articles of mail matter which had accumulated in the Dead Letter Office. A novel feature of the display was a collection of articles which had been sent during the past three years, in compliance with an invitation from the Postmaster-General, by postmasters and others, consisting of relics, curiosities, &c., pertaining to the postal service. Another feature of the departmental exhibits consisted of matters contributed or lent by foreign postal administrations, illustrating the postal service in the respective countries from which they were received.

The business of the post-office was conducted in the following manner:—From the post-office twenty-five carriers delivered letters, and there was a force of twenty-five clerks to handle the business. This, of course, did not include the railway post-office clerks, who threw letters and papers into the mail-car that stood just north of the post-office. More than 150 letter-boxes were placed around the grounds and in the plaisance, each State and Government building having a box. The post-office was a branch of the Chicago Post-office, and in it were exhibited the workings of a post-office of the first class, including the operations of the inquiry, stamp, money-order, registry, general, and carriers' delivery departments. The mailing division, where outgoing mail was handled, occupied the north half of the space, and the city division for incoming mail the south part. In the gallery were the offices for the third assistant postmaster-general and his superintendents. The outgoing mail collected by the carriers was brought through doors on the west side of the office and dumped on to the pick-up table in the north end of the mailing division. Six stamping machines grouped around cancelled the stamps, and the letters were put through a rough
separation

separation by States in a case that stood south of the pick-up table. Six clerks working before three double distributing cases south of the State case made up the mails for routes and placed it in pouches for the railway mail-cars. The opening table on which the incoming mail was back-stamped stood beneath the gallery. Carriers took it from this table to the tenant double case, where the mail was made up into routes for delivery through the different buildings. The furniture was so arranged that spectators looking through the glass screen could easily see every phase of post-office work. The screen was a handsome piece of cabinet-work, made of quartered oak panelled in deep squares, while the grill work was of bronze and the glass was of fine bevelled plate. A series of etched designs on the glass depicted the evolution of the mail service. An old-fashioned six-horse mail-coach and a post-boy represented the early days of the service, while well-executed pictures of an ocean greyhound, a modern railway mail-car, a sound steamer, a mail-waggon and a mail-carrier with his pouch bulging with letters, represented the mail-handling facilities of the present day. The railway mail-car, named Benjamin Harrison, stood just north of the post-office on a platform in the mailing division. The east side of the car contained plate glass, permitting the interior to be seen. It was manned with a full crew of railway mail clerks, who showed how papers and letters are handled at the rate of 60 miles an hour. It was a beautiful specimen of car building, 70 feet long, and equipped with the very latest appliances.

Not the least interesting exhibit, therefore, at the Exposition was the model post-office in the Government building, as the particulars I have already stated will demonstrate. It was one of the most useful of all the features that contributed to the convenience of visitors. Its work was begun 6th February, 1893, and not completed at the time of my departure from Chicago. James J. Hastings, superintendent, made a report to Postmaster Sexton on the work of the office during the period of the Exposition. It showed that during the six months 7,937,467 pieces of mail matter were dispatched, and 7,121,916 pieces were received.

This is as large a business as is done in a city like Detroit or New Orleans. Not only this, but the work usually done on trains by the postal clerks was performed by the clerks in the mail-car adjacent to the post-office. In this way the dispatch was aided and visitors were afforded an exemplification of the full working of the postal system. The office was organised for much less work than it has performed, but, owing to excellent management and the good fortune of having an exceptionally able corps of employés, the great volume of work was handled without delay and to the satisfaction of exhibitors and visitors.

The office was first established in the Administration Building, but shortly before the opening of the Fair was moved to quarters in the Government building, where it became a portion of the exhibit of the postal department. The corps included seventy-three men, thirty-one of whom were carriers.

As an Object Lesson.

Aside from its practical work in handling mails for the Exposition company, commissioners, exhibitors, and visitors, the model post-office was an excellent object lesson for the hundreds of postmasters of this country and other lands who examined its work. Not a day passed that from ten to forty men and women connected with various postal systems did not inspect the entire office when the attaches were at work. It was designed to be a model post-office, and the officials of the department affirm that it has performed its mission. To begin, the furniture and all the appointments of the office were
exceptionably

exceptionably fine, and the clerks were the best that could be obtained. Many foreigners who are connected with postal systems in their country examined the office and its methods and each one pronounced it to be very satisfactory.

The employés have had much to contend with in their work. They have had to deal with men and women from all countries accustomed to different systems and different methods of doing business. This fact made explanations necessary and frequent, but in few cases have unpleasant discussions arisen. Not only have the foreigners required some gentle handling by the employés, but some people from different portions of America itself were unable to understand why the postmaster could not tell if a letter had been sent to the New York State Building for Purity Jones, or if one had been received from Okemos for Samantha Smith.

The immense foreign business was the cause of much work, from the fact that packages were received which required the examination of custom-house officials. The delays caused some complaints from the foreigners, but in almost all cases the trouble was explained with patience and amicably arranged. The officials of the money order division were required also to keep a close watch on the payment of orders. Despite the big business done very little money was lost, although identification, in some cases, was incomplete.

Figures in the Report.

The report of Superintendent Hastings shows that the following pieces of mail matter were dispatched from the office:—

					May.	June.
Letters ...	...	...	...	...	520,455	927,588
Papers and parcels ...	...	...	...	...	35,660	69,530
Circulars ...	...	...	...	...	539,640	173,680
Foreign letters...	...	...	...	...	14,841	22,032
Foreign papers...	...	...	...	...	7,960	9,555
Total pieces ...	...	...	...	...	1,118,556	1,202,385
					July.	August.
Letters ...	...	...	...	...	1,104,864	1,144,848
Papers and parcels ...	...	...	...	...	91,045	101,920
Circulars ...	...	...	...	...	80,920	39,800
Foreign letters...	...	...	...	...	29,888	29,733
Foreign papers...	...	...	...	...	14,545	16,375
Total pieces ...	...	...	...	...	1,321,262	1,332,676
					September.	October.
Letters ...	...	...	...	...	1,287,597	1,260,057
Papers and parcels ...	...	...	...	...	117,640	119,930
Circulars ...	...	...	...	...	30,920	8,000
Foreign letters...	...	...	...	...	29,478	32,946
Foreign papers...	...	...	...	...	18,190	18,285
Total pieces ...	...	...	...	...	1,483,825	1,439,218

RECAPITULATION.

						No. of Pieces.
May ...	...	...	...	...	...	1,118,556
June ...	...	...	...	...	...	1,202,385
July ...	...	...	...	...	...	1,321,262
August ...	...	...	...	...	...	1,332,676
September ...	...	...	...	...	...	1,483,825
October ...	...	...	...	...	...	1,439,218
						7,897,922
Second-class matter...	...	...	...	...	...	39,545
Total ...	...	...	...	...	...	7,937,467

Much mail matter was carried to the office by a special train from the city, making eight trips daily. From the east and south the pouches were thrown off at Woodlawn station, and taken direct to the office.

office. But local letters and mails from other directions were carried on the special train. This service was continued a short time, and then the mails were afterwards carried on suburban trains.

This table shows the business of the office in the reception of mail matter :—

Letters	May.	June.
Papers and parcels	578,646	762,042
Circulars	39,625	224,600
	600,480	178,680
Total	1,218,751	1,160,322
Letters	July.	August.
Papers and parcels	833,238	823,395
Circulars	279,455	335,590
	80,920	39,800
Total	1,193,613	1,198,785
Letters	September.	October.
Papers and parcels	844,509	839,256
Circulars	336,725	290,935
	39,020	.....
Total	1,220,254	1,130,191

RECAPITULATION.

May	No. of pieces.
June	1,218,751
July	1,160,322
August	1,193,613
September	1,198,785
October	1,220,254
	1,130,191
Total	7,121,916

Record of Good Work.

In the Registry Department 12,081 pieces of mail matter were received and 17,409 pieces were forwarded. Of special delivery pieces, 5,044 were delivered; 15,867 letters were advertised, and all but 640 were delivered. This discrepancy is accounted for by the fact that the business of the office was wholly with transients. Receipts from sale of stamps, stamped envelopes, newspaper wrappers, and postal cards :—

May	\$6,031.45
June	10,563.45
July	10,799.25
August	12,615.00
September	12,021.00
October	11,687.00
Total	\$63,717.15

This total is exclusive of a million souvenir postal cards that were sold on the grounds.

The Money Order Department furnishes these figures :—

ORDERS ISSUED—(SIX MONTHS).	
	No. Amount.
Domestic	8,913 \$158,658.87
International	2,365 66,058.91
Postal notes	1,825 3,817.53
Total	13,103 \$228,535.31
ORDERS PAID.	
	No. Amount.
Domestic	3,751 \$107,579.21
International	80 2,125.60
Postal notes	1,391 2,918.03
Money orders repaid	24 505.27
Total	5,246 \$113,128.11

Although

Although the Government building was closed, an entrance was made into the post-office and the room prepared for the cold of winter till the Exposition closed.

The Post-office Department of the United States is one of the most popular branches of the Government. Its operations extend throughout the length and breadth of the country, and it ministers to the business and social concerns of every citizen. The number of post-offices in operation is over 68,000; the length of the post routes is about 452,000 miles, and nearly 375,000,000 miles of mail service are now performed annually.

Exhibits in the Federal structure will be taken back to Washington, with the exception of some apparatus in the naval exhibit, which will be sent to San Francisco, and will become part of a new battle-ship that is being built there. The building will be sold to the highest bidder. Such a disposition of it is necessary according to the law that created it.

PATENT LAW CONGRESS.

In the Government Building there was an extensive display of patents of all kinds collected, to which it would be impossible to make detailed reference. At the Congress of Patents held in the Art Institute several suggestions were made for legislation to give inventors better protection. W. Lloyd Wise, of England, read a paper, entitled, "Some Suggestions for a Good Patent Law." The following are some of the suggestions he enumerated:—

1. The first applicant who complies with the prescribed requirements in any country should be entitled to a patent there, subject to international arrangements, provided he has not fraudulently obtained the invention from some other person or persons in the country.
2. Complete specification, with claims, should be lodged with the application for patent, but the applicant or patentee should be at liberty to apply from time to time for leave to amend his specification, claims, and drawings, by way of disclaimer, correction, explanation, or addition; and it should not be a ground of objection that the specification as amended would claim an invention substantially larger than, or substantially different from, the invention claimed in the specification as it stood before amendment.
3. The application for patent should be examined as to whether the application is in due form and the specification is clear; whether the invention is contrary to public morals; whether the invention appears to have been anticipated, regard being had to prior publications in the patent office of the country.
4. The preliminary examination should not extend to the utility of the invention.
5. The application should be advertised, and opposition be allowed on the following grounds:—Fraud, prior patent in the country for the same invention, prior publication in the country of a full description of the invention, prior public use of sale of the invention in the country.
6. The patent when granted should not be infeasible.
7. The validity and duration of the patent should not depend on any foreign patent.
8. The patent should be subject to moderate periodical payments.
9. There should be provision for compelling the owner of the patent to grant licenses on equitable terms, where needful to supply the reasonable requirements of the public, or where necessary to enable *bona fide* improvements to be utilised.
10. All patent agents or attorneys should be registered in the patent office of the country, should be required to annually obtain certificates of their right to practice, and should be liable for misconduct to be struck off the register and otherwise punished according to circumstances.

He was followed by Benjamin Butterworth, of Ohio, who delivered an able address upon "The Relation of our Patent System to Industrial Development and Progress." He said that the hostility of the labouring classes to every great invention interfering with their work should be greatly reduced because the United States owed its prosperity to inventions. William C. Dodge, chairman of the committee

committee on resolutions, presented the following resolutions as the work of the committee:—

Resolved,—That for the purpose of encouraging improvements in the useful arts, the development of new industries, and to make it an object for inventors or licensed manufacturers to practically put inventions into operation, a sufficient protection should be given to them to warrant such an undertaking.

Resolved,—That, as steam and electricity have brought all civilized nations near to each other, some practically uniform international system of granting patents should be adopted under which all the patents of the several nations may be issued.

Resolved,—That some international system for repatenting or registering patents should be adopted by the several nations granting them whereby patents granted in one country may be effective in each of the others without burdensome fees, taxes, or annuities.

Resolved,—That the requirements of working or of putting the invention into use within a stated time is an onerous condition which leads to the non-patenting and to a consequent non-using of inventions which required extensive plants of machinery, and that it is a condition which retards the introduction of inventions in the countries requiring them.

Resolved,—That all patents for their duration be independent of patents for the same invention in other countries, and be granted for the same term as that allowed by law for patents in the country granting them, and with no further restrictions than the applications therefor be limited to time fixed for application by citizens and the date of the grant antedating that of the oldest prior patent.

Resolved,—That a trade-mark valid in one country should be valid the world over to the first user, except only when antagonistic to local laws and to good morals.

Resolved,—That priority in the matter of trade-marks should be referred to the time of the commencement of a continuous user and not to the date of registration.

Resolved,—That a trade-mark connected with a false indication of origin should be considered contrary to good morals.

Resolved,—That a committee of five be appointed by the President of this Congress, charged with the duty of bringing these resolutions before the Congress of the United States and the Legislatures of other countries, as well as any future conference under the convention for the protection of industrial property concluded at Paris, 20th March, 1883, and to take such steps as they shall deem proper to perpetuate this gathering as a body for the amelioration of patent and trade-mark laws in their international relations.

The text of the American Patents Act for foreign exhibitors will be found in Appendix J.

EXHIBITS FROM OTHER UNITED STATES GOVERNMENT DEPARTMENTS.

The Smithsonian Institution and National Museum exhibits contained representations of all the various displays usually found in institutions of a similar character, and although very interesting and representative require no special remark.

The Department of Agriculture contained a representation not only of the literature but also of well selected collections of contributions from all the various sub-departments.

The United States fish exhibit was of a specially interesting character. According to the Act of Congress, creating the United States Government exhibit, the fish commission was divided into four special branches, viz. :—Inquiry respecting food fish, propagation of food fish, statistics relating to national fisheries and their methods, and the live fish exhibit in the aquaria. The special feature of this department consisted in the various illustrations of the science of fish farming, and it was most instructive to observe from day to day the collections of spawn and little fish in all the stages of development. The statistics relating to Government fisheries showed that at a single station on the Massachusetts coast the Government hatched 55,000,000 codfish and 20,000,000 lobsters in 1892. There are Government fishing stations and hatcheries in twenty-two different States, and these include the great fresh water fish hatcheries of the interior as well as the sea-coast hatcheries. The main idea of the Government fisheries exhibit was to illustrate not only the methods of catching fish as well as fish culture, but also the fisheries themselves and their management. In the

the department of fish culture there were tanks and troughs called "rearing troughs," showing the methods of hatching shad, pike, and perch. Actual spawn was used all through the currency of the Exhibition except during two months of midsummer when natural eggs could not be obtained, and instead of these artificial eggs were substituted for that period. The growth of the fish was shown by means of casts of yearlings, two-year-olds, three and four-year-olds, &c., and these casts were made of material the nature of which the Government keeps secret. Another interesting portion of this exhibit showed the method of taking the eggs from the fish, and there were fishermen's dorys, and full-sized lay figures, representing fishermen in the act of securing spawn. There was also an historical series of fishculture apparatus, models of complete fishing stations, and rigged vessels were shown, such as the trout station in Colorado, and the white fish station at Put-in Bay, Ohio, the shad station at Havre-de-Gras, Md., and the cod station at Woodshull, Mass. There was also a complete series of transportation apparatus showing the methods of transporting fish in cans or boxes. There was a valuable series of charts showing the effects of fish culture upon the different fisheries, and a complete series of photographs illustrating the operations of the U. S. Fish Commission. The Department of Scientific Inquiry included very valuable instruments for taking deep-sea soundings. Splendid models of the steamers "Albatross" and "Fish-hawk," the two principal Government steamers engaged in the fisheries were shown, as well as the nets which are used to bring fish to the surface from a depth of 3 miles or more, and intricate machinery for winding deep-sea nets, charts, and maps, a library of fish literature, models of vessels and boats, fish-traps, nets and seines, fish-eating birds, and angling apparatus.

The following tables, copied from records in the United States Fish Department, will afford some idea of the magnitude and importance of the Fish Cultivation question in the United States.

NUMBER of Adult Fishes, Yearlings, Fry, and Eggs, distributed by the United States Commission of Fish and Fisheries from 1872 to 1893.

Species.	Number distributed, 1872-82.	Number distributed, 1882-92.	Total Output.
Shad	200,946,350	767,697,000	968,643,350
Olewives	9,833,000	6,850,000	16,683,000
White-fish	77,072,409	928,215,000	1,005,287,409
Californian Salmon	33,172,734	29,152,195	62,324,929
Atlantic Salmon	12,524,387	11,552,864	24,077,251
Land-locked Salmon	6,414,961	5,284,275	11,699,236
Rainbow Trout	116,830	2,888,224	3,005,054
Loch Leven Trout ... ..	.....	677,083	677,083
Van Behr Trout ... ..	.....	904,081	904,081
Black Spotted Trout ... ..	.....	19,000	19,000
Brook Trout	100,700	1,926,321	2,027,028
Saiblings ... ..	.....	54,473	54,473
Lake Trout	40,606	14,638,967	14,679,573
Smelt ... ..	.....	13,850,000	13,850,000
Cod	25,000	178,216,500	178,241,500
Pollock ... ..	.....	39,458,500	39,458,500
Haddock ... ..	.....	5,799,000	5,799,000
Tom Cod ... ..	.....	5,400,000	5,400,000
Mackerel ... ..	.....	688,000	688,000
Spanish Mackerel	270,000	1,026,000	1,296,000
Flounders ... ..	.....	13,923,019	13,923,019
Pike Perch ... ..	.....	332,046,700	332,046,700
Yellow Perch ... ..	.....	830,328	830,328
Black Bass ... ..	.....	122,666	122,666
Other Sun Fishes ... ..	.....	159,175	159,175
Striped Bass	400,000	385,587	785,587

HATCHING and Rearing Stations—United States Commission of Fish and Fisheries.

Stations.	Species propagated and distributed.	Total output in 1892.
Grand Lake Stream, Mc. ...	Land-locked Salmon	487,000
Green Lake, Mc.	Land-locked Salmon	116,000
Craig's Brook, Mc....	Atlantic and Land-locked Salmon, Brook, Scotch Sea Saibling, Rainbow, Von Behr, Loch.	727,663
Gloucester, Mass.	Cod, Pollock, and Haddock	31,598,609
Wood's Hill, Mass.	Cod, Flat-fish, Sea Bass, Scarp, and Lobsters	37,929,870
Battery, Havre de Gras, Md.	Shad and White Perch	40,000,000
Bryan's Point, Md.	Shad	13,000,000
Central Station, Wash. D.C.	Van Behr, Trout, Shad, and White Fish ...	12,462,920
Fish Ponds, Wash. D.C. ...	Carp, Solden Ides, Tench, Gold-fish, Black Bass, and Shad.	2,180,490
Wytheville, Va.	Rainbow Trout, Rock Bass, Black Bass, Carp, and Gold-fish.	231,088
Duluth, Minn.	Pike Perch, White-fish, Lake and Van Behr Trout, and Land-locked Salmon.	47,227,000
Alpina, Mich.	White-fish and Lake Trout	32,973,000
Northville, Mich.	Brook, Van Behr, Loch Leven, and Lake Trout.	2,799,870
Put-in Bay, Ohio	White-fish, and Pike Perch	112,700,000
Quincey, Ill.	Black Bass, White Bass, Crappie, Yellow Perch, Warmouth Bream, Sun-fish, Cat-fish, Pike, and Pike Perch.	93,486
Leadville, Colo.	Brook, Van Behr, and Black Spotted Trout	103,750
Clackamas, Ore.	Quinnet Salmon	1,536,000
Fort Gaston, Cal.	Rainbow Trout and Steel-head Salmon ...	291,000
Baird Station, Cal....	Quinnet Salmon	2,937,750
Str. Fish, Hank.	Shad and Spanish Mackerel	24,063,000

Appropriations have also been made by Congress for the establishment of additional stations in the States of Vermont, Texas, and Montana.

Naval Exhibit.

Outside the Government Building, on the lake near the pier, was a structure which to all outward appearance was a full-sized modern battle-ship, moored to a wharf. The structure had all the fittings belonging to an actual ship, such as guns, turrets, torpedo tubes, torpedo-nets, and booms, with boats, anchors, chain cables, davits, awnings, deck fittings, &c., together with all appliances for working the same. Officers, seamen, mechanics, and marines, were detailed by the Navy Department for service on board during the exhibition, and the discipline and mode of life on American ships of war were completely illustrated. The crew gave certain drills from time to time, especially boat, torpedo and gun drills, as shown in vessels of war. This exhibit was one of the most attractive shown, and was always crowded by visitors during the Exposition.

The dimensions of the structure were those of an actual battle-ship, viz. :—Length, 348 feet; width amidships, 69 feet 3 inches; and from the water-line to the top of the main deck, 12 feet; centrally placed on this deck was a superstructure 8 feet high with a hammock berthing on the same 7 feet high, and above these were the bridge, chart-house, and the boats. At the forward end of the superstructure there was a cone-shaped structure called the "Military Mast," near the top of which were placed two circular "Tops" as receptacles for sharpshooters, and rapid-firing guns were also mounted in each of these tops. The height from the water-line to the summit of this military mast was 76 feet, and above was placed a flagstaff for signalling. The battery mounted comprised four 13-inch breech-loading rifled cannon, eight 8-inch breech-loading rifled cannon, four 6-inch breech-loading rifled cannon, twenty 6-lb. rapid-firing guns, six 1-lb. rapid-firing guns, two gatling guns and six torpedo tubes or torpedo guns, and all of these were placed and mounted respectively as in the genuine

genuine battle-ship. On the starboard side of the ship was shown the torpedo protection net, stretching the entire length of the vessel. Steam launches and cutters rode at the booms, and all the outward appearance of a real ship of war was imitated. The superstructure showed the cabins, state-rooms, lavatories, latrines, mess-rooms, galley, and fittings, mess-table for crew, lockers, berthings, &c., also the manner in which officers and enlisted men live, according to the rules of the navy. On the superstructure deck and bridge was shown the manner in which the rapid-firing guns, search lights, boats, &c., were handled. The entrance to the conning tower was from the deck, in which were all the appurtenances the commander has at his disposal when taking the ship into battle and during the progress of a fight at sea. The electric light plant was installed, and provision made for heating with steam. On the berth deck were shown the various fittings pertaining to the hull, machinery, and ordnance; ordnance implements, including electrical devices, gun-carriage motors and range-finders; models showing typical ships of the past and present; samples of the provisions, clothing, stores, and supplies, bunting, flags, &c.; in short, the thousand and one things that go to make up the outfit of a man-of-war.

PRINCIPAL OFFICIAL BUILDINGS AND THEIR CONTENTS.

I now proceed to describe some of the more notable features of the principal official buildings, and the exhibits which they contained. For much of the special information contained in the descriptions I am indebted to the official publication of the Exposition, and to Press notices by experts, contained in the newspapers and periodicals of Chicago and other American cities.

Agricultural Building and its Exhibits.

Description of the Building.

THE building in which the agricultural exhibits were contained was one of the most magnificent structures of the Exposition. The style of architecture was Classic Renaissance. Placed at the continuation of the Grand Plaza, it served, on its side, to complete the splendid architectural effect of the grand and imposing structures which surrounded the Great Basin. The main architectural features were the great rotunda forming its main entrance, the four large corner pavilions, and the connecting colonnade. The building was 800 feet long, 500 feet deep, and at the back of the south side there was attached an annex 300 feet by 500 feet. The main plans of the building comprised two central galleries, each 85 feet in width, which intersected each other on the longer and shorter axes of the building. On either side of the main entrance were mammoth Corinthian pillars, 50 feet high and 5 feet in diameter. The main entrance led through an opening, 64 feet wide, into a vestibule, from which entrance was obtained to the rotunda, 100 feet in diameter. This was surmounted by a mammoth glass dome 130 feet high.

Decoration of the Building.

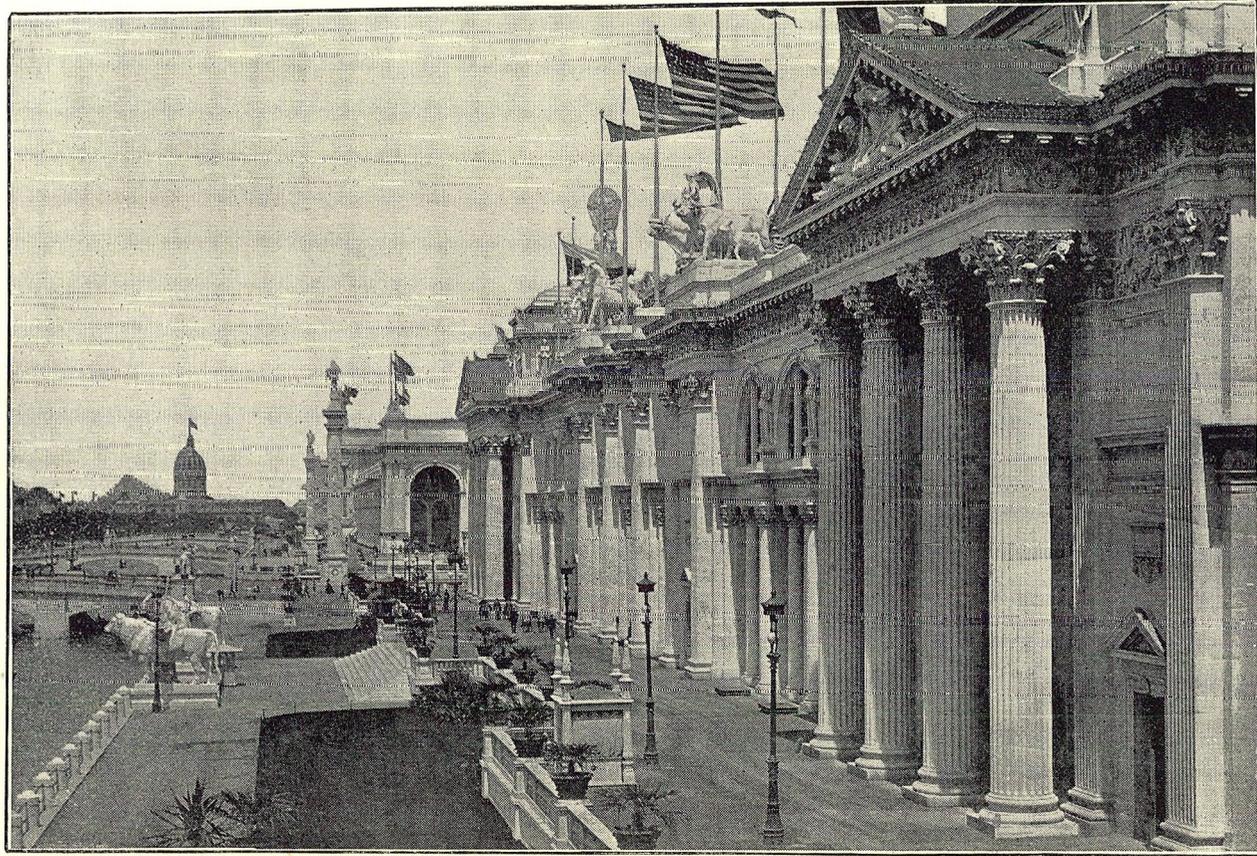
A great deal of the decorative work in the Agricultural Building had its motive, as was proper, in subjects native to America; for instance, there were representations of the maize, potato, tobacco, &c., and on the frieze the turkey. Each of the groups of statuary on the building represented some agricultural subject. The four corner pavilions had their domes surmounted with statuary—four grand female figures, typical of the four principal races of men, supporting a mammoth globe. The sculptor, Philip Martini, of Philadelphia, contributed the following subjects:—Twenty single "Signs of the Zodiac," twenty single figures of "Abundance," two groups of "Ceres," two groups of the "Four Seasons," four groups of the "Nations"—four figures in each group—and four pediments representing "Agriculture." Over the main entrance was a handsome pediment modelled by L. J. Mead, of Florence, Italy, representing Ceres, the Goddess of Agriculture.

The painted decorations of the Agricultural Building were the work of George W. Maynard, of New York, who chose the Pompeian style as most appropriate for the architecture, which was classic, but not purely so. The main entrance had something of the appearance of a temple devoted to the worship of the deities under whose protection the ancients believed Agriculture to be. On the right Cybele, the mother of Zeus and Demeter, or Ceres, was presented in her chariot drawn by young lions, and on the left was her special protege, King Triptolemus, to whom she gave a chariot drawn by winged dragons, with which he was sent forth to teach the peoples of the earth the art of agriculture. Between these were figures representing "Abundance" and "Fertility." Each of the corner entrances was decorated with figures on either side symbolical of the Seasons, and above them were friezes in which beasts of burden and other bucolic animals figured.

Connected with the Agricultural Building, and forming one end of the great colonnade leading from the Agricultural Building to the Machinery Hall, was the Assembly Hall. This was on the same level as the Intramural Station which formed the centre of the colonnade,



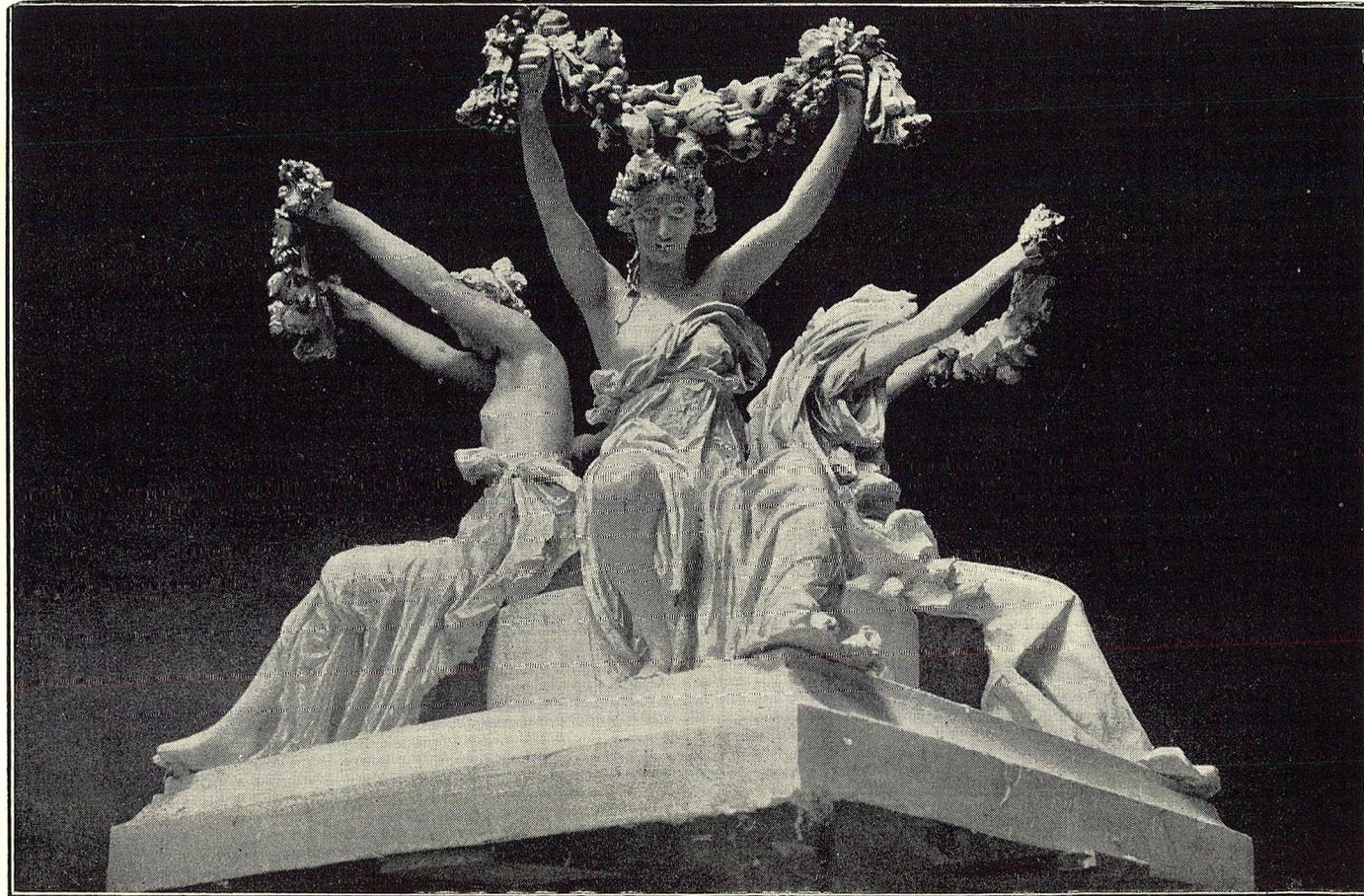
AGRICULTURE BUILDING.



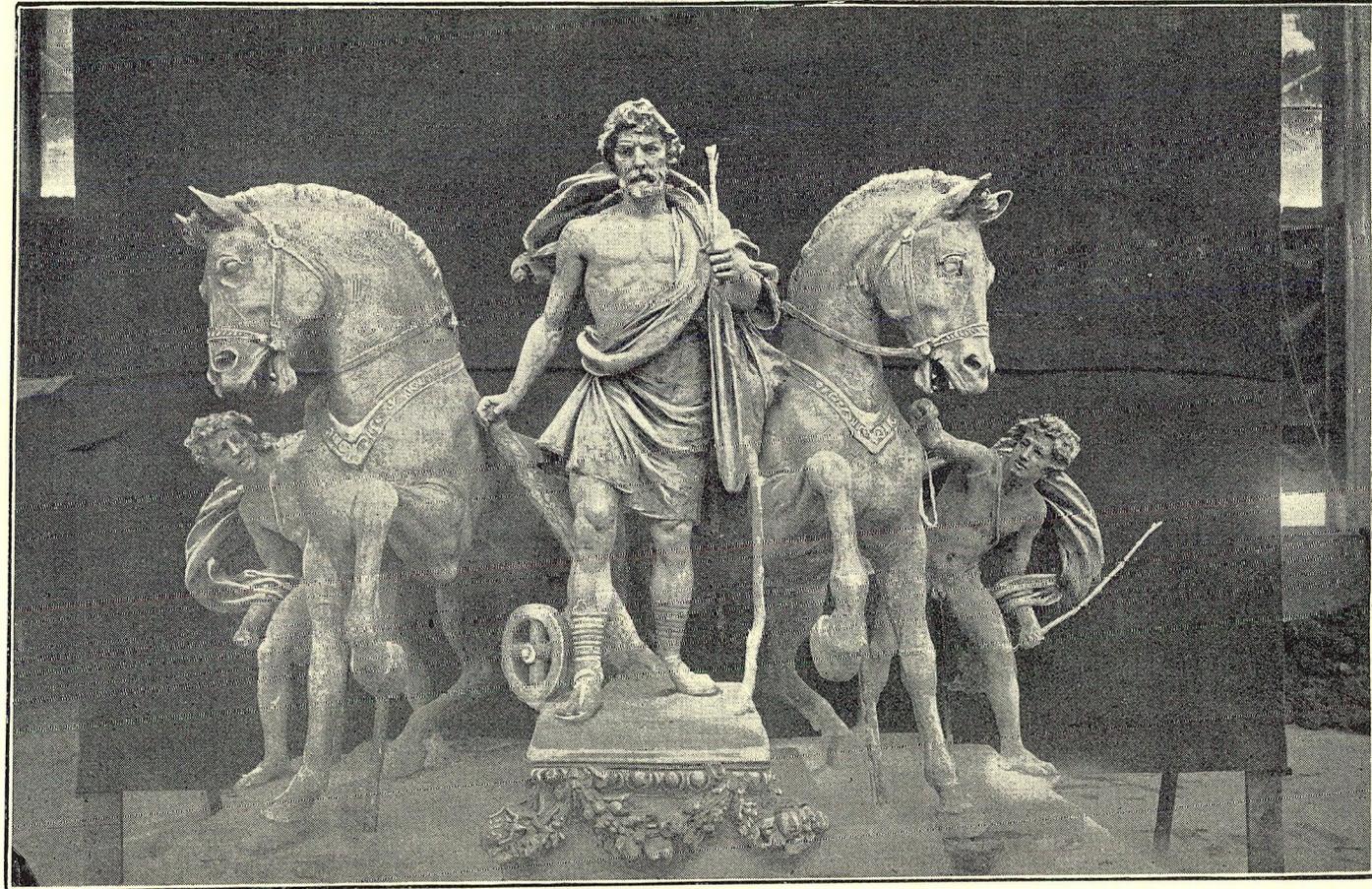
WEST FRONT OF AGRICULTURE BUILDING.



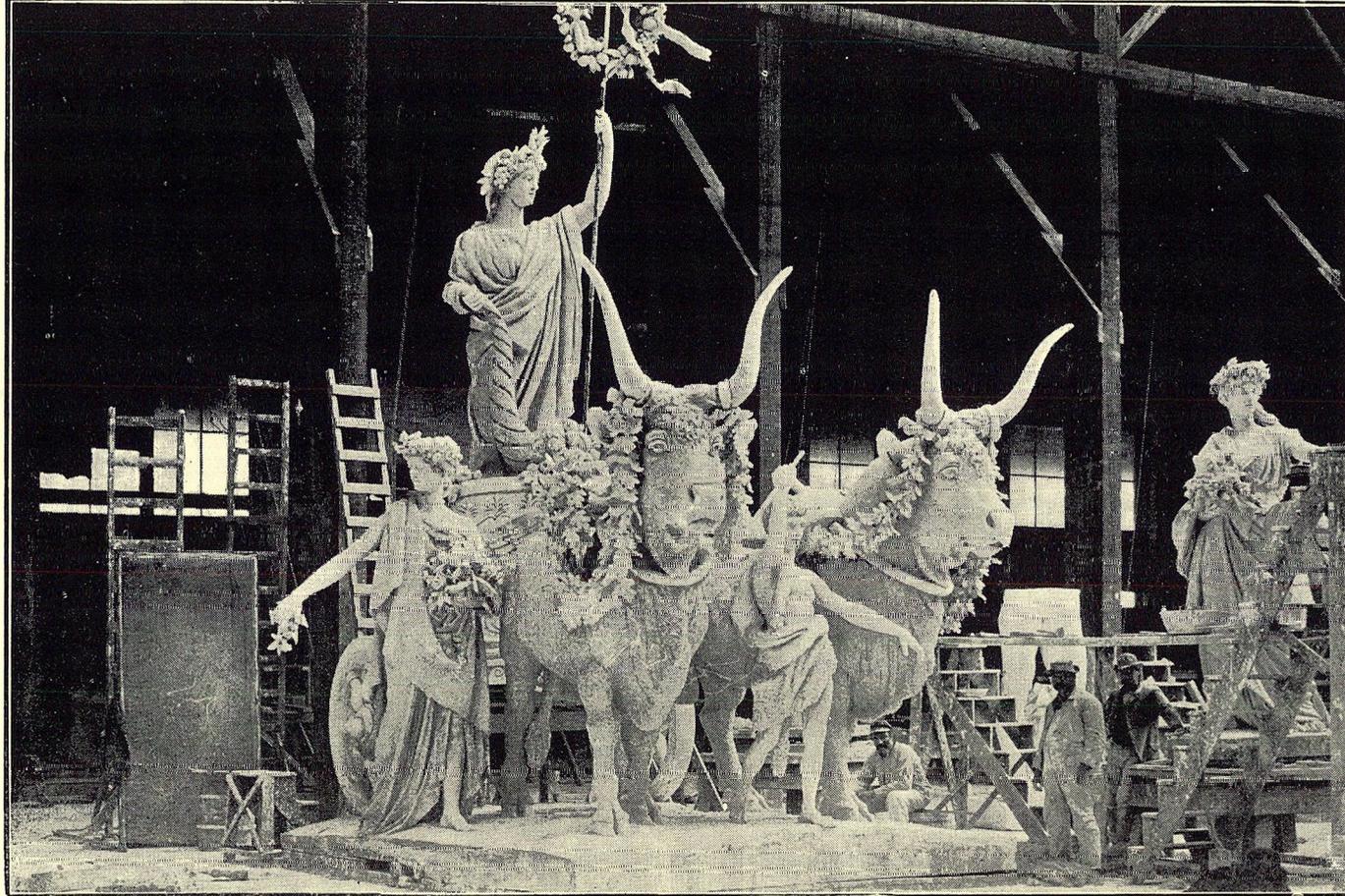
GROUP ON AGRICULTURE BUILDING.



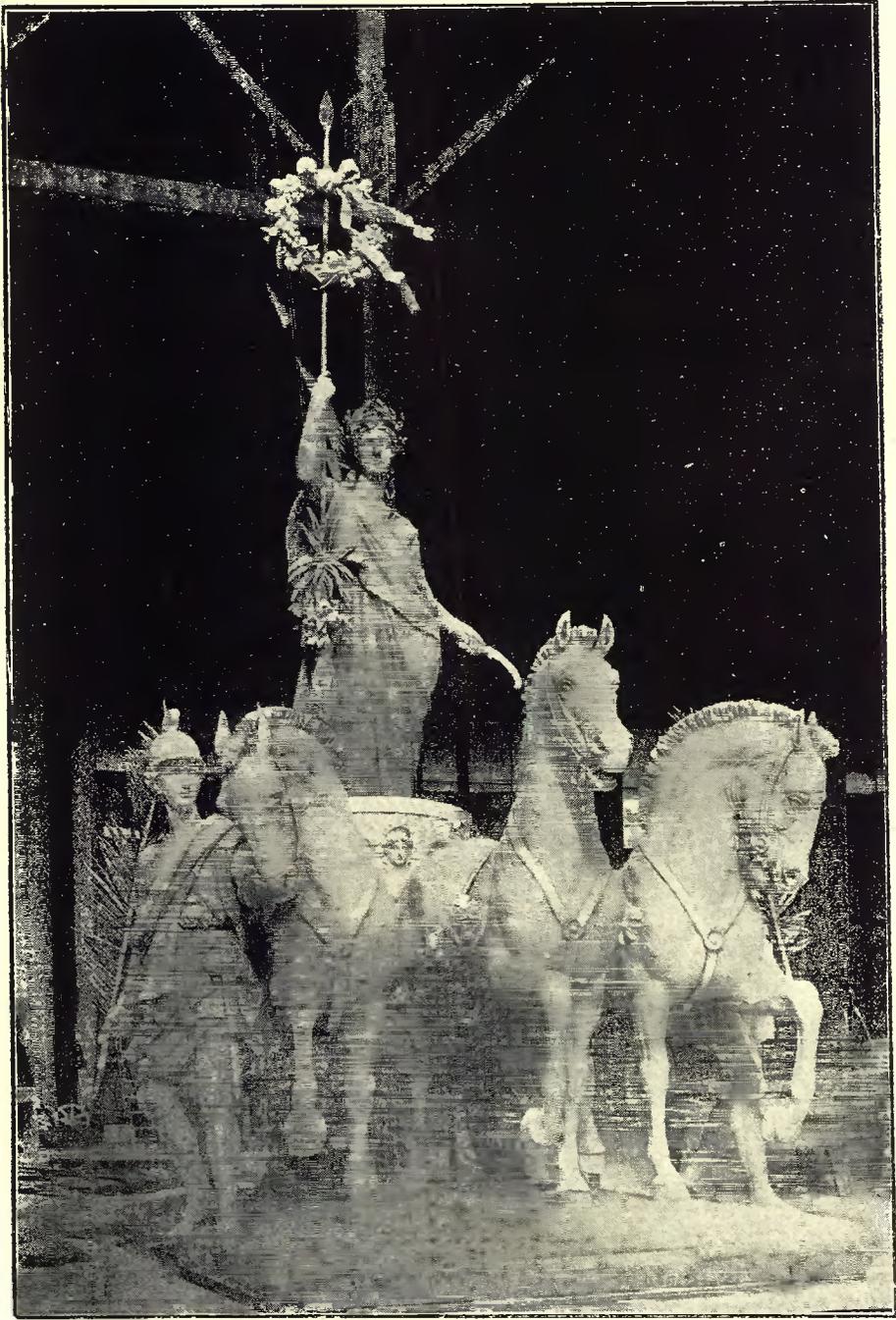
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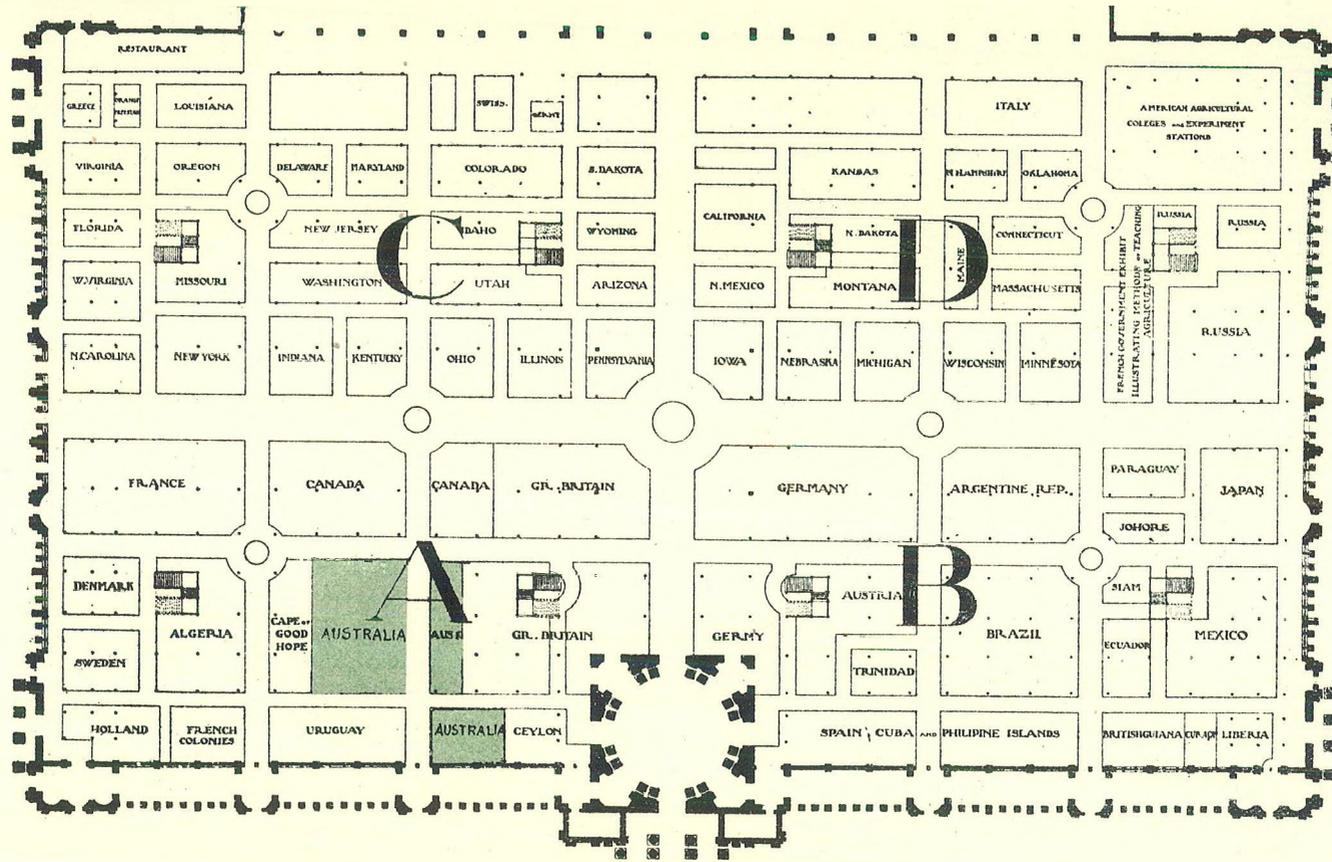
GROUP ON AGRICULTURE BUILDING.



GROUP ON AGRICULTURE BUILDING.

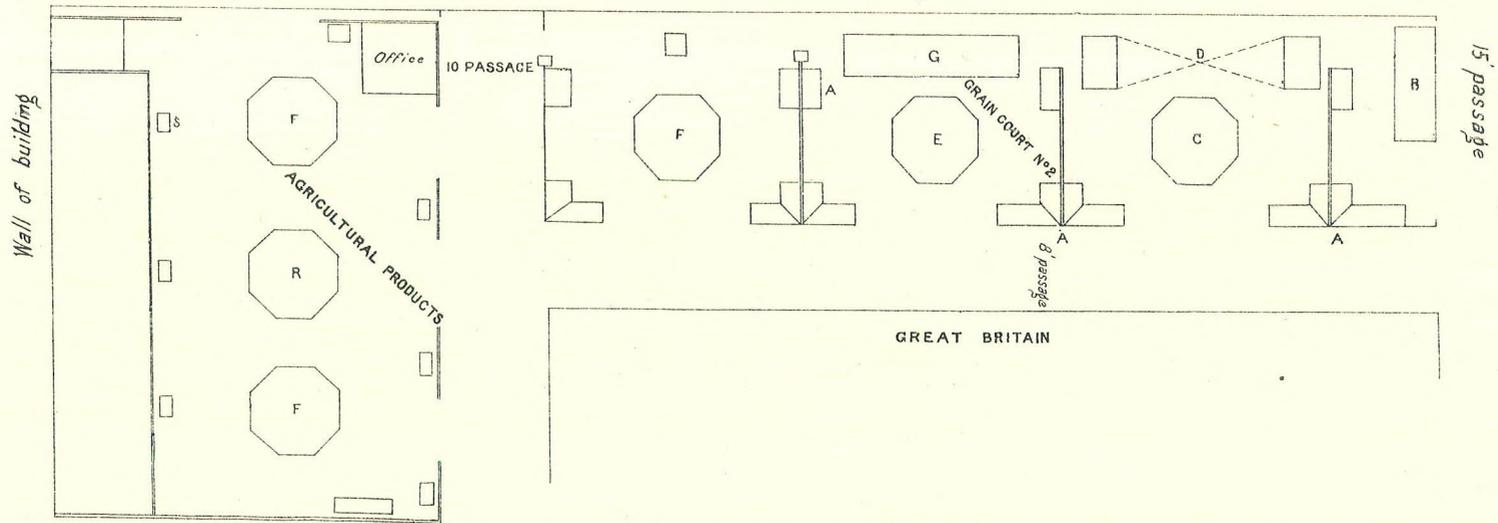
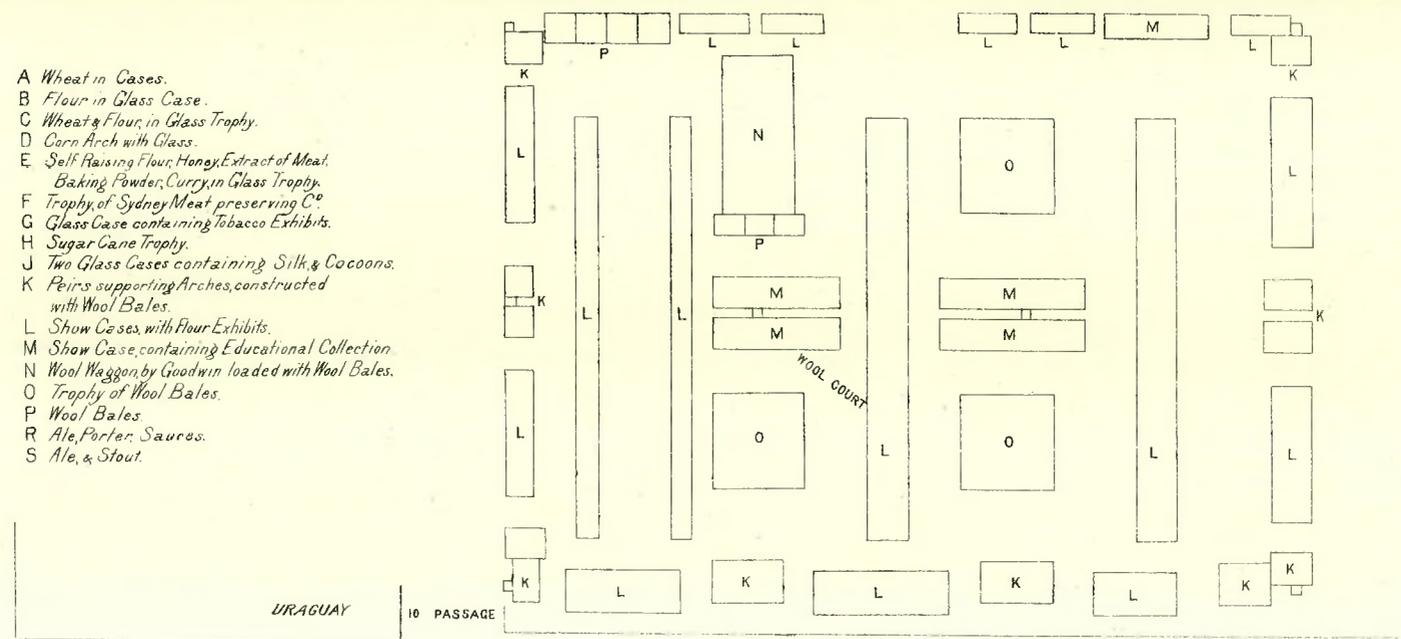


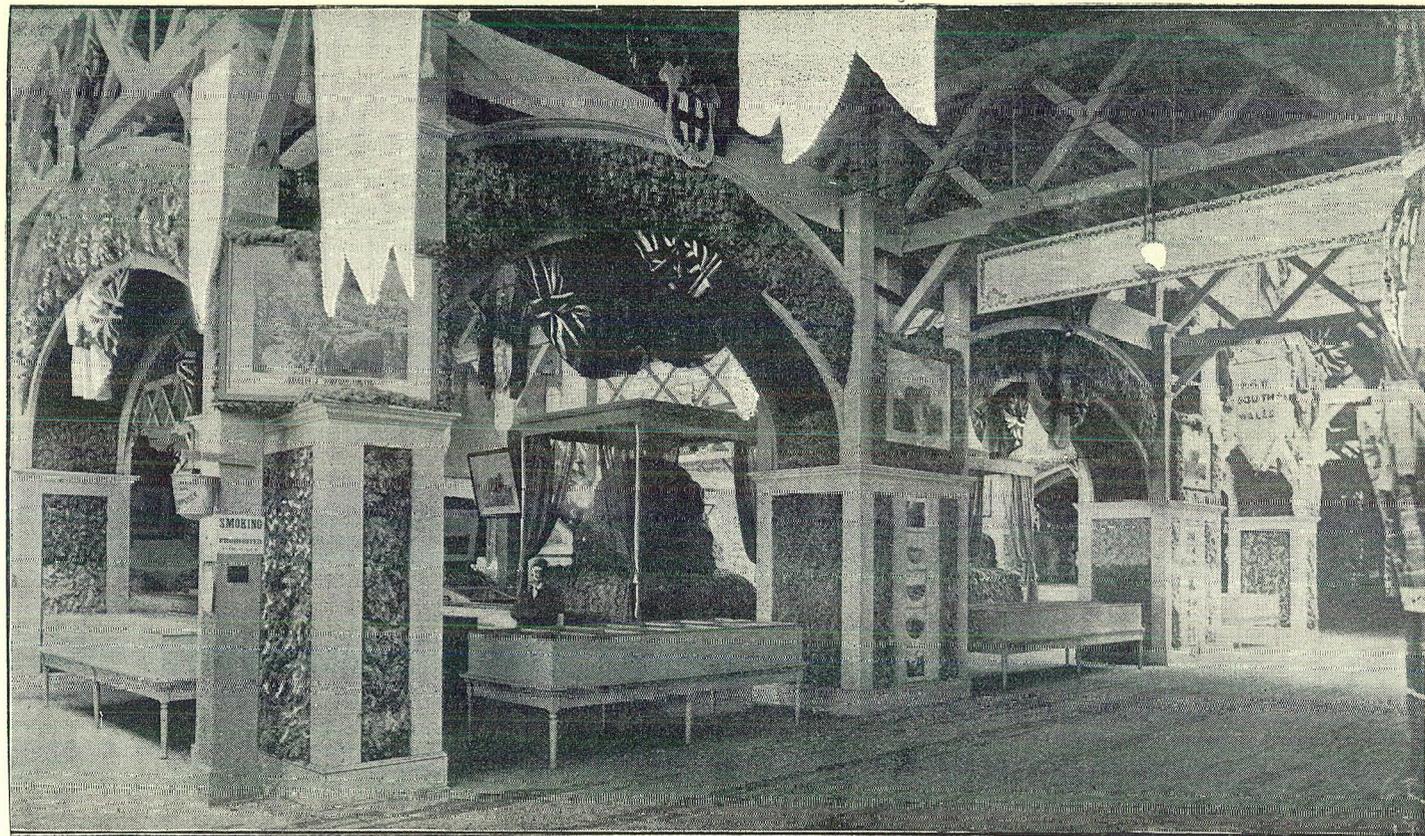
GROUP ON AGRICULTURE BUILDING.



OFFICIAL ALLOTMENT OF SPACE TO AGRICULTURAL BUILDING, WORLD'S COLUMBIAN EXPOSITION.
 (sig. 233)

- A Wheat in Cases.
- B Flour in Glass Case.
- C Wheat & Flour, in Glass Trophy.
- D Corn Arch with Glass.
- E Self Raising Flour, Honey, Extract of Meal, Baking Powder, Curry, in Glass Trophy.
- F Trophy, of Sydney Meat preserving Co.
- G Glass Case containing Tobacco Exhibits.
- H Sugar Cane Trophy.
- J Two Glass Cases containing Silk & Cocoons.
- K Piers supporting Arches, constructed with Wool Bales.
- L Show Cases, with Flour Exhibits.
- M Show Case, containing Educational Collection.
- N Wool Waggon by Goodwin loaded with Wool Bales.
- O Trophy of Wool Bales.
- P Wool Bales
- R Ale, Porter, Saucos.
- S Ale, & Stout.





NEW SOUTH WALES WOOL COURT, AGRICULTURE BUILDING.



NEW SOUTH WALES COURT, AGRICULTURE BUILDING, SHOWING WOOL TROPHIES.

colonnade, and was reached from the second floor of the Agricultural Building also. It seated about 700 persons, and furnished facilities for lectures, delivered by gentlemen eminent in their special fields of work, embracing every interest connected with live stock, agriculture, and allied industries.

Dairy Building.

The Dairy Building, by reason of the exceptionably novel and interesting exhibits it contained, was regarded with great favour by World's Fair visitors in general, while by agriculturists it was considered one of the most useful and attractive features of the whole Exposition. It was designed to contain not only a complete exhibit of dairy products, in connection with which there was conducted a series of tests for determining the relative merits of different breeds of dairy cattle as milk, butter, and cheese producers, a matter to which I shall refer hereafter. The building stood near the lake shore in the south-eastern portion of the Park, and close by the general live stock exhibit. It covered approximately half an acre, measuring 95 x 200 feet, was two storeys high, and cost \$30,000. In design it was of quiet exterior. On the first floor, besides office headquarters, there was in front a large open space devoted to exhibits of butter, and farther back an operating-room, 25 x 100 feet, in which the model dairy was conducted. On two sides of this room were amphitheatre seats, capable of accommodating 400 spectators. Under these seats were refrigerators and cold-storage rooms for the care of the dairy products. The operating-room, which extended to the roof, had, on three sides, a gallery where the cheese exhibits were placed. The rest of the second storey was devoted to a café, which opened on a balcony overlooking the lake.

NEW SOUTH WALES COURT.

The representation of New South Wales in the Agricultural Department was large and characteristic. Our space was in an excellent position, with one of the main avenues of the building forming the frontage and another passing through its centre, and a secondary passage at right angles; thus dividing the space into three courts. The area for New South Wales in the Agricultural Building contained 8,693 square feet floor space, and 13,600 square feet of wall space, and is represented in the plan attached. I divided our exhibits in this department into three great classes, and in the space allotted to us three courts were made for their reception. The Wool and Grain courts faced the main avenue, and were separated by another wide passage. The back court contained meats and grain as well as beer, &c.

Our Wool Court.

The Wool Court was walled round with great arches, reaching to the galleries above, and was built up with the wool bales sent from Sydney. This was a work of great labour, but it had a most imposing effect. The bales were opened out, the exposed coverings being removed, so that a solid wall of wool about the height of the arches was presented to the view. Only the end cover of the bales was cut down and tucked under for this purpose, with a view, hereafter, to replace it, the under covering portion of the bale in the soffit of the arch being left exposed to view in the state in which it was received from Sydney with the owner's name, brand, mark of station, and other particulars on it. Pyramidal trophies of wool bales were made in the centre of the Court, and these were similarly exposed, the whole pyramid being enclosed with a kind of canopy with curtains, to protect from dust, &c. This canopy covered the whole pyramid when the court was closed. In making the arrangements just described we were assisted by a leading American expert in wool, engaged in accordance with a promise I made to the Commission in Sydney.

Under

Under his guidance and advice an exhibit of our wool was made such as had never before been seen in America. The display was very different from similar displays made heretofore, and in an admirable manner exhibited the commercial value and the abundant quantity of our staple, in a very artistic arrangement. The court, which was familiarly known throughout the building as the "Blue Room," was visited by all the leading wool-growers of America and elsewhere, and in all the leading papers dealing with wool commendations of the highest character were expressed at the value and interest of the exhibition. No other country had such a display, and it was universally acknowledged to be the finest and best arranged in the Agricultural Building.

Special cases were made for the fleeces—in fact everything connected with this display was original and adapted to the circumstances of the exhibition. The cases ran all along the front of the court in the main avenue, and through the court in various directions. Round the pillars were placed the selected exhibits of the Technological Museum's representation in suitable cases, and thus the character of the court was made complete as a very perfect representation of our staple industry from an artistic, an educational, and a commercial standpoint. The large wool-waggon of Goodwin was shown in this court, there being no room for it in our limited space in the Transportation Building. The waggon was loaded with wool after the Sydney commercial form, the coverings on the bales being retained, and it formed thus quite a remarkable contrast to our other wool exhibits. The large and beautiful photographs of the wool industry in its various stages, and the illustrations of work on the stations, and of station life generally, as well as of the scenery of the runs of the country, were hung on the pillars and walls of the court, the whole of which was very tastefully decorated with New South Wales flags and large blue and silver signboards labelled with the name of New South Wales. At the west entrance to this court a very large entablature, about 18 to 20 feet in height, was so placed as to attract the attention of every visitor, and on it were painted in large letters and figures the most important statistics of our wool industry. At a later stage of the report I will make reference to the action taken by me for free admission of wool into the United States.

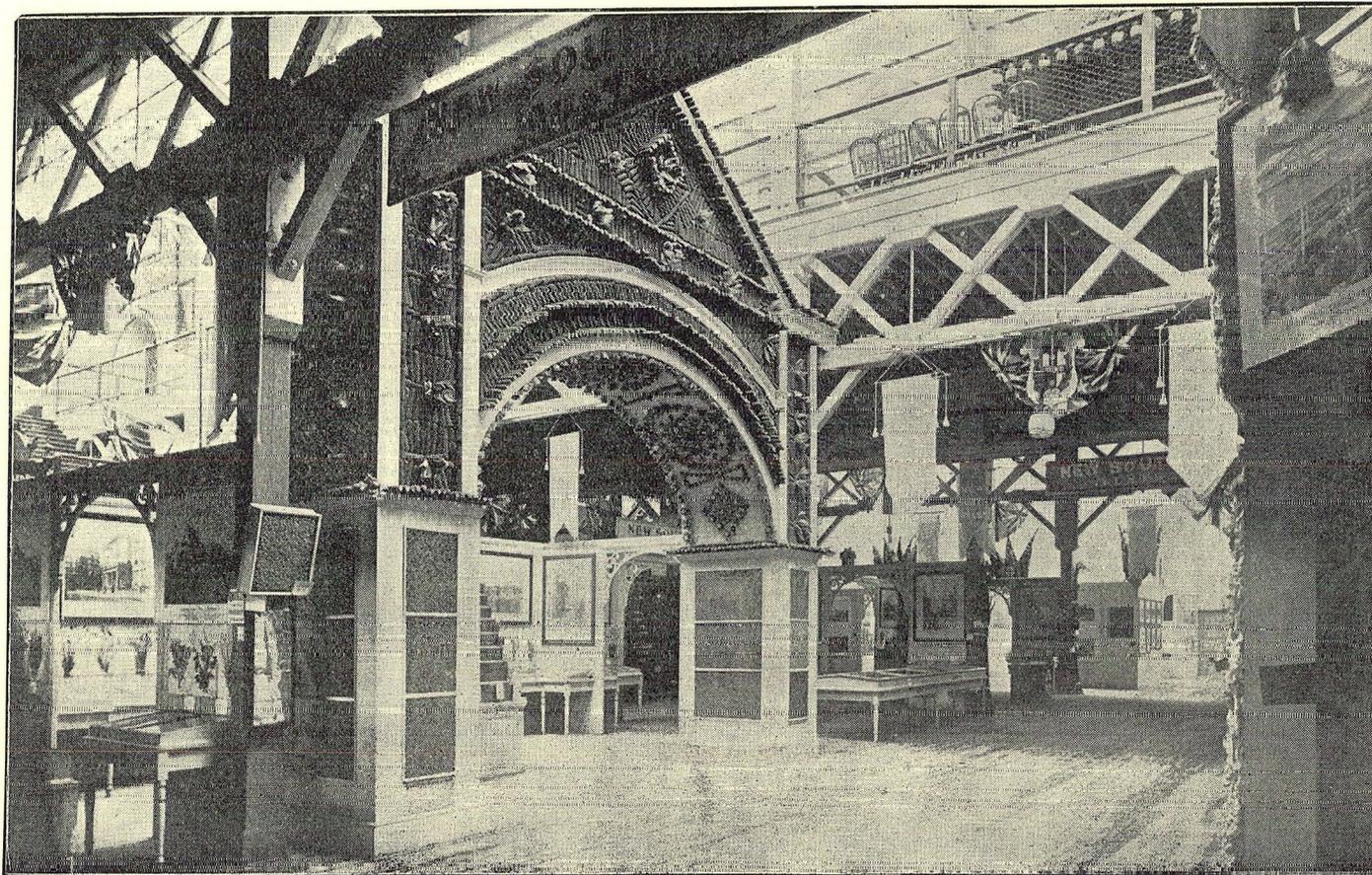
Fronting the main avenue, the grain court was embellished with glass-covered cases containing the various samples of flours, with masonic blue ribbons in a knot as a decoration, this colour forming a very pretty contrast to the snow-white colour of the flour. The tobacco was placed in cases of similar character to those in which the wool fleeces were placed, but somewhat altered to suit the character of the exhibit, and each little bundle was tied with blue ribbon of our country's colour. The various grain exhibits were placed in glass-covered cases against the walls of this court, and on the screen wall above the cases were displayed the samples of grasses, &c., sent by the Agricultural Department of Sydney, the whole having a very interesting and instructive appearance.

The Great Maize Arched Trophy.

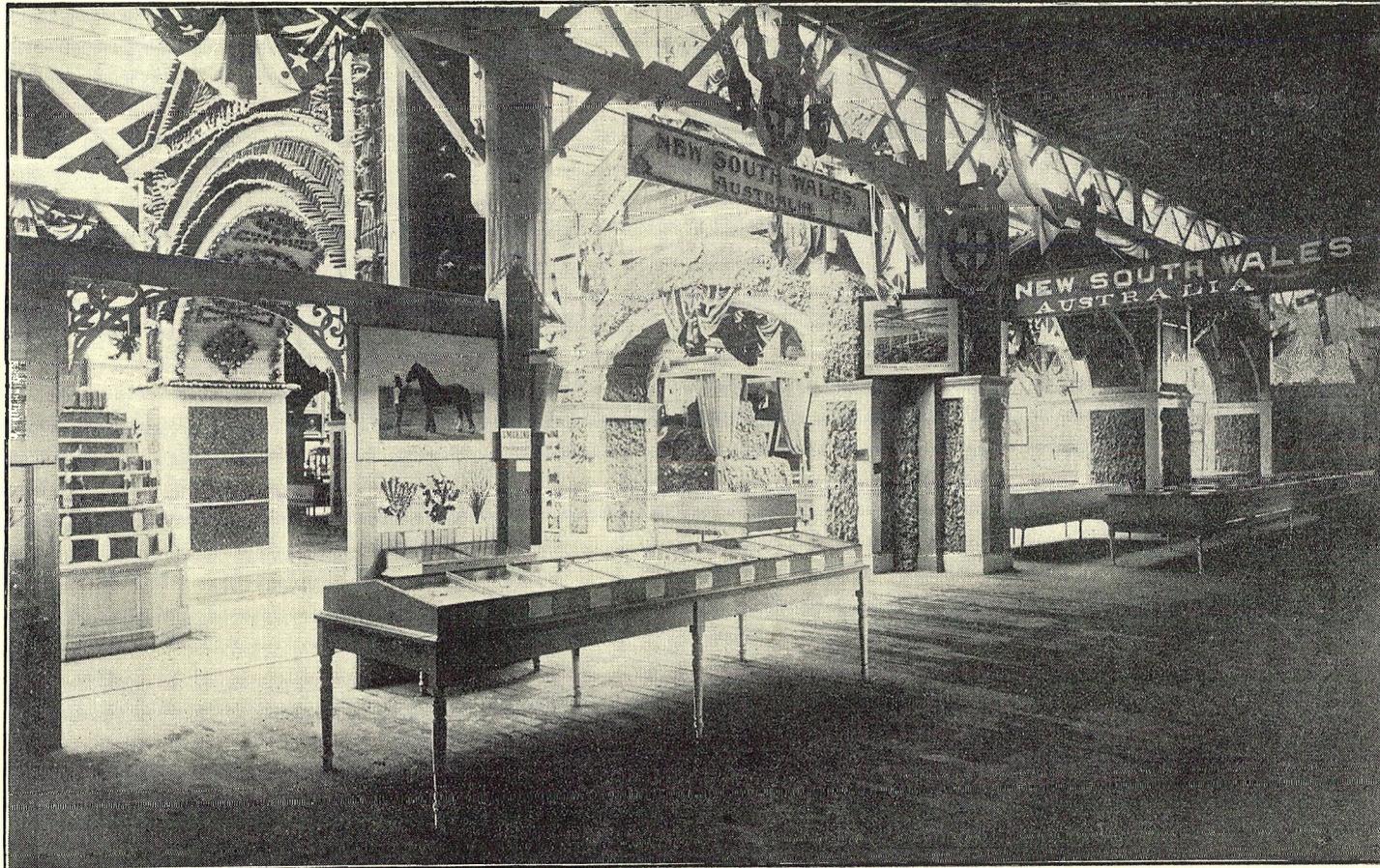
In the centre of the court were very large and handsome trophies in which were placed the exhibits of tinned meats, sauces, curry powders, honey, and preserves. In the avenue dividing the courts I caused an immense arched trophy of selected maize to be erected, and this was the best of this class of trophies in the building. Just as the wool arches in the neighbouring court reached to the full height of the court and to the galleries overhead, so this trophy of similar height covered all the wall space of this part of the court, and was a centre of attraction and of admiration whilst being erected, the agriculturists from all parts of the building representing this interest,
from



NEW SOUTH WALES COURT, AGRICULTURE BUILDING.



NEW SOUTH WALES COURT, AGRICULTURE BUILDING, GREAT MAIZE TROPHY.



NEW SOUTH WALES COURT, AGRICULTURE BUILDING, SHOWING WOOL AND GRAIN TROPHIES.

from all parts of the world, were critical inspectors of the work as it progressed, and still more critical examiners of the maize itself. This maize was a complete revelation to the American exhibitor, and in my judgment, as the result of a very careful examination of similar exhibits in every section of the great building, was unequalled by any other maize shown. The United States is generally and truly considered to be the greatest maize-producing country in the world, and after many forms of cultivation it is used in an endless number of ways as a daily article of food by millions of the people, as well as a food for horses, &c. So much so is this the case, that it is the "corn" of this country as with us, in popular language. It came, therefore, as a matter of unbounded surprise to the people here, living in the midst of the great prairie fields of America, that New South Wales not only exhibited such splendid samples, but showed them in such immense quantities, brought from such a great distance. The arched maize trophy was very prettily decorated, and was tasteful in all its details. The large photographs of racing and stud horses were distributed on the walls of this court, and so admired were they that many offers to purchase them were made by visitors interested in the subject. On the posts at the entrances to this court were placed the exhibits of sugar-cane tied up with our blue ribbon. They were much admired on account of their large internodular distances.

In the back court was a large central trophy of tinned meats. The grasses, bundles of oats, &c., were displayed on the walls of this court in neat order, somewhat similar in plan to that adopted in the French agricultural courts. The casks of porter and ale were painted blue, with gold for the hoop-irons (as a contrast to those of Great Britain in the adjoining Court) and were placed on suitable stands. The various essences, brandies, and aerated waters were located here, with a continuation of the photographs on the walls both inside and out. The photographic exhibit of the Rosehill Racecourse and others of a similar nature were here shown. One striking point of decoration must not be forgotten: In the centre of all the wool and in the great corn arch I placed the Australian Coat-of-Arms with the emu and kangaroo rampant, while above each floated the New South Wales flag, with the Southern Cross well displayed.

UNITED STATES EXHIBITS.

The grain exhibits of the United States, as might have been anticipated from the fact that they are the great grain suppliers of the world, were very numerous. Each of the represented States had a large booth, the walls and pillars of which were in many cases completely made up of maize and other cereals. Some of these booths were very handsome, but a large number seemed to me not only ineffective as a display but tawdry in appearance. In some cases the pillars of the booth were made of glass columns filled with differently-coloured grain, and the variegated appearance was very pretty. An agricultural show, to be really effective, ought to be massive and rather commercial in character than merely decorative in appearance. The varieties of the grain of all kinds, and of grasses exhibited in the various courts, were simply marvellous.

The exhibit of Wisconsin was contained in a very beautiful booth, and appeared to be one of the best of the State exhibits, both in regard to its neatness, its massiveness, and the excellent classification of its contents. That of Illinois contained nearly four thousand specimens of grain in glass jars. On the inscription in this Court it was recorded that in 1892 this State provided thirty million bushels of wheat and two hundred and thirty million bushels of maize. In the exhibit of this State there was an illustration of the mode of inspecting and grading maize adopted in Chicago. There were also shown the miniature standard cars adopted for this purpose officially by the Board of

of Trade. A most instructive exhibit was made by the United States Government. It was arranged by and under the supervision of the Federal Department of Agriculture, and, in the main, was a collective exhibition made by the 54 experimental stations and all the agricultural colleges in the United States, of which there is one at least in every State and territory except Alaska. The results of the different lines of experimental research, those attained by the chemical laboratories, those of the botanical, entomological, and bacteriological laboratories, were all embodied in this exhibit. In it also were shown the methods and results obtained from feeding, fertilisation, irrigation, and in the breeding of cattle and in dairy work. These various features of scientific work as applied to agriculture were all more or less brought home to the eye and the understanding by numerous series of photographs, by the contents of scores of show-cases, in which wax or papier-maché were reproductions of the living objects were on view, by a long string of technical instruments, and all sorts of apparatus.

I saw no maize of our yellow colour superior to that of New South Wales, and the majority of the exhibits of this class by other countries were undoubtedly inferior to ours. The wheat, especially that of Canada, was very excellent, but that shown by New South Wales, in the judgment of experienced visitors, and the building was daily thronged by such, from every State of America and nearly every European country, was a surprise, on account of its clean appearance, its large proportion of nutrient qualities, and its weight. There was a wonderful show of grain in the Iowa State Building, the walls and pillars of which were completely lined with maize and other grain of every form and colour. On every hand I discovered evidences of the anxious desire of the farmers of that country to push the export of maize into other markets, and it was highly amusing to hear foreigners who could hardly speak a word of the English language, endeavouring to explain the difficulties occasioned by the McKinley Tariff, reciprocity and the like to American farmers. Amongst the best of the States' exhibits of grain, in addition to those I have mentioned, were those shown by Ohio, Missouri, Nebraska, Indiana, and there was a fair exhibit also in the California State Building.

CANADIAN EXHIBIT.

Canada had a large space and exhibited many specimens of cereals, flour, and the products of the dairy; but the Ontario section was the most interesting. It contained the great cheese made at the Government experimental farm at Ontario, which weighed over 11 tons. The milk from 10,000 cows was used in its production, each cow giving one day's milking. The total weight of the milk used was 207,200 lb. The cheese was 6 feet high and 28 feet in circumference, and was valued at from four to five thousand dollars. Once every ten days it was carefully turned over. It was encased in a vat of riveted steel boiler plates which rode on a heavy wide-wheeled truck. Strong oak uprights securely bolted rested on this truck and between these the huge cheese box was suspended in wrought-iron stirrups. The revolution was accomplished by a series of screws. The turning was necessary because the cheese was young, and was still "curing."

CAPE COLONY.

Cape Colony had a small Court but one very well arranged adjoining our Wool Court on the east. Perhaps the most artistic exhibit it contained was that of the mohair, the hair of the Angora goat. In some respects the specimens shown almost rivalled the celebrated Turkish mohair; in lustre, however, it was not equal to the European variety.

OTHER

OTHER COUNTRIES.

India, Ceylon, and some other countries had numerous exhibits of tea and coffee and cocoa. Great Britain had several exhibits of beer, mineral waters, whiskey, &c., but its show was comparatively speaking not what one might have expected. Sugar, rum, coffee, fibres, and other similar exhibits, were shown in a very illustrative manner in the Jamaica, Trinidad, British Guiana, Spanish, Venezuelan, and other courts in this building.

BEER AND BREWING.

The exhibits representing the great brewing interests were very widely scattered throughout the building, and it was difficult to form an idea from them of either the magnitude of the brewing industry, and the development and present status of malting or those allied industries which depend, more or less, upon brewing, such as cooperage, the manufacture of waggons, refrigerators, glassware, ironware, and of the numerous machines, engines, and implements used in brewing. It was difficult to find to what extent agriculture is benefited by brewing in the production of barley, hops, oats, hay, and of the live stock used and employed in breweries. I could not find any exhibits which showed modern brewing as a science, based upon the discoveries, inventions, and researches of scientific chemists. Exhibits in abundance were contained in pavilions, triumphal arches, in pyramids, &c., but as to how beer was made or how the different kinds were produced, there was no hint. Hops from Bohemia; specimens of malt from Austria; fine beers and Bavarian hops from Germany; Great Britain, New South Wales, and Canada, with cask and bottled ale and beer from their principal manufactories were largely represented. Belgium, Norway, Spain, Switzerland, Mexico, Brazil, and Hungary, had similar exhibits, and even Japan exhibited beer made by the O'Kur Beer Brewing Co., in Sutta Mura, near Osaka, Japan, and also barley grown there. American exhibitors similarly showed only beer in the advertising form of bottles in trophies, &c., with one highly creditable exception in the display made by the Bartholomay Brewing Co., Rochester, N.Y. It consisted of a working model brewery, after the pattern of their actual plants on a scale of 1 to 1,728. This model was made of iron, copper, and brass, and measured 4 feet square and 6 feet in height. No detail was lacking to make it a complete brewery; it was operated by electricity. Its capacity was one barrel per day, but owing to the internal revenue regulations it was not brewing, although it was kept constantly in motion as if brewing. Even the ice machine could actually produce 75 lb. of ice every twenty-four hours. The model was not a toy, but was large enough to afford an opportunity for the study of the actual working of a modern brewery.

One novelty which struck my attention was the "champagne-beer" shown by a Newport, Ky., firm, which is said to be the only one in the United States manufacturing this so-called new kind of malt beverage. The process of making it is a secret one, known as the "Hagenbusch System" in Germany, where it is said to be extensively in use. The essential part of the process consists in strongly carbonating common lager beer while being bottled. As the effect of carbonic acid is antiseptic it is claimed for "champagne beer" that it retained all its sparkling qualities for a long time and in any clime. It cannot, however, justly be styled a new kind of malt beverage for any kind of beer, even at the stage of "ruh beer" may be used for the purpose, the process of brewing not being changed at all. As to the claim of retaining all its good qualities in any climate the same is said for Pasteurisation, by which method the bottled beer is sterilised so as to prevent a new fermentation, which spoils the beer. The process of Pasteurisation, however common, was not on exhibition, but a large number of bottles containing Pasteurised beer was shown, while a German

German export beer firm exhibited (on the main floor of the Agricultural Building) Pasteurised beer in metal barrels, with a certificate from the North German Lloyd steamship, testifying to the fact that beer in such barrels withstood all influences of temperature during various sea voyages and in different climates.

There was shown an exhibit of the Liquid Carbonic Acid Gas Manufacturing Company of Chicago, in Machinery Hall, showing an apparatus for carbonating beer, by the use of which the second fermentation or the "Krauesen" was dispensed with. The beer was saturated with carbonic acid at the stage when those undesirable substances resulting from its first fermentation have been eliminated. It was stated that this would do away with the necessity of the second fermentation, shorten the time of brewing by several weeks, reduce the expenses for keeping extensive storage cellars, and save a large percentage of malt and hops, but, as is well known, the same claim has been made for other processes, such as the vacuum process, &c.

While on this subject I may state that the exhibits of the appliances, the machinery, and the supplies which formed the requirements of the brewing trade, were placed in the Palace of Mechanic Arts, but for convenience may be referred to here. The ice machines, without which the manufacture of beer is nowadays considered to be an impossibility, may be first mentioned. The De la Vergne Refrigerating Machine Company of New York had a 150-ton refrigerating machine on exhibition. It was an excellent representation of the highest improvement in the compression system. Besides being an illustration of this system, the machine was characterised by its double-acting compressor. It exhibited the same pattern on which the De la Vergne Company lately made the 500-ton ice-machine, which is the largest refrigerating machine ever built in the United States. Various other companies showed variously-sized refrigerating machines, some in operation both in the building and in various places in the grounds.

In the line of apparatus for bottle-washing, cleansing, rinsing, wiring, corking, capping, foiling, &c., there were some ingenious and recently-invented machines. The Eick Bottle Cleansing Machine Company, of Philadelphia, exhibited the only machine which does the washing and rinsing in one combined operation and their device seemed to be very perfect.

It was a striking peculiarity of this class of exhibits (I mean that representing the brewing industry) that while hops, malt, and barley were largely represented, and these are the articles all honest brewers profess to use for malting purposes, there were no exhibits of the well-known malt substitute, so extensively used and advertised, made from maize. There were no "ceraline flakes," "brewers' grits," "frumentum," "quick malt," "zeamays," "dextrine corn malt," "maize malt," or any other "brewers' corn goods." Neither did I see the slightest visible evidence of the fact that rice is very often preferred as a malt substitute, and that syrups, saccharine, and other valued things are deemed necessary ingredients of beer.

TOBACCO.

There was a large and comprehensive exhibit of tobacco.

As regarded the quality and variety of leaf tobacco for cigars, the exhibits of Mexico appeared the best. The Mexican product greatly resembled Havanna tobacco, and it would have required a technical examination to distinguish its highest grades of wrapper from the best Cuban tobacco. Cuba had a very small display. Amid the rich and handsomely arranged cases of cigars in the Cuba section appears a huge sign reading: "Cuba produced in 1892, 27,000,000 kilogrammes"

kilogrammes of tobacco. Price per 1,000 cigars, weighing 13 lb., in a first-class factory, 45 dollars. The same goods in the United States, on account of the McKinley Bill, 110 dollars—an average of 168 per cent. on the production value. Small exhibits also were shown of leaf for cigar wrappers from Sumatra, Java, and Borneo. Greece and Turkey displayed tobacco of splendid quality for the production of cigarettes as well as smoking tobacco. The leaf was very small and could be completely utilised without being stemmed.

The United States Government exhibited in the Agricultural Department of its building a selected exhibit of tobaccos of commercial value grown in the various sections of the country. It would appear that tobacco is grown to a greater or less extent in forty-two States and territories. The entire crop of 1889 (latest report) was 488,255,896 lb.; exported in 1892, 255,431,675 lb.; imported in 1892, of Havannah tobacco, 18,332,323 lb.; of Sumatra, Java, and Borneo, 2,919,607 lb. There is very little Borneo tobacco brought to America and almost no Java tobacco of late years, so that it may be assumed that the imported article is all Sumatran. The Government returns show that there were manufactured in the United States in 1891 of cigarettes, 4,422,024,212; cigars, 3,137,318,596; plug, 166,177,915 lb.; fine cut, 166,968,870 lb.; smoking, 76,708,300 lb.; snuff, 10,674,241 lb. There were exported the following:—About 2,000,000 cigars; cigarettes, 320,000,000; plug and all manufactured tobacco, 15,136,711 lb. There were imported about 52,000,000 cigars, 2,802,125 cigarettes, and 395,957 lb. of manufactured tobacco, including snuff. In pipes there were so many varieties on exhibition that it would be impossible even to catalogue them in the space at my command. They reached from the primitive pipe used by the American Indian, as shown in the United States Government Building, to the wonderful meerschaum displayed by Vienna firms in the Manufactures Building. Of the latter I must mention amongst the beautiful designs in meerschaum a cigar-holder, representing the triumphal entry of Charles V into Antwerp, after the celebrated painting of Hans Makart. It was 12 inches in length. A pipe in the form of a dog's head, with the muzzle perfectly designed of meerschaum, and a collar of amber, was quite remarkable. The head was about the size of that of a fox-terrier, and it required one cubic foot of material for its production. In another pipe, representing a Spanish bull fight, all the figures were perfect to the smallest detail. This pipe was 18 inches long, 10 being of meerschaum, and 8 inches of amber, and its weight was less than 4 oz. No better idea could have been obtained of the uses to which tobacco is put than by taking a stroll during the currency of the Exhibition through the Midway Plaisance. There might be seen the aboriginal natives of the country smoking the pipes of their forefathers, the young bucks sucking a cigarette, the Missouri meerschaum (corn-cob), in the mouth of a gaping farmer, the young business man with his fragrant Havanna, made by the skilful union workman, the "weed" of the apprentice boy, while the chewing and snuffing were done either awkwardly or artistically by a score of different nationalities.

PACKING COMPANIES' DISPLAYS.

A remarkable exhibit was that of the Swift Refrigerator Co. It consisted of a number of specimens of the products obtained in the curing and preparation of pork and other meats on a framework surrounding an elegant freight car, the sides of which were made of plate glass set in white wood, and its wheels and trucks gilded. This apparatus represented the mode of conveyance of meat and other articles, such as those exhibited, at a sufficiently low temperature, to preserve them from decomposition. The car was loaded with carcasses and with fats, sausages, and other similar matters, and the temperature was

was shown by thermometers placed at different parts of the car, and seen through the glass walls. Near this exhibit was that of the North Packing and Provision Company, with two end towers and a central pagoda. The towers were surmounted by white stuffed pigs, and the pagoda was crowned with a golden star with a circle, in which swung a bronze boar. The exhibit consisted of all the forms of packed meats, preparations, and the like. Cudahy's exhibit, as well as that of Armour, were decorated in a characteristic manner, and were splendid exhibits of the packing industry.

MILL PRODUCTS.

In the Agricultural Building one entire gallery was devoted exclusively to exhibits of mill products. A conspicuous model was that of the largest mills in the north-western States. The model occupied a space of 35 x 30 feet, with the engine and boiler rooms, elevators and railroad tracks complete, constructed on a scale of 1 inch to 1 foot. The Company's large mill, "A," is the largest mill building in the world, and still has room for an increase in its capacity of 5,000 barrels a year daily. At the right of the general exhibit was an immense barrel, which, like the booth, was constructed of many little barrels; in fact, 10,500 barrels were used in the construction representing the daily output of the mills.

In the annex of this building there was a good exhibit of portable grinding mills, with both vertical and horizontal millstones, sent from Indianapolis, in which not a point of usefulness or detail was omitted.

WINDMILLS.

The windmills exhibited formed a perfect colony by themselves near the south pond at the rear of the Agricultural annex, and were of all sizes, all heights, constructed of all kinds of material, and with all kinds of names from the "Enterprise" to the "Eclipse," some face to wind, some stern to wind, others side to wind, and all showed by various results how the power of wind, as well as that of water, has been subjugated by man. As a matter of contrast, an old Dutch mill, with its hull and stage, the colours of tower, hull, and cap blending in peaceful harmony, was also shown.

AGRICULTURAL IMPLEMENTS.

In the machinery exhibit of Agricultural Hall there were machines in great variety which compete directly with hand labour. Ploughs for horse, ox, or steam power, cultivators, drills, planters and transplanters, rakes, automatic farm waggons and fertilisers, &c., some combining in one machine drill, hoe, cultivator, and plow; harvesters that cut the grain and bind it as they go along. Others there were which cut, thrashed, and measured into sacks ready to be hauled to market or granary. Mowers and reapers, hay-loaders, machine forks for unloading the hay from the wagon into the mow, are there also. There were also automatic stockfeeders, operated by a 99-cent clock, which could feed the horses and cattle while the attendant gets an extra hour or two of perhaps much-needed rest. Nearly every machine on exhibition had some automatic attachment to save labour to the operator and also labourers to the owner of the machine.

One machine was shown in this department which deserves special mention, as it is destined to do away with a great deal of hard and distasteful hand labour. It was called a "potato harvester." This machine was made to be drawn by a span of horses, though any
power

power of locomotion might be applied. It was rather rudely made, probably being the first of its kind in use. The construction was similar to that of the "sulky seeder." A cone-shaped contrivance hung under the framework, into the front end of which were set triangular spear-shaped knives or hoes, from which a 3-inch band protruded at right angles with the side of the cone and ran in spiral form to the rear end of it. This, when the machine is in operation, has a screw-like motion, boring along the surface deep enough to gather in the potatoes, carrying them back into a sack properly attached for that purpose, the loosened dirt falling through the open work of the cone, like flour through a rotary sieve, leaving the soil in condition for the next crop.

CLOTH-CUTTING MACHINES.

One machine in this department has special interest for the labour student, it was the Caldwell cloth-cutting machine, exhibited by the Electrical Machine Company in the north-west gallery. A framework of piping about 5 feet 6 inches above the table and standing on the floor, of any length, according to the table to be used. Attached to this frame were two tracks on which a bow-shaped truck ran; attached to this truck, subject to the will of the operator, was a sliding spring from which, by coil spring, the machine suspended, allowing the operator to move the machine freely in any direction, down one side of the table and back the other.

The machine was very small, not occupying much more than a cubic foot of space outside the track work, which from the nature of its construction was not inconvenient. The knife was vertical when in place, and when in action had two movements vertical, like a jig saw, and a horizontal or forward movement at the same time. It did not require a very strong current of electricity to run it, from 70 to 110 volts being quite sufficient. It cut any number of layers of cloth to the thickness of 2 or 3 inches. An expert operator with this machine can cut as many garments as twenty to thirty hand workers, and do the work much better.

WOOL EXHIBITS.

The exhibits of wool were very numerous, and were brought from Russia, China, Egypt, Thibet, Peru, Morocco, Turkey, Iceland, Spain, Bagdad, Cape Colony, New Zealand, Victoria, Canada, and the United States. As I have already stated, the exhibit from New South Wales, by its imposing and massive character, as well as by the well-arranged series of its fleeces and specimens of wool, was *facile princeps*, and eventually obtained the chief share of the awards in this department.

The Russian exhibit contained a number of photographs of the far-famed fat-tailed sheep of Central Asia, with their long staple wool, and a variety of other breeds, including the Merino, with crosses. European Russia has about the same number of sheep as the United States—47,000,000. Some of the wools exhibited were of excellent grade, but most of the samples appeared coarse. Uruguay had an excellent show of grade wool, chiefly of the Rambouillet Merino strain.

Some years ago, when Executive Commissioner to the Melbourne Exhibition of 1880, I reported on the Argentine wool to the effect that ultimately Argentina might become a rival to Australia as a wool-producing country.

I now find that the total exports of wool in 1891 were 300,000,000 lb., the clip of 80,000,000, of the Argentine Rambouillet strain, and for which the chief market is found in France. The wool exhibited was not shown to the best advantage, but appeared to be of fair staple and light in condition. As regards weight of fleece and fineness of staple, it cannot be considered equal to the Australian Merino, and if the numerous specimens exhibited were a fair sample of Argentine wool, as I believe they were, Australian wool, of the best clips, in the opinion of the experts, will hold its own in its own sphere in the comparison.

The United States Show was scattered, some of the exhibits being contained in the State buildings, and others were only too frequently quite masked by the elaborate shows of grain, wheat, &c., when they were exhibited. Ohio, which produces the best wools in the United States had, unquestionably, the best display, with its 300 fleeces. With this exception the United States wool exhibit but poorly represented the resources of the country in this respect. What wool was shown clearly indicated that the coarse character of the product was such as quite unfitted it for the manufacture of high class, finely textured cloths. Even the United States experts, when contrasting the Australian with their own wool, were compelled to admit that our wool was unapproachable for the qualities which the manufacturers desire, such as softness, silkiness, lustre, brightness, strength, trueness of fibre, elasticity, freeness, pliability, length of staple, evenness in the length and quality of the wool, lightness of waste in scouring and spinning quality.

In judging the wool the following points obtained :—

1. Weight of fleece.
2. Length of staple.
3. Density.
4. Evenness and fullness of covering.
5. Brightness, softness, and yolk.
6. Wave, freedom from kemp and fineness.
7. Freeness and elasticity.
8. Evenness and quality of wool all over.

Deductions and additions of points were also made for percentage over or under 50 per cent. loss in scouring, and for fractions of an inch under or over 3 inches in length. Samples were also taken from the fleeces and subjected to microscopic examination and dynamometric tests, the results of which were entered in the Report.

It would be superfluous to refer in detail to the various wool exhibits, with all their peculiar characteristics. The principal interest for our wool-growers will centre in the report of the expert judges on the subject, hereafter to be published. At the present time the various investigations by microscopists and others are being made in Washington and elsewhere, and the results of these examinations, to be published in the Official Report, must be both interesting and useful.

DAIRY EXHIBITS.

Elsewhere I have described the dairy building, and the general purposes to which it was applied. The experiments made in the building and the lectures delivered were of great interest. The experiments were carried on for several months in a very systematic and scientific manner, under the conduct of experienced men from the agricultural

agricultural colleges of America, who had at their disposal all the apparatus required for actual testing. The dairy cattle exhibited were of pure breed and ascertained pedigree, and represented the Shorthorn, the Jersey, and the Guernsey. About twenty-five selected cows of each breed were picked out from the cattle exhibited for the purpose of the experiments. The objects of this test, which the authorities considered one of decisive character, was to determine the best and most useful class for the production of milk, butter, and cheese, the observations being made in the course of the experiments as to the condition of the animal with reference to weight and other circumstances during its continuance.

The results of the milk and cheese contests of fifteen days in May between the breeds of cattle at the Fair were as follows:—

	<i>Jerseys.</i>	<i>Guernseys.</i>	<i>Shorthorns.</i>
	lb.	lb.	lb.
Milk	13,296 $\frac{4}{5}$	10,938 $\frac{6}{5}$	12,186 $\frac{7}{5}$
Cheese	1,451 $\frac{7}{5}$	1,130 $\frac{6}{5}$	1,077 $\frac{6}{5}$
	\$	\$	\$
Value of cheese	193.98	135.22	140.10
Value of whey	9.26	7.72	8.67
Increase live weight	14.72	21.60	31.91
Total value	217.96	164.55	180.72
Cost of feed	98.14	76.25	99.36
Net profit	119.82	88.30	81.36

The Jerseys, in the fifteen days, gave 1,109.7 lb. more milk than the Shorthorns, and 2,357.8 lb. more than the Guernseys, and the Shorthorns 1,248 lb. more than the Guernseys. The milk of the Jerseys, when made into cheese, produced 321.14 lb. more cheese than the Guernseys, and 374.16 lb. more than the Shorthorns. The Guernseys, though giving less milk, exceeded the Shorthorns in cheese by 53.02 lb. The increase in live weight is largely in favour of the Shorthorns over both the other breeds; the Guernseys gained over the Jerseys. The cost of feed and production showed that the Jerseys took care of and profitably assimilated a larger amount of feed than the Guernseys, and but little less than the Shorthorns.

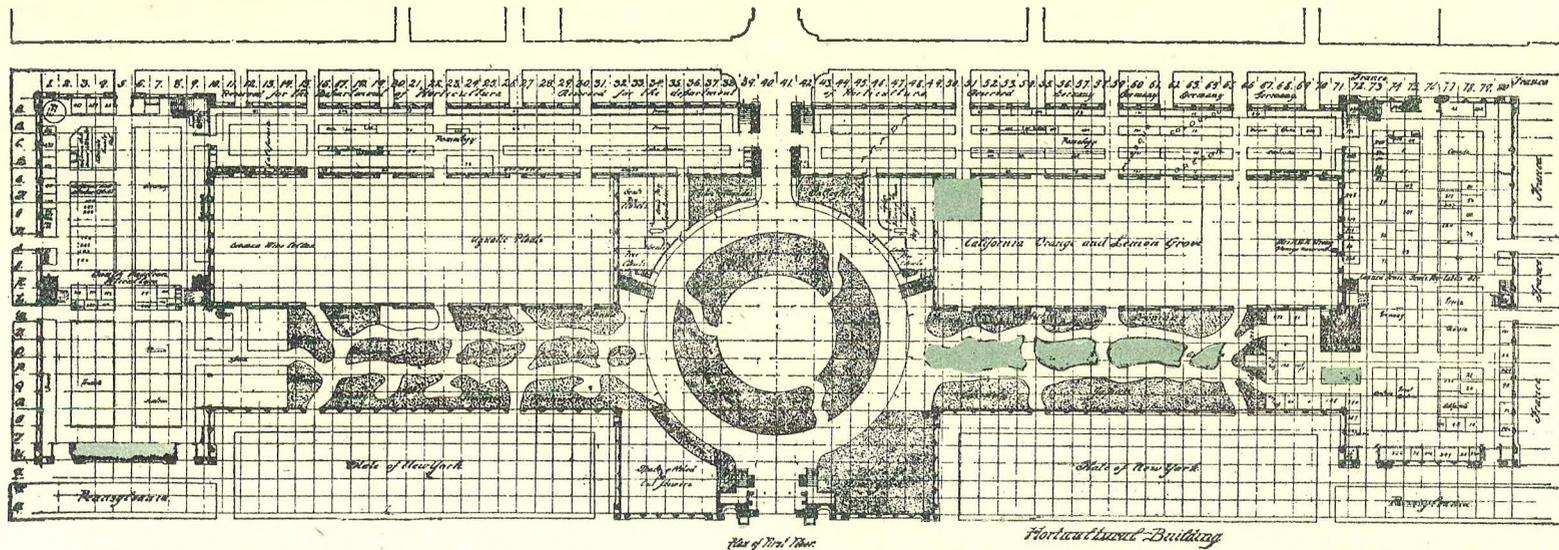
The Guernseys produced cheese at less cost than the other breeds. The Jerseys have always occupied a high place as producers of butter, but have been considered generally a small milker of rich milk. That the Jerseys should have produced so much more milk and cheese than the other breeds was a general surprise to those who did not know their capacity in this direction, and showed that they are great milkers, and the champion dairy-cow of the world for both butter and cheese.

Each cow was credited with the quantity of milk given daily, the total solids in milk, and the whey. Each breed was credited with the total milk given and the quantity of cheese actually made at the dairy, and the whey. The cheese was scored by experts and valued. Each cow and each breed was debited with the food consumed. Increase in live weight was credited at 4 $\frac{1}{2}$ cents a lb. Each cow was milked in the presence of a representative of the testing committee. Each cow's feed was weighed by such representative twice daily. The feed was kept by such committee under seal. A daily analysis of the milk was made by skilled chemists. A regular ledger account was kept with each cow. This test was the most complete, the most carefully conducted, and the most thorough that has ever been made in the world, it is said, and twenty-five cows of each breed competed.

STOCK

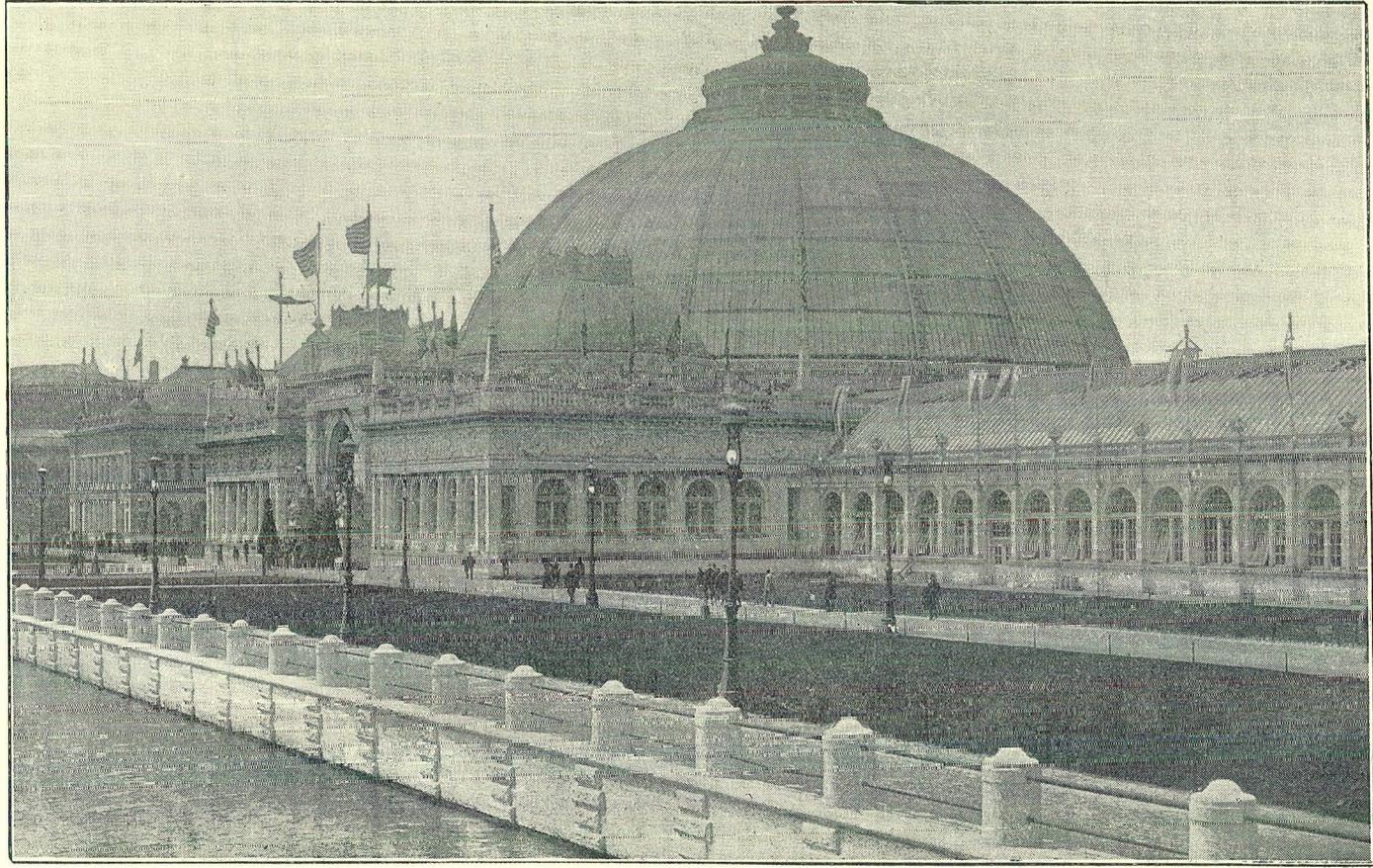
STOCK EXHIBITS.

Just beyond the Agricultural Building, in a south-westerly direction, was the live-stock pavilion, which looked like a Roman amphitheatre, and still further south were the buildings containing the stalls where the live stock on exhibition were housed. The stock shows, for the most part, were held in the closing months of the Exhibition. At the end of August the exhibition of horses and cattle was held, lasting one month. The sheep and swine exhibits followed, from the end of September to the middle of October; and in the latter part of October the shows of fat stock and poultry were held simultaneously. The rules of the Exposition provided that none but registered stock would be admitted. The principal portion of the exhibits, for self-evident reasons, was of domestic origin. The quarantine regulations of the United States are stringent, and precluded the appearance of many exhibits from foreign countries. Canada was largely represented in each of the groups, and some of the animals of that country were splendid specimens. Kentucky showed some fine horses. Vermont and the New England States showed splendid specimens of their breed of sheep. The Canadian sheep were of Southdown and similar English-bred types. As I have already said, the arrangements for the animals were very good. The stalls and stables were so arranged that partitions could be altered to suit the special needs of each exhibit. The general public could not only witness the special pavilion exhibits without extra charge, but could pass through all the avenues between the barns and stables, an opportunity being thus afforded to see all classes of fine stock at close quarters. There was a hospital for sick animals, in charge of a veterinary surgeon. The accommodation in the stock pavilion itself, which I have said was built on the amphitheatre plan, and constructed of wood and staff, was very convenient for visitors. Tiers of seats rose to the roof for the accommodation of from six to eight thousand spectators, and thus everyone had ample and convenient opportunity to observe the various animals brought out for show purposes.



(Sig 293)

WORLD'S COLUMBIAN EXPOSITION.



HORTICULTURAL BUILDING.

Horticultural Building.

Exhibits of Horticulture, Floriculture, Arboriculture, Viticulture, and Pomology.

THIS building was the largest ever erected for the purposes of a horticultural exhibition, being 1,000 feet long, with an extreme width of 287 feet. It contained about 89,000 square feet more of exhibiting space than the combined floor areas of the buildings used for a similar purpose at the Centennial, New Orleans, and the Paris Expositions. It occupied an excellent situation, facing the Lagoon and the Wooded Island. The building was really a gigantic conservatory, with wings adapted for fruit and flower exhibitions, and with the space at its south end devoted to the exhibits of the wines of the world.

The varied classification of the Horticultural Department necessarily required a building adapted to divers uses. Its general plan was an imposing, central, glazed dome, 114 feet high on the inside and 187 feet in diameter, with a gallery extending around a well or open centre. Four parallelogram-shaped rooms, technically called curtains, each 270 feet long, connected the dome and central pavilion, forming two interior courts 90 feet wide by 270 feet long. Each end pavilion was two storeys high, with an area of 217 by 250 feet on each floor. The style was Venetian Renaissance, the order Ionic, with a broad frieze decorated with cupids and garlands.

The central feature of the Horticultural Building was a highly-ornamented pylon, forming the main entrance, with a recessed vestibule decorated with statuary. On the face of the pylon were groups, one on either side, representing the "Awakening and the Sleep of Flowers." Aside from the frieze the sculptural decorations of the Horticultural Building consisted of six single figures and two large groups. On the eastern front of each pavilion at the ends of the building were two figures placed on the level of the second storey. The one on the south was called the "Painting of the Lily," and consisted of the figure of a nymph holding a lily, and regarding it intently with her brush poised in the air. As is well known the ancients attributed to these spirits of wood and field the care of plant-life. The other figure was symbolical of the cultivation and use of the grape, and represented a fawn holding in one hand a brimming beaker, and in the other a bunch of grapes. The drapery of this figure was a tiger-skin, a favourite costume of Bacchus, the God of Wine. On the north pavilion was the draped figure of a woman personifying the study of botany, and holding in her hand a scroll on which was inscribed the lore of that science. The last figure, at the extreme north of the building, represented a gardener of the ancient type examining the bursting buds of a vine. Just inside the vestibule stood two figures, each 10 feet in height. The one on the right was a light airy personification of Flora, poised on tiptoe, and with outstretched arm a flowering branch, to which she turned, and smiling face. Around her feet were plants and blossoms profusely decking the earth in response to her glad presence. The motive of this figure was suggested by the well-known statue of "Hope" by Bodenhausen. On the opposite side was the figure of "Pomona," with four matronly forms struggling with the overflowing basket of fruit, which in spite of her

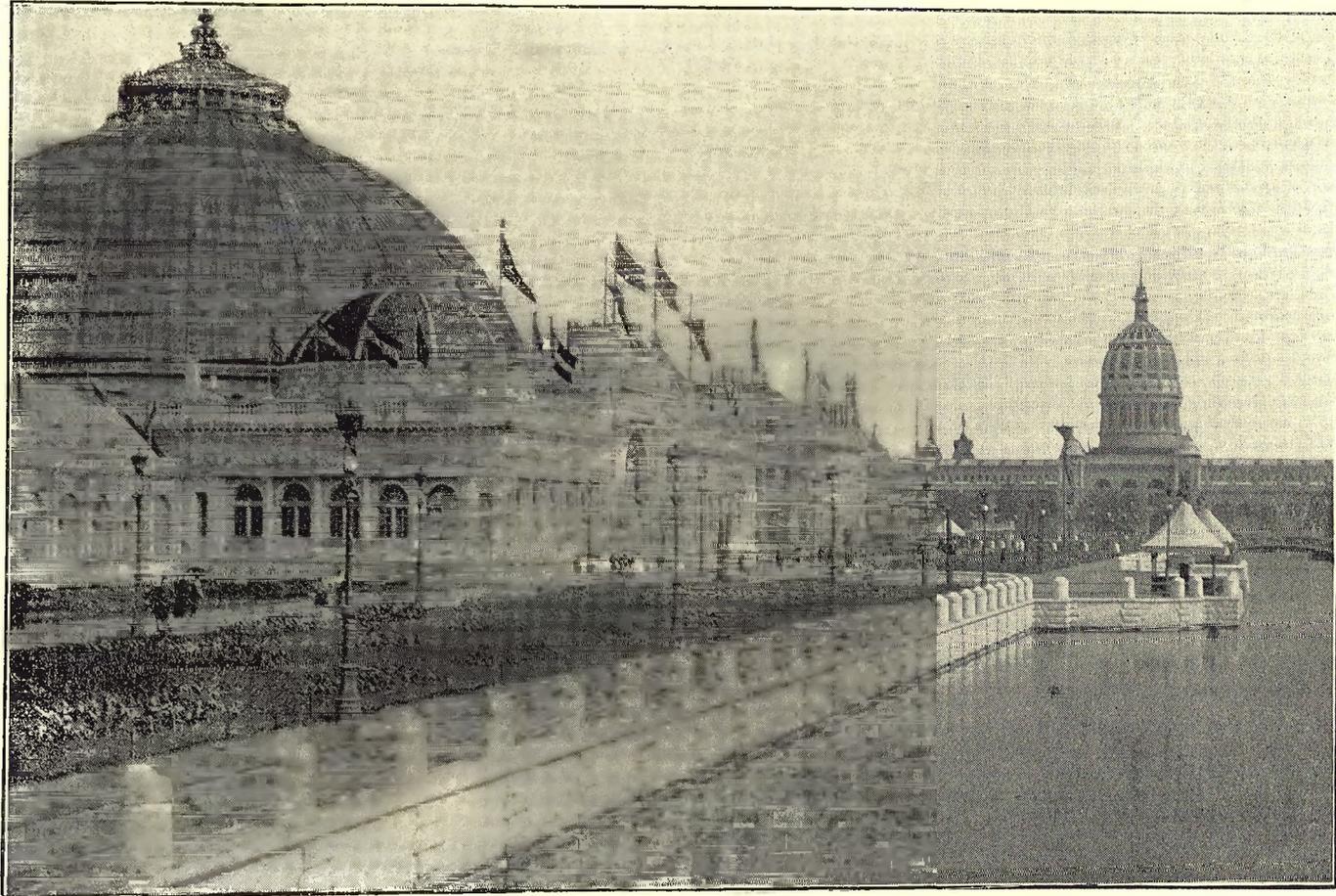
her development she seemed to be unable to lift. As regards the two main groups just outside the main entrance, the one on the south side was the artist's ideal of Autumn, a composition which was called "The Sleep of the Flowers." In it the figures of the two sitting figures suggested sleep, and even the standing figure seemed as if she also were soporifically inclined; the only touch of animation was the single belated Cupid who sat contentedly absorbing a bunch of grapes. This fruit was shown hanging in abundant clusters from the rocks on either side; at the feet of the figures was placed a branch of withered oak. On the other side was the Springtime group, sometimes called "The Battle of Flowers," in which the artist tried to express the vigor and push of awakening vegetation by means of broken and angular lines, making the composition as great a contrast as possible to the Autumn group. Figures of the three nymphs, a fawn and two Cupids, all laughing heartily, as they pelted each other with buds and blossoms, were shown. The figures in these various groups were about 8 feet high and the work occupied several months. In the frieze around the inside of the dome were festoons and wreaths of the passion vine; and in the wreaths were painted the names of men famous in horticulture and kindred arts.

Opposite the main entrance, and flanked on either side along the lagoon with long rows of mammoth vases, filled with flowers and trailing plants, was a succession of steps leading down to a broad landing, for picturesque gondolas and other water craft. The dome was sufficiently large to admit of the construction of a miniature tropical mountain and an extensive cave underneath. Several cascades were formed upon the side of the mountain, and the sparkling waters leaped from rock to rock under the foliage of the largest palms, tree-ferns, and other tropical plants that have ever been collected in a conservatory. New South Wales, many Central and South American countries, Africa, and every nation in Europe, the West Indies, China, and the largest conservatories in the United States have contributed to the collection of plants which were exhibited in the dome and east curtains. Japan, among many rare plants, furnished some dwarf trees more than 100 years old, and only a few feet in height. The entire cave was constructed of stalagmites, stalactites, and quartz crystals from a South Dakota cave, and the numerous electric lights placed within it produced a most dazzling and pleasing effect.

Near the Horticultural Building were auxiliary greenhouses, aggregating 25,000 square feet, for the purpose of developing plants to the highest degree of perfection before placing these on exhibition. There were also eight large propagating houses, covering a space of 20,000 square feet, part of which was assigned to exhibitors for the propagation of plants of merit which could not be transported from their distant homes. A large number of cold frames also occupied adjacent ground, and outdoor space to the extent of about 25 acres (including the greater part of the Wooded Island) was assigned to the department for the exhibit of trees, shrubs, and plants, which were hardy in the open ground during the time of the Exhibition. Every suitable provision was made for the supply of water and of regulated heat, more than 10 miles of 1½-inch steam pipe being used for the latter purpose. In addition, 5 acres at the western entrance to the Midway Plaisance were assigned for the nursery exhibit.

The dome gallery contained exhibits of herbariums, photographs, florists' supplies, fruit and flower plates, &c., and was used as a promenade from which to look down on the plant displays.

The west curtains, in which the pomological exhibit was installed, aggregated 692 feet in length, and were 46 feet wide. The 35,000 plates and jars of fruits were from every part of the world, and were represented either in fresh specimens, wax models, or varieties preserved in fluids. Every



HORTICULTURAL BUILDINGS, LOOKING NORTH.

NEW SOUTH WALES
 VITICULTURE
 NAMES OF EXHIBITORS

- 1 J. Barnett.
- 2 D^r. F. Frasci.
- 3 J. G. Gray.
- 4 T. Kurtz.
- 5 J. Doyle.
- 6 W. Busch.
- 7 J. Beattie.
- 8 J. Lang.
- 9 G. J. Frankland.
- 10 J. T. Fallon.
- 11 Caldwell & C^o.
- 12 T. Bray.
- 13 W. Green.
- 14 J. Leslie.
- 15 Bouffier B^{ros}.
- 16 J. Kelman.
- 17 H. J. Lindeman.
- 18 J. M. Ganger.
- 19 A. E. Lankester.
- 20 W. K. Cousins.
- 21 Carmichael.
- 22 J. A. Osborne.
- 23 T. Mather.
- 24 E. Wyndham.
- 25 J. Windham.
- 26 W. Windham.
- 27 Harbottle.
- 28 Brecht B^{ros}.
- 29 Eaton & Grant.
- 30 L. T. Genty.

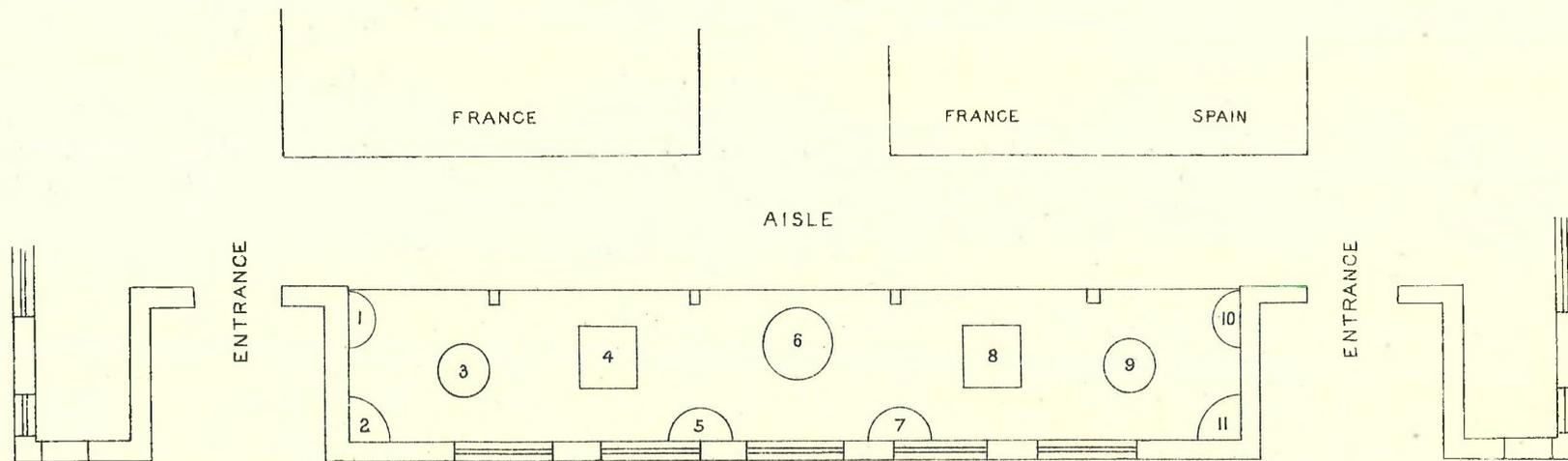


Fig 293.



NEW SOUTH WALES SECTION, FERN HOUSE, HORTICULTURAL BUILDING.



NEW SOUTH WALES SECTION, FERN HOUSE, HORTICULTURAL BUILDING.

Every country in which the grape is grown extensively made a display of wines on the first and second floors of the south pavilion. France, Spain, Portugal, Italy, New South Wales, Germany, and other foreign countries were in the competition for honours in the greatest viticultural exhibition that has ever taken place.

Each floor of the north pavilion was devoted to seeds, horticultural appliances, canned and dried fruits, jellies, marmalades, &c. The largest seed firms of Europe and America were well represented; improved horticultural machinery was extensively represented; the canned fruit displays were elaborate and tastefully arranged; and there was in this pavilion a miscellaneous list of exhibits interesting to all classes of visitors.

A bearing orchard of oranges, lemons, and other citrus fruits filled the entire North Court, while the opposite court on the south contained a typical wine cellar from the Rhine, in Germany, and several basins of artificially heated water, in which were grown the *Victoria Regia* with its enormous leaves, and other water plants.

Artistically arranged flower-beds occupied the space in front of the Horticultural Building, while on the area at the back there was a varied exhibit of greenhouses, constructed by leading firms, chiefly American, and filled with rare collections of plants.

The central feature in the landscape architecture of the entire grounds was the Island; from it the best view could be obtained of all the departmental buildings. The flower-beds and walks were designed with special reference to the exhibiting to good advantage semi-hardy rhododendrons, azaleas, kalmias, conifers, roses, &c. Foreign countries, especially France and Germany, were the most liberal contributors, and the exhibition of large and rare specimens was unequalled.

Five acres at the western end of the Midway Plaisance was assigned to a nursery exhibit. France made a very interesting display in fruit trees trained into every form and grafted in different ways, as well as a great variety of evergreen and deciduous shrubs. The State of Wisconsin illustrated, with bearing plants, improved methods of growing and flooding cranberry marshes. An acre in bearing orange trees and many exhibits of deciduous and evergreen trees and shrubs made very attractive displays in this locality.

New South Wales Court.

In this building our country was represented in no fewer than five sections. The space allotted for our wines was placed in the recess at the south-east corner of the building, between two important entrances and immediately at the end of the main avenue of that part of the building devoted to viticulture. The site was well placed. At first only one-half of this section was allotted to us and the other half to one of the South American republics, but on my representation that the space granted would be insufficient for our exhibits, after some correspondence and arrangement I had the pleasure to receive official notification from the authorities of the Exposition that the extra space I had demanded had been granted to us. The court then occupied the whole of the bay, and had a frontage of over 60 feet, the total floor space being 760 feet and wall space 1,250 feet. On consideration, I found that our best course with this space was to erect trophies and stands on which to display the numerous and valuable wine exhibits of our colony. The photograph of the court will give a general idea of the arrangement. There were no fewer than twelve of these trophies, some of them 14 feet high, painted black and gold, cream and gold, and blue and gold, shelved to carry the wine bottles and surmounted with a flower-pot with plants. Along the top of the court were vine-leaves in a trellis, and this added much to the beauty of the appearance.

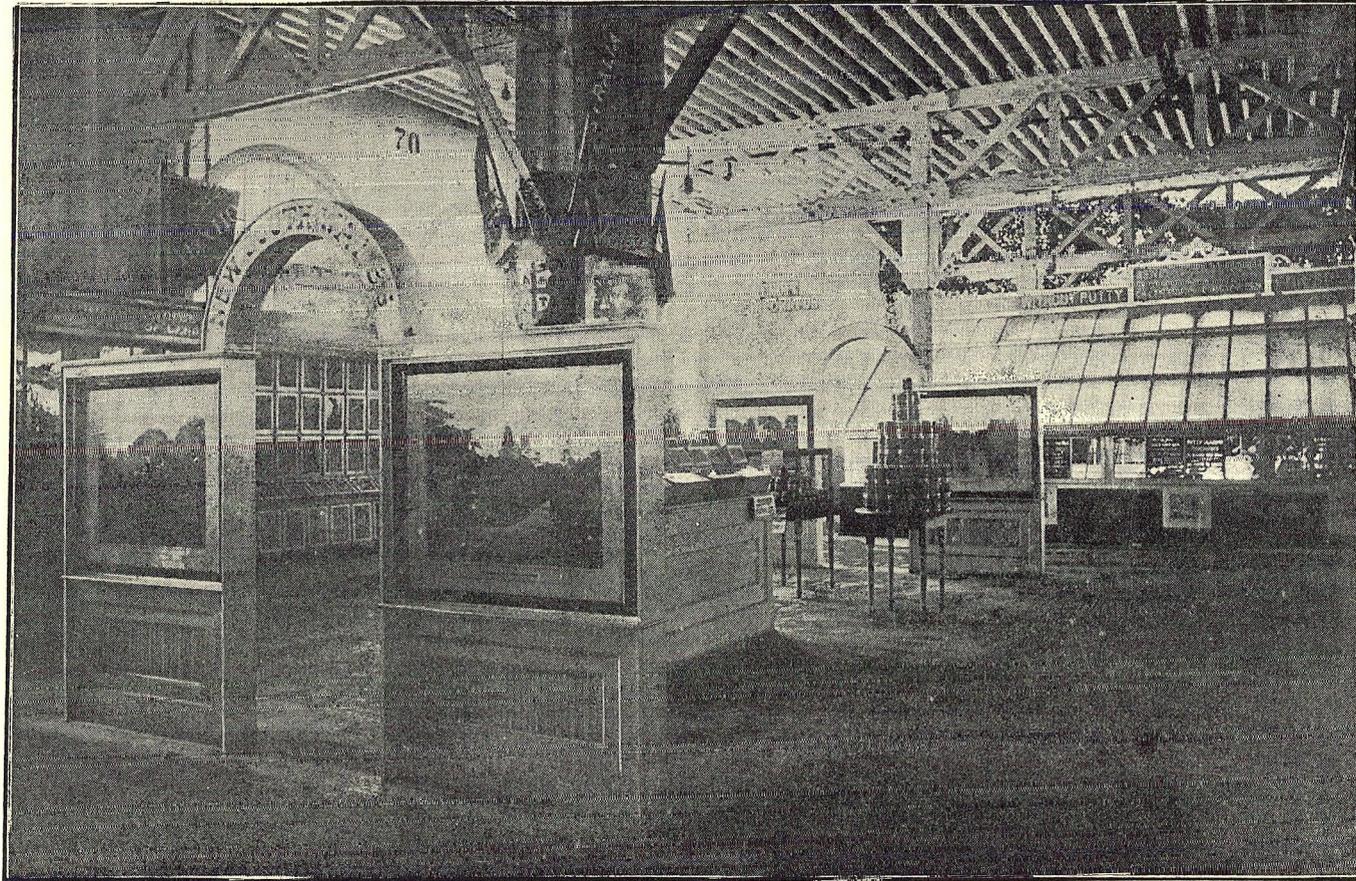
I regret to state that many of our wines forwarded were improperly labelled. In some cases a name representing certain well recognised characteristics was applied to a wine of quite a different nature. These eccentricities, as a rule, find little sympathy from jurors.

The following suggestions were made to me by one of the most experienced experts in wine and may be found useful:—In bottling, the wine should be filled quite up to the cork, and no interval should be allowed. Casks, in wine production, should be small, not larger than 40 gallons. New wine should be put into small casks. These will ultimately be found cheaper than large ones, and they are more easily handled. In large casks the wine is found to be of different character at different parts of the cask, according as it is drawn off from the top, the middle, or the bottom of the cask. The best temperature for wine is 46° Fahr.

In the pomological section, and from the peculiarity of the position and its surroundings, I found that arched-wall screens, with central tables covered with shelving to carry the fruit exhibits, would best answer the requirements of the situation. Over this Court, as in the case of the Wine Court, in neat design were painted the words "New South Wales," and the walls were hung with the enlarged photographs of fruit scenes. I regret to state that I cannot report favourably of the manner in which the preserved fruits were prepared for exhibition; neither those from our Agricultural Department nor those from private exhibitors could for one moment be compared with the foreign and American exhibits of the same kind as regards the "get up." To add to my dissatisfaction, I found when unpacking the case in which these fruits were sent that some onions had been packed in the same case, and that these had decomposed on the voyage, producing a disagreeable flavour in the whole of the contents, which required care and time to get entirely rid of. Many of the visitors experienced in the packing of fruit examined these exhibits, and expressed surprise at the want of skill displayed in the packing, while they admired the excellent fruits presented. Our fruit-growers have much to learn before they can equal the excellent and beautiful methods adopted by other countries in respect to the preparing and packing of our excellent fruit.

In the main gallery of the central rotunda of the building I obtained a splendid position for our beautiful photographs of the parks and gardens of New South Wales, through the kindness of Chief Samuels; and these photographs were a constant source of attraction to the great number of persons who from the galleries rested, or surveyed the magnificent horticultural displays below. This space was wall space, with a narrow floor space to keep off the visitors.

One of the great attractions of the horticultural building was our Fern Court, containing our great ferns, the macrozamia, and bird's-nest ferns. For these a space of 3,780 feet was provided, and I may state that during the whole course of the Exhibition this part of the horticultural display attracted increasing attention. Mr. Thorpe, the chief of this department, lent us his valuable advice and assistance in the arrangement and disposal of these exhibits, and to the great care and the labour bestowed by him and the gardeners under him much of the fine effect produced by this arrangement was due. In the undergrowth of the ferns was placed an immense number of beautiful specimens of young gum-trees, pepper-trees, and other plants, and the whole was so arranged as to give quite a natural and exquisitely beautiful appearance. Banners, with the legend, "New South Wales, Australia," floated over the whole. Here we had Germany and France on one side, and Japan on the other; but the characteristic idea impressed on every visitor was that the scene was Australian. I am glad to report that, while the macrozamia did not seem to take kindly to the air of Chicago, the ferns appeared even
more



NEW SOUTH WALES POMOLOGICAL EXHIBITS, HORTICULTURAL BUILDING.



NEW SOUTH WALES WINE COURT, HORTICULTURAL BUILDING.

more full of foliage and more beautifully green in colour than even in their native habitat. The only losses that occurred in connection with this class of exhibit was the death of the principal branch of the great tree-fern and the four macrozamia, numbered 800 in our catalogue.

With regard to the various shipments of fruit sent from Sydney I forwarded from time to time brief information regarding each lot as it arrived in Chicago, in accordance with the cable code arranged for that purpose, and in various letters to the Commission I gave more detailed information on the subject.

First Shipment.—The first shipment of our fruit was brought by the "Mariposa," which left Sydney on 20th March, 1893, and arrived at the Exhibition on 10th May, having been fifty-two days in transit, of which time twenty-seven days were taken up by the carriage between San Francisco and the Exhibition. The shipment consisted of eleven cases of apples, three of pears, three of grapes, and one of passion-fruit. The apples comprised Golden Russet, New Hawthornden, Pomme de Neige, Cleargate Pearmain, Winter Pearmain, Northern Spy, Five Crown Pippin, Brown's Perfection, Kentucky Red Streak, and Triomphe de Luxembourg. The grapes consisted of white Muscat and Wantage. The pears comprised Gansel, Bergamot, and Butler pears. Nearly all the apples arrived in good condition; there was not one bad among the Golden Russet. The Five Crown Pippin, Pomme de Neige, Norman Spy, and Kentucky Red Streak were particularly noticeable for their excellent state of preservation. The juror who examined them officially expressed his high approval of them, and the public at large, as well as pomologists, expressed surprise at the excellent condition in which they had arrived. Out of the three cases of pears, only three or four pears in fair condition for examination were obtained the whole of the remainder were quite decayed. The grapes arrived in bad condition, but a few bunches were obtained from the lot, and were placed on exhibition; they were remarkable for their size and their excellent flavour after their long journey. The passion-fruit was wholly decayed. This shipment had been brought over under the condition of ordinary cargo, and without the advantage of cold storage or any particular care, and those portions—the apples and grapes—which were in good condition were pronounced to be as excellent of their kind as any similar fruit exhibited at the time.

Second Shipment.—The second shipment of fruit left Sydney in the R.M.S. "Oroya" on 25th March, *via* London and New York, and arrived at the World's Fair on 30th May, thus having been sixty-six days in transit. This shipment consisted of 17 cases, *viz.*:—10 cases of apples, 4 of grapes, and 3 of pears. The apples consisted of Bailey's Sweet, Seedling Pearmain, Kentucky Red Streak, and Scarlet Pearmain. The pears were all winter Nellies and the grapes Muscat of Alexandria. Although this shipment had been sent over under cold storage conditions the results were not as satisfactory as in the case of the first shipment. The actual state of several cases of apples was as follows:—

Case 2636	Bailey's Sweet	...	No. in case	126	...	bad	36
" 2370	Seedling Pearmain	...	"	114	...	"	100
" 2368	Kent Red Streak	...	"	111	...	"	61
" 2369	Scarlet Pearmain	...	"	152	...	"	37
" 2365	Kent Red Streak	...	"	106	...	"	56
" 2364	Bailey's Sweet	...	"	98	...	"	65
" 2361	" "	...	"	131	...	"	21
" 2362	" "	...	"	123	...	"	23
" 2367	" "	...	"	129	...	"	49
" 2366	Scarlet Pearmain	...	"	99	...	"	59

The contents of the three cases of winter Nellies pears all decayed; not a single presentable specimen could be obtained. The four cases
of

of grapes had suffered much; in fact only about one-third of the contents of each case was in fair condition. It would be difficult to say why there was such a serious difference between this shipment and the first, more especially when it is remembered that special precaution in regard to the use of cool chamber and the like had been arranged for in Sydney before the departure of the shipment. With regard to the grapes it was clear that the system of packing adopted was not a good one, and it struck me when examining them that sufficient care had not been taken after cutting the branches to remove all traces of moisture, &c. The cork shavings which had been used for packing material appeared to be too fine in structure, and great difficulty was experienced in removing the finer cork fragments out of the grape clusters. It was suggested to me that the system adopted in America of packing the fruit in small boxes, containing about 4 lb. each, not too tightly packed, and of placing these small cases in a larger one was a much more successful mode of conveyance.

Third Shipment.—The third shipment left Sydney by the “Monowai,” on 17th April, 1893, and arrived at the World’s Fair on 7th June, taking fifty-two days in transit. It consisted of three cases of apples and pears exhibited by the Pastoral Agricultural and Horticultural Association, Armidale. The results on opening the cases of this small shipment was as follows:—

Case 2410	Apples in case ...	...	19	...	good	9	...	bad	10
„ 2411	Pears and apples in case	...	13	...	„	7	...	„	6
„ 2412	Apples in case...	...	35	...	„	13	...	„	22

This shipment was not equal to either of the previous ones in general results, but such of the fruit as was in good condition on opening the cases looked remarkably well, and on exhibition lasted longer than any of the previous samples.

Fourth Shipment.—The fourth shipment of fruit by R.M.S. “Orient,” which sailed from Sydney 8th April, consisted of twenty cases apples, one of persimmons or date-plums, and one of oranges. The varieties of apples were: Canove Pearmain, Wagner, Nickajack, Gladneys Red, Buncombe, Romanite, Scarlet Pearmain, and Horn. Of these only a small portion was decayed, but the oranges and persimmons were totally destroyed.

Fifth Shipment.—The fifth and last shipment left Sydney per R.M.S. “Alameda,” on 15th May, and arrived at the World’s Fair on 27th June, being forty-three days in transit. It contained fifty-one cases, three of which had been sent by the New South Wales Commission and nineteen by private exhibitors.

The cases forwarded by the Commission contained oranges and lemons, and one case of passion-fruit for Sir Roderick Cameron, of New York, which, however, on being opened was found to be completely decayed. The oranges and lemons had not suffered much in transit; in fact the lemons in three or four of the cases were all perfectly sound. As I informed the Commission in my official letter on the subject, the oranges were of a very poor description, both small and sour, and quite unworthy of carriage. Our show-stands were in the immediate vicinity of the Californian exhibit of oranges and immediately adjoining the great tower, about 40 feet high, covered with oranges, the produce of that State, and the contrast between these miserable specimens and those of our neighbour occasioned no small amount of unfavourable criticism. Why these windfalls—as they appeared to be—or all too premature fruit should have been forwarded as specimens of the far-famed produce of the Parramatta River is to this present moment to me a matter of astonishment. The only course I could adopt with these specimens of what an orange ought not to be was to select only such specimens as appeared the best for submission to the judges with the hope of modifying their opinion of the whole.

The

The private exhibits consisted of apples and a small quantity of oranges. W. Eyles, of Orange, exhibited Winter Pearmain, Luxembourg, Granny Smith, Majentin, Grasseys, and Five Crown apples. Of these the Winter Pearmain, Grasseys, and Granny Smiths arrived in good condition. Some of the Granny Smith apples were magnificent specimens, the size and colour being remarkable; in fact I saw no fruit at the time on exhibition among the immense number of exhibits of all kinds displayed in the large horticultural halls which surpassed them. The balance of the exhibit, consisting of Luxembourg, Majentins, and Five Crowns arrived in very bad condition. It was a remarkable circumstance that the Five Crown apples, which arrived in a completely decayed condition, in this shipment, were, as I have already reported, the apples which arrived in the very best condition in the first shipment, after being fifty-two days on the journey. The other private exhibits were all more or less completely decayed. These private exhibits were marked in the instructions of the manifest of the shipment as "For sale on behalf of exhibitors," and I caused all the necessary inquiries to be made with regard to the disposal of such of the fruit as was in good condition. I found that the sale would not be permitted within the grounds of the Exposition, except through some concessionaire, and further, that 25 per cent. of the gross proceeds would have to be paid to the World's Columbian Exposition authorities, and that the concessionaires required 50 per cent. of the balance. In addition to this, there were a number of formalities, such as passing the Customs, entry fees, and the like, so that ultimately very little money would be left for the exhibitor. Doubtless some of the apples could have been sold, as a novelty, at prices as high as 10 cents (5d.) each, but this would have been no criterion as to the real outside marketable value of the fruit. Good American apples were being sold at the time at 2 cents (1d.) each, or even less. In consequence of the difficulties to which I have already referred in connection with the sale of the fruit in question, I considered it advisable, under the circumstances, to place the sound fruit amongst our fruit exhibits, so as to add to the effectiveness of our display in this section.

After the arrival of the early shipments of our fruit I cabled instructions to Sydney to cease forwarding any further shipments. I took this course because I found on inquiry and examination of the markets here that at the time there was an abundant supply of all kinds of fruit from the different parts of the United States and South America. Communication by land and sea is so frequent and so reasonable in cost, especially in regard to railway carriage, and the art of packing fruit is so perfect in the United States, that no sooner is a market created than the supply is soon provided. When to this is added the fact that the cold storage provision on the railroads is, perhaps, the most perfect in the world, it will easily be seen that it will be a difficult thing to outbid the home fruit-growers of the United States. I am quite certain that greater care and skill must attend our mode of packing our fruits before we can hope for great success in this direction, and in regard to this matter the fruit-growers of Australia have a great deal to learn.

Before passing from the subject of our display in horticulture, I may here quote one of the numerous Press statements, although American in tone, made regarding our general display in this building:—"John Thorpe, Chief of the Horticultural Bureau, says the exhibit of New South Wales in this department is, without exception, the most effective made by any foreign country at this Exhibition. He greatly regrets the absence of an elevator in the building, from whose height the visitor might be able to look down upon the tropical forest of Australia. Praise from Sir Hubert is praise indeed, but every visitor to the Horticultural section will fully coincide

coincide with Chief Thorpe's views after inspecting the very artistic exhibit made by the Colony. With Uncle John it has been a labour of love to accentuate the beauties of the trees and plants sent from Australia, and one might easily fancy himself in an avenue of the famous Botanical Gardens in Sydney while viewing the delightful little forest laid out in the north wing of the main building. In the pomological section there is a good display of canned and dried fruits, including pears, peaches, plums, apricots, and apples. Of live fruits the exhibit of apples is particularly fine, a number of varieties being shown. In spite of the fact that the fruit was fifty-two days on the road from Sydney to Chicago, and has been on the shelves thirty days longer, there is a freshness still discernible on the apples that makes one long to pocket a few specimens when out of sight of the attendant. In Viticulture, New South Wales is represented by a good display of clarets, sauternes, tokays, and hocks; of the sweeter wines there are muscats, muscatelles, ports, and sherries. The Colony excels in light wines. New South Wales ships a considerable quantity of fruit, especially oranges and lemons, to the neighbouring colonies, and expects to do a good trade with Europe as soon as the difficulties connected with the transmission of fruit have been overcome."

It will be necessary also to have more direct and immediate communication with America to effect this purpose; and there must be preparation for immediate and combined action on both sides, so that on advice as to the requirements of any particular locality, shipments may be immediately effected. This last principle will be most satisfactorily accomplished only when we are in direct communication by telegraph with America. It is true that climatic conditions are different in New South Wales and America, and undoubtedly when the conditions I have already referred to are in operation, this will be an important factor in connection with trade relations between the countries. As I will show at a later portion of this report, there are other directions through which important commercial relations may be established between these countries.

The south-eastern curtain of the Horticulture building was radiant with flowers, Illinois occupying space at the extreme end, and showing a pretty collection. Near by was a cactus patch, representing some of the dreary spots that abound in New Mexico, and comprising many varieties of cacti, the creamy-flowered yucca, the Spanish bayonet, meschal, cholla, tuna, and some others. Massachusetts, directly opposite, contributed a number of fine ferns, one of which had remarkable spreading leaves. Missouri also made a creditable display, and California exhibited a few cactæaceous plants. The place of honor in the south-east curtain was held by Pitcher and Manda, of Short Hills, N.J., their collection, including the orchids, being valued at \$50,000. These occupied a large space running down the middle of the curtain; a large number of selected crotons of red and yellow, many varieties of dracenas, and some superb anthuriums in foliage and flower. The latter is a native of South America. Then there was a splendid collection of marantas, with their great luxuriant zebra-striped leaves. There were a great many varieties of ferns, among which was the golden fern, a native of Peru. This was unlike any other, and from its leaves impression may be made upon a coat sleeve or other cloths, such as cashmere and the like, which would be mistaken for engravings. There were also many other excellent ferns known only to a few, one of the rarest being the crested sword fern, a native of South America; golden maiden-hair fern, tongue fern, and adiantum Farleyense, a variegated sport of maiden-hair, very scarce. Among other rare plants in this collection were the heleconia aureo statua, with broad, sweeping leaves with golden stripes, an umbrageous plant standing 6 feet high. Aspidiastia, vivid in green and variegated colours; eighteen bigonia rex, and several varieties of selaginella or club moss,
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natives of the East Indies; collection of birds-nest and stag-horn ferns from New South Wales; more club-moss of a bluish metallic shade; *Davallia Mooreana*, a native of the South Pacific Islands; *Pteris Wallichianii*, a native of Japan, the largest fern on the collection, being 8 feet across, and which was set out in 3-inch pots three years ago; *Pteris Victoria*, named after the Queen of England, a native of the East Indies and Southern Africa.

This collection also included *Davala Fijiensis*, a native of the Fiji Islands; a superb fern known as harefoot; pyramids of fern asparagus of many varieties; flowering anthuriums in gaudy blossoms and rich foliage; a large collection of flowering genista; 100 azaleas in orange, red, and crimson flowers; the same number of hydrangeas, abundant of blossom. There were also 84 varieties of pine-apple plants; 150 varieties of palms—32 of sago palms, or cycads, the largest of which was presented by Don Pedro to Mr. Van Alen, of Newport, seventeen years ago, and which was secured by Mr. Manda for the Exposition. There were also 32 varieties of the Norfolk Island Pine, and more than a hundred cocoanut palms, 9 feet in height, growing the nuts, quite a novelty.

The south pavilion of the Horticultural Building contained the very large collection of wine exhibits. Germany erected a special pavilion outside the main court for its wine show. It was a costly but a beautiful structure. Panoramic views of its chief vineyards, with representations of the growing vine and the clustering grapes, made in some special material passing into painted continuations in the vista, made a very distinctive and intelligible picture of the Rhine vineyards and the scenery of the chief wine districts of Germany. Not only were the far-famed wines of the country shown in splendidly prepared and arranged cases, stands, and trophies, but the wine cellars and the processes of storing and manufacture were also exhibited. This exhibit was a most admirable one, the result of much planning and great skill, and I have no doubt was all prepared beforehand in Fatherland, and shipped, like so many of the German displays in other buildings, from Germany to Chicago, specially for the purposes of this exhibition.

France had a space adjoining ours containing about 2,000 feet, in which were exhibited all her far-famed wines. In the gallery there was the French exhibit of the leading champagnes, about 90 feet by 19 feet in area. Austria was well represented. Canada had about 100 square feet. Spain was assigned a space just adjoining the floriculture exhibit. The Spanish Government made a beautiful display of the wine-growing resources of that country. Individual Spanish exhibitors had gallery space, and made an important exhibit.

Portugal made a gallery display, and Italy also exhibited in the gallery, occupying the whole of the west end, 107 feet long. Both of the latter exhibits were marked by a prodigal display of the famous brands from those countries, and the methods of viticulture celebrated for centuries in song and story.

A special effort was made on this occasion by the American wine-growers with the object of exhibiting the wonderful development of the manufacture of their native wines of late years. All the great wine-growers of America were represented, and some of their pavilions were beautiful and striking in the extreme, the hand of the artist and the designer having been employed without regard to expense. Natural vineyard and scenery as well as the various processes in the manufacture of wine were shown. New York exhibitors made a collective display. A number of the most prominent wine-growers of that State erected a most artistic pavilion on the main floor. They exhibited dry, still wines, champagnes, and brandies. In the proper seasons they showed specimens of grapes from which certain wines
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are made. The Brotherhood Wine Co., of New York, erected a very handsome pyramid of wine bottles filled with Empire State product, and the Boston Co., which makes excellent wines, was included in New York's collective exhibit.

Ohio wine-growers made a combined exhibit. A highly ornamental column was erected, around which were gathered the main portions of the exhibit.

California made the largest American exhibit. From the Stanford Wine-growing Co., and allied firms, came a most elaborate display from the great wine-cellar at Vina. Senator Stanford had the largest vineyards in the United States, containing more than 7,000 acres. His company also produces as much brandy as all the other American brandy-makers put together. The famous Vina cellar was reproduced in cycloramic form. A visitor passing down the main aisle obtained the same view as if looking into the real cellar. About 20 by 30 feet of space was required for this single exhibit, which was located under the gallery almost in the centre of the pavilion. Looking apparently into the cellar the visitor saw the cooperage, the storing of wines, and all the other appurtenances. In front of this exhibit were shown the bottled wines and brandies. Adjoining the Stanford exhibit was a large exhibit of the largest California wine-makers—The Napa Valley Wine Co., Arpad Haraszthy Co., J. Gundlach & Co., and C. Carpy & Co. The Haraszthy Co. make the principal California champagnes, and the Carpy Co. is one of the largest wine-makers and dealers in the State, producing between 1,000,000 and 2,000,000 gallons yearly. This collective exhibit contained a representation of the scenery of California. The growing vines were shown, the natural grapes and wine machines on a realistic scale. The centre of one of the big California trees was hollowed out, and in its centre were shown the climbing vines. On its walls were perfect duplications of vineyard scenes. In this exhibit there was a very fine showing of the bottled wines produced by the several companies.

The Italian-Swiss Colony, of Sonoma County, has about a thousand acres under cultivation. This colony combined with F. Korbel Brothers, the famous cooperage firm and wine-growers, and made an elaborate display of the Sonoma County product. In this exhibit there was one of the immense fermenting tanks, 16 feet in diameter and 20 feet high, built of the California redwood, and had the appearance of a large vault with a door leading inside. It was the original intention to send this tank filled with wine, but ultimately the interior was used for exhibition purposes and was very attractive. The exterior of the tank was finished in a most ornamental way.

FRUIT.

The collections of ripe fruit from the American States and Canada were, undoubtedly, the largest and most complete ever collected. While the show from nearly all the States was very representative, that of California was unquestionably the largest and the best. Its immense trophy of oranges, about 30 feet high, and its large and extensive display of eight or nine varieties of the same fruit and fruit-bearing trees, as well as the continuously renewed collection of fruits in the State Building, attracted much attention, and induced the opinion that, not Florida but California was the chief orange-growing State in the Union. In addition to oranges, olives of excellent appearance, limes and lemons, walnuts, grapes, raisins, and other fruit were exhibited. In the transport of their grapes the vignerons of California exercise a care and attention unfortunately wanting amongst New South Wales growers. The grapes are carefully examined when removed from the vine, tenderly turned over and cautiously handled, they are then packed in paper-lined boxes containing five, ten, or fifteen pounds

pounds each, so that no undue pressure on the soft and pulpy fruit may occur. Various modes of preserving fruit for market were adopted by exhibitors, some preferring one plan and some another, but I am convinced that whilst there are exigencies in connection with most of the plans adopted, a perfect system has not yet been arrived at.

The Chenivert process is as follows :—

THE GREAT FRENCH PRESERVING PROCESS.

Directions.

Prepare a tight box or small room in which to burn the compound. Any common dry goods box, say about 3 feet square, will answer nicely for family use, and can be made sufficiently air tight by simply pasting in a lining of a few thicknesses of old newspapers.

Place in box or room earthen jars, crocks, or wooden pails containing a sufficient amount of clear cold water to cover the articles when placed in the receptacles in which they are to be kept after being processed, until used.

All fruits contain a percentage of acids, use no metallic vessels.

In an open dish place enough of the compound to consume the oxygen in the box or room; the amount required will depend upon the size of the box or room, say, two or three plates full, light the compound in the open air, and wait until the flame has spread well over the surface; then place in the box or room, close cover or door, calk tight around edges with strips of damp cloth, let it remain about two hours, then open the box or room and place on shelves, or suspend in open baskets, the fruits which you wish to process, relight the compound, following directions as above and process about two hours longer. It is essential that the water be more thoroughly processed than the fruit or vegetables. Should you desire to use your fruit within a short time simply treat the water and pour over the fruit, but for long keeping treat both. Rain water is preferable, but any pure water will answer.

If more of the compound is lighted than will be consumed it is not lost, as what is left may be used another time. Simply turn over the crust formed from burning, sprinkle on a little fresh compound, and burn again from time to time until all the virtue is consumed. Too much will not be used, and the process is not complete if too little is applied.

Place the articles processed in jars or receptacles in which they are to be kept, cover them with processed water, and set away in a cool place to keep.

With this process it is not necessary to use air-tight cans, but better to cover tight enough to prevent rapid evaporation.

Should any of the articles be inclined to float they should be weighted down and kept beneath the surface of the processed water.

All kinds of fruits and vegetables may be preserved whole and in their natural state for exhibition purposes, but for table use it is best to prepare your fruit by removing cores, pits, skins, or rind, before processing, and especially with such fruits as oranges and lemons, where the rind and seed are strongly flavoured, both should be removed. Green corn may be cut off or preserved on the cob, if cut off it should be scalded slightly to set the milky substance.

Peaches, pears, plums, apples, tomatoes, and other similar fruits or vegetables, may be preserved in their natural state or sliced.

Fresh meats or fish should be processed about four hours, lighting the compound twice, the same as in the treatment of water, after which pack in barrels or boxes with a very little salt, simply enough to produce moisture, and while not entirely essential it is best to remove the bone from meats.

Butter may be preserved by being packed solid in jars or tubs, on top of which place two or three inches of processed water.

Eggs should be processed the same as meat, after which put them away in a cool dry place to keep packed in cases or barrels.

Cider may be kept sweet by being processed the same as water, from two to four hours, depending upon quantity treated at a time.

Milk should have only slight treatment, say in quantities of five gallons in five gallon jars, process about two hours, lighting the compound only once. Treated in this manner the taste will not be affected and the milk will keep perfectly from five to ten days.

Before eating preserved fruit add desired amount of sugar, and cook a few minutes in some water in which fruit has been kept.

Select good fruit and not too ripe.

Should any of your fruit show signs of spoiling, simply pour off the liquid and renew with freshly processed water.

Exercise the same care with this process that you would with the old method and you will be more than pleased.

Formula :—Take of sulphur, 1½lb.; white sugar granulated, ¼lb.; charcoal, ¼lb.; wood ashes, 1 teaspoonful; fine salt, one-half teaspoonful. Grind fine, and mix by sifting through a sieve. For meats or fish add to the above one-quarter ounce of saltpetre.

Canadian Fruit.

The Canadian show was an excellent one; the apples, especially those of Ontario, were almost as fine as our own. The grapes exhibited were not to be compared with those of New South Wales either in regard to size or flavour; in fact, I saw no grapes in the Exhibition, extensive as it was, equal to those of New South Wales. The Province of Ontario exhibited over 100 varieties of apples, 60 of strawberries, 50 of plums, over 100 varieties of grapes, 70 of pears, a number of varieties of gooseberries, cherries, and peaches. This province was one of the most successful exhibitors in horticulture and agricultural produce of all kinds, due, doubtless, to the impulse originating in the well-organised experimental farms of the province.

A description of the method of packing fruit for export, as adopted in Canada, will be found in Appendix K.

Fruit Evaporators.

A number of fruit evaporators were exhibited in the pomological section.

The principle of all the fruit evaporators exhibited consisted in the presence of a hot-air chamber, containing hot-air at a regulated temperature. The practical difficulty to be solved in all these machines is to provide an equal distribution of the heat, so that the fruit on the shelves shall not be unequally dried. In most of the evaporators another difficulty is occasioned by the absence of sufficient provision for the escape of the heated air after it has become saturated with moisture. Several of these machines seemed, as far as construction was concerned, to meet the difficulties I have described, and many varieties are employed by fruit-growers in the different States.

FRUIT RESOURCES OF CALIFORNIA.

From a publication on the resources of California, prepared by authority of law, and under the auspices of Governor Markham, of that State, I have gleaned a number of particulars which, in view of the trade relations in fruit likely to be soon established between America and our country, will probably be of interest. As regards agricultural products the following general facts are significant and necessary in view of any future trade between Australia and America.

	When Sowed.	When Matures.
Wheat	October and November (summer-fallow)...	July.
Wheat	December and January (winter-sown) ...	July.
Barley	December and January	June and July.
Oats... ..	January and February	June and July.
Corn	February and March	June to August.
Beans	February and March	May to July.
Peas... ..	February and March	April to June.
Tomatoes	February and March	May to July.
	Bloom.	Mature.
Apricots	March	May to July.
Peaches	March	May to November.
Pears	April	June to October.
Apples	April	June to November.
Oranges	April	December to March.
Cherries	March and April	May to July.
Almonds	January to March	October.
Plums and prunes ...	March	June to October.

In many portions of Southern California and along the coast garden vegetables are grown throughout the year, and hardy vegetables are growing every month in all the interior valleys, except in the mountains.

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The grain farmer, for summer-fallow crop, ploughs his land in the spring; it lies fallow till October or November, when he sows it; he next, after rain comes, ploughs for winter-sowed grain, which should be sowed by January, although we make good crops sometimes by sowing as late as March in good soil. Harvest season begins in May and June for hay, and in June and July for grain, and continues to August. The grain is cut and stacked, and afterwards threshed, or is threshed as it is cut. It may be left in the field without fear of rain.

The fruit-grower ploughs and plants trees soon after the rainy season—in December or January; he prunes his trees in November and December, or later; he ploughs his orchard in January or February, and reploughs and cultivates until June or July. His early fruits begin to come in by May, and are followed almost continuously by successive varieties of other fruits until November, when late pears are gathered.

In November and December olives are ready for the pickle and press, and in January, February, March, and April our oranges are marketed, thus making the round of the year, and every month yielding its return of some kinds of fruit. The orange ripens a month earlier in Northern California than in Southern California. The fruit-grower, it will be seen, has no day when work is not before him. The season between the last fruit picking and the work for the next year is scarcely long enough to repair tools, clean up packing houses, and prepare for the new year.

With regard to fruits, the apple is abundantly produced of excellent quality, and in a very large part of the State it is the principal fruit grown. There are at present 19,527 acres devoted to its culture, and of these 13,751 are in bearing. According to the report the apple crop finds its market not only in San Francisco and other countries of the State, but is also exported to the northern and eastern States and to Australia. The peach and nectarine are principally used for canning and drying purposes outside of the local markets, and are exported to the Eastern States and to foreign markets. At present there are 54,827 acres devoted to peach culture, of which 33,791 acres are in bearing, and 1,080 acres in nectarines. The fruit is purchased at the canneries and driers at from \$20 to \$40 per ton. The dry product sells, peeled, at from 10 to 20 cents per pound, and unpeeled, at from 7 to 12 cents. The peach is both the favourite and leading deciduous fruit in California. The fruit ripens earlier than any other State in the Union, is large in size, of superior flavour, and the tree begins to yield profitable returns as early as the second year after planting. The fruit is also reported to be exempt from many of the diseases to which it is subject elsewhere, and it is long-lived and produces phenomenally large and regular crops. Another great advantage in peach culture is the naturally dry climate during the ripening season, which is advantageous in fruit drying, and for this reason no artificial heat is required. The ripening season is longer in California than elsewhere, extending from May to December. Only a few years ago the shipment of ripe peaches to the east was deemed a hazardous undertaking; now the business of transporting green fruit east from California has increased to such an extent that more than 2,500 cart-loads were forwarded to the eastern States during 1892. Besides this, shipments were made of ripe fruit in refrigerator cars over 3,000 miles of land and 3,000 miles of sea to London and Liverpool. Over 400 tons, requiring nine special trains, reached foreign markets last year (1892). Inquiries from Germany, as well as from other European countries, are coming in, and there is now a reasonable probability that each following year these new markets will demand a larger line of California fruits.

The pear, the apricot, the quince, the cherry, and the fig, are all abundantly produced in this State, and large tracts of land are devoted to their cultivation.

The olive is very widely grown, and almost the entire State seems well adapted to its culture, the higher parts above 3,000 feet of the Sierra Range and the low lands near the ocean alone excepted. The industry as yet is only in the initial stage, and there is every prospect that it will soon become as important as many others.

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There are now 8,000 acres devoted to olive culture, of which nearly 3,000 are in bearing. In 1891 there were 11,200 gallons of olive oil produced, which found a ready market, at from \$10 to \$12 per case of one dozen quart bottles. About 50,000 gallons of ripe olives were made into pickles, and sold readily at from 60 cents to \$1.50 cents per gallon.

Prunes.—The report further says that the commercial value of California's prune crop is immense; and when it is taken into consideration that the prunes were not introduced until 1856, and that for twenty years but little progress was made, it gives some idea of what to expect in the future. The quantity of prunes now consumed in the United States is enormous, and it will be years before the demand on this side of the Atlantic can be supplied. There are at present 49,626 acres in this State planted with prunes, and of these 25,328 acres are in bearing. The plum is not so extensively grown, there being 5,014 acres planted, of which 3,725 are in bearing. The plum grows to perfection, and gives good return, both for export and for canning. The immense area devoted to prune culture testifies to the profound and well-founded confidence felt in the future of the industry by the people of California. Although but a comparatively new aspirant for public favour, the California prune has forced its way in advance of the imported article, and brings from 2 to 2½ cents per pound more than the French prune sold in competition with it. The proportion of pith and skin to meat in the California fruit is much less than in that of the French article, while the proportion of saccharine matter is much greater. The Californian prunes are more like dates than the French or Turkish prune, and, when cooked, have a most delicious flavour. Besides this, dealers have found out that the California prune keeps better and longer without sugaring than the imported goods. Prices for green fruit delivered at the buyers range from \$25 to \$40 per ton; the dried product brings from 5½ to 10 cents per pound. Plums for export sell at from 40 cents to \$1 per box of 20 lb. The prune is a prolific bearer, and can be relied on for annual crops. Unlike many fruits, it does not take an occasional season's rest, but will yield its average returns every season. If properly cultivated, some fruit may be gathered the third year, and the fourth year will yield a fairly profitable crop; the fifth year will give from 50 to 60 lb. to a tree, which the sixth year should double. From this time on, the tree can be considered as in full bearing, and will give from 150 to 300 lb. of green fruit annually. The production in California, for the year ending December 31st, 1892, was valued at \$25,000,000.

Citrus Fruits.—Perhaps of still greater interest will be the information in regard to these fruits. Still, quoting from the publication already referred to, I find that the area devoted to citrus culture in California has been largely increased during the past few years. In 1892 there were planted 1,976 acres of lemons and 7,950 of oranges; of the latter Los Angeles planted 3,352 and San Bernadino 3,050. The immense profits of this industry have attracted the attention of capitalists and several companies have been organized for the culture of citrus fruits on a large scale. The relative importance of citrus culture in the State will be appreciated, from the fact that while its growth as a commercial industry is confined to the last ten years, the crop of 1892-3 amounts to about 6,000 car-loads. Careful authorities place the present annual consumption of oranges in the United States at 5,500,000 boxes, or an approximate total of 825,000,000 oranges. A use of only one orange a day to each individual would require an annual supply of 23,725,000,000 oranges, and at an average of 500 to the tree it would require 678,000 acres to meet the demand, or more than ten times the acreage in California.
California

California oranges do not meet the competition people suppose, because the crop ripens after the Florida crop is gone, and oranges from Mexico, Panama, and Tahiti come in earlier than the California crop, leaving the latter practically without a competitor. An important feature in the citrus culture is the fact that the large yields are not secured at a sacrifice of quality or flavour. On the contrary, the quality cannot be surpassed and the strongest evidence of this is the fact that at the New Orleans Exposition gold medals were awarded to California for the best twenty varieties of oranges in competition with all other countries. At present there are 59,997 acres planted with the orange, 41,240 acres of which are in bearing.

The culture of the lemon in this State has of late years shown marked activity, and the acreage is annually increasing. The fruit when cured is worth at least \$2 per box, or \$600 per acre. The lemon crop is gathered from October to December and is then stored away for several months, until the market demands an acid fruit. Lemons in this way are kept as long as ten months without showing any deterioration in quality. The acreage of lemons is 10,062, of which there are 5,612 acres in bearing. The citron and the lime bear well although not very extensively grown.

Of nut-growing fruits the walnut yields large returns. The area of its culture is spreading rapidly over portions of the State where it finds a congenial home. There are at present 14,912 acres planted and of these 6,520 are in bearing. The almond does well in California, is a good bearer, and gives handsome returns, the crop being reliable and the nut very superior. The crop is gathered as early as August and September. There are 10,906 acres devoted to the almond, 4,386 now being in bearing. The product has sold at from ten to thirty cents per pound, and from 100 to 150 dols. net has been realized per acre, the orchards not being over five years old, and of course as they become older the profits will necessarily increase.

Grape culture.—Nearly every variety of grape is grown in California. It is also the only raisin-producing State in the Union, and this industry, which was the outgrowth of the past twenty years only, ranks to-day among the most important of the State. Its raisins are practically replacing the imported article, and in a short time the United States, instead of being an importer, will become an exporter of raisins. There are now 82,222 acres planted with raisin grapes, and 16,452 acres with table grapes and grapes for export.

The fruit picking, curing, and packing gives employment to a large number of women, boys, and girls. In the canneries and in cutting and packing the fruit for drying they are more deft than men, and in working by the piece can earn high wages. All the members of a family are called into action during the long fruit season in California.

The acreage devoted to the culture of different fruits in the State as enumerated in 1892 by the State Board of Horticulture, collected by special agents, amounted to 282,496 acres of bearing fruits and 118,918 of not bearing. The shipments of deciduous fruits increased from 1,832,310 lb. in 1871, to 336,184,986 in 1892. If we estimate that it takes 5 lb. of green fruits to make one of dried, and 3 lb. of grapes to make one of raisins, it will be seen that California produced in 1892, exclusive of home consumption, 677,355,546 lb. of fruit.

The trade in canned fruits is one of the most important industries in the State, and the export trade has developed by a steady and substantial growth. In 1876 the output was 270,833 cases, in 1892

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it was 1,847,000 cases. The *California Fruit Grower* states that during the season of 1892 the thirty-three great canneries operating in California packed fruit as follows :—

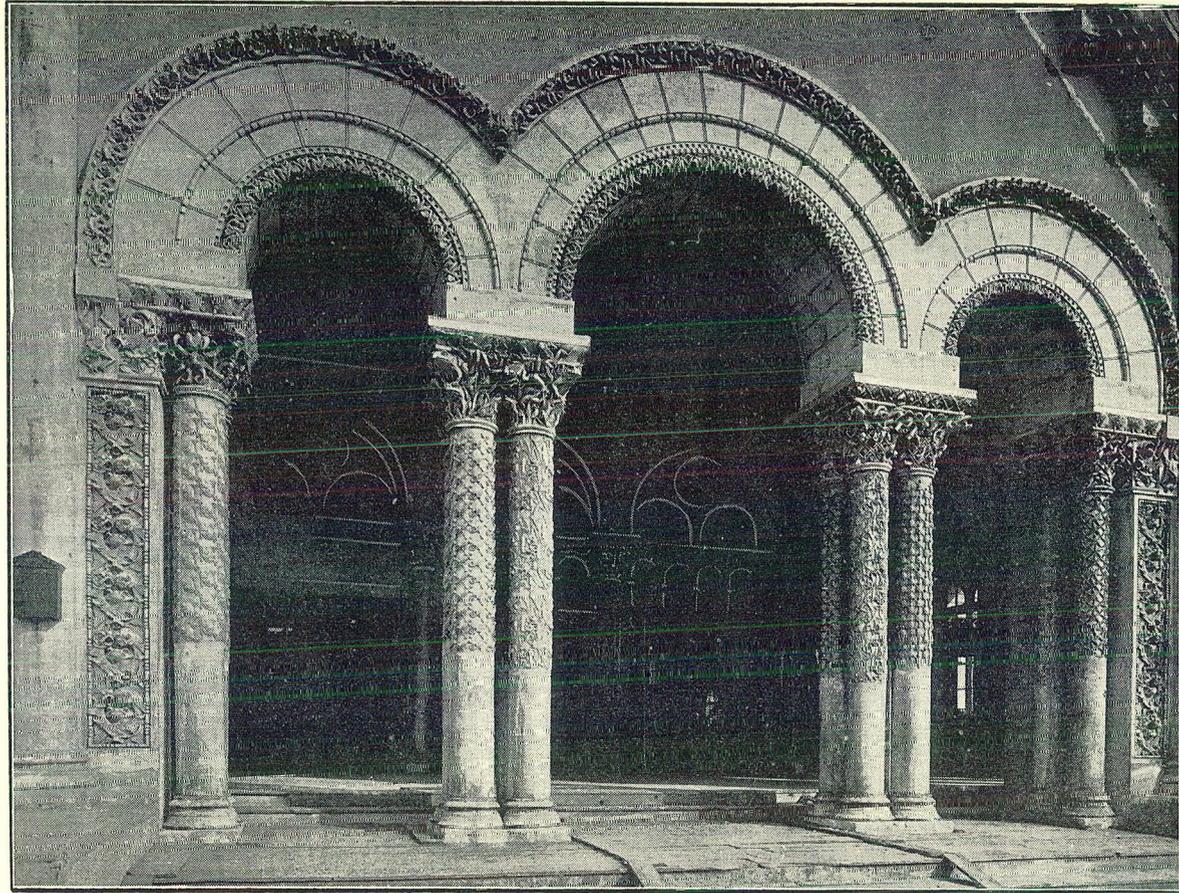
		Cases.
Apricots	... ..	385,757
Peaches...	... ..	565,455
Pears	... ..	268,479
Plums	... ..	135,296
Other fruits, berries, grapes, cherries, &c.	... ..	247,409
Total pack...		1,602,396

Shipments of Citrus Fruits.

The following table shows the importance of citrus culture in the State, and also its rapid growth. The figures are given for the southern counties, where the bulk of the fruit is produced. About twelve car-loads were exported from the other counties in 1891, and twenty-two car-loads in 1892-3, which is a rapid increase for these new citrus belts :—

Counties.	1890.		1891.	
	Boxes.	Cars.	Boxes.	Cars.
Los Angeles	198,695	781	632,071	2,212
San Bernardino	487,000	1,705	487,882	1,708
Orange... ..	112,190	307	147,332	516
Ventura	9,460	33	19,475	68
San Diego	6,600	23	18,861	66
Santa Barbara ... ..	.....	.....	6,478	23
Totals	813,945	2,849	1,312,099	4,593

Figures of the output for crop of 1892 are not yet available, but it is estimated that it will reach over 6,000 car-loads, the highest yet produced.



FISHERIES BUILDING—SOUTH ENTRANCE.



FISH AND FISHERIES BUILDING.

Fisheries Building and Exhibits.

FISHERIES AND ANGLING EXHIBITS.

IN another part of this Report I have made reference to the Government fish exhibit in the United States Building, but the importance of this phase of the Exposition is so fully recognised in the United States that one of the most beautiful buildings on the grounds, specially adapted for its peculiar purpose, was erected for the full display of the fish exhibits of the world.

Description of the Building.

This beautiful structure was situated on the north side of the northern entrance from Lake Michigan to the Lagoon. It was close to the loop which formed the northern terminus of the Elevated Railway, and faced the Government Building, its picturesque design forming a contrast to the grandiose architectural display afforded by the latter structure, and it was a fortunate matter for both buildings that the water inlet formed a natural barrier marking the separation between them. The length of the main building was 364 feet, and the width 162 feet, but the projecting vestibules increased the maximum width to 200 feet. The extreme length of the building was 1,100 feet, and the width 200 feet. In addition to the vestibules there were two annexes connected with the main building on each side by arcades.

The architecture of the building was of the school of "Spanish Romanesque"; the design had much originality in it, and was undoubtedly of a most picturesque and pleasing kind, which was more than could be generally said of originality in architecture. The walls were made to imitate dark-brown stone, whilst the roof was of old Spanish tiles. Mr. H. Ives Cobb was the architect, and the cost of the building was estimated at \$350,000. One of the annexes was devoted to angling, and the other to an aquarium, which was partly underground, and on an unusually large scale. The annexes, it should be stated, were on a lower level than the main building, and were connected with the latter by curved arcades. The projecting vestibules in the centre of the main building, one being on each side, were flanked by circular towers 23 feet in diameter and 61 feet high. Inside these towers were winding-stairs, which gave access to galleries beneath the painted roof.

The total amount of floor area in the main building was 55,536 square feet. In addition, there was a gallery 30 feet wide, running the entire breadth and length of the structure, and on both sides. The gallery space amounted to 27,120 square feet. At the wall side of the gallery floor the gabled roof leaned somewhat, and, together with the roof-braces, afforded pretty little booths or bays. These bays were considered the most effective arrangement of space for exhibits, and therefore it was a matter for congratulation that the requirements of construction did not in any matter conflict with the needs of the exhibitor.

In the centre of the polygonal building was a rotunda 60 feet in diameter, in the middle of which was a basin or pool 26 feet wide, from which rose a towering mass of rocks covered with moss and lichens. From clefts and crevices in the rock crystal streams of water gushed and dropped to the masses of reeds, rushes, and ornamental semi-aquatic plants in the basin below. In this pool
gorgeous

gorgeous gold-fishes, golden ides, golden tench, and other fishes disported. From the rotunda one side of the larger series of aquaria might be viewed. These were ten in number, and had a capacity of from 7,000 to 27,000 gallons of water each. Passing out of the rotunda, a great corridor or arcade was reached, where, on one hand, could be viewed the opposite side of the series of tanks, and on the other a line of tanks somewhat smaller, ranging from 750 to 1,500 gallons each in capacity. The corridor or arcade was about 15 feet wide. The glass fronts of the aquaria were in length about 575 feet, and had 3,000 square feet of surface. The total water capacity of the aquaria, exclusive of reservoirs, was 18,725 cubic feet, or 140,000 gallons. This weighs 1,192,425 lb., or almost 600 tons, and of this amount about 40,000 gallons was devoted to the marine exhibit. In the entire saltwater circulation, including reservoirs, there were about 70,000 gallons. The pumping and distributing plant for the marine aquaria was constructed of vulcanite. The pumps were in duplicate, and each had a capacity of 3,000 gallons per hour.

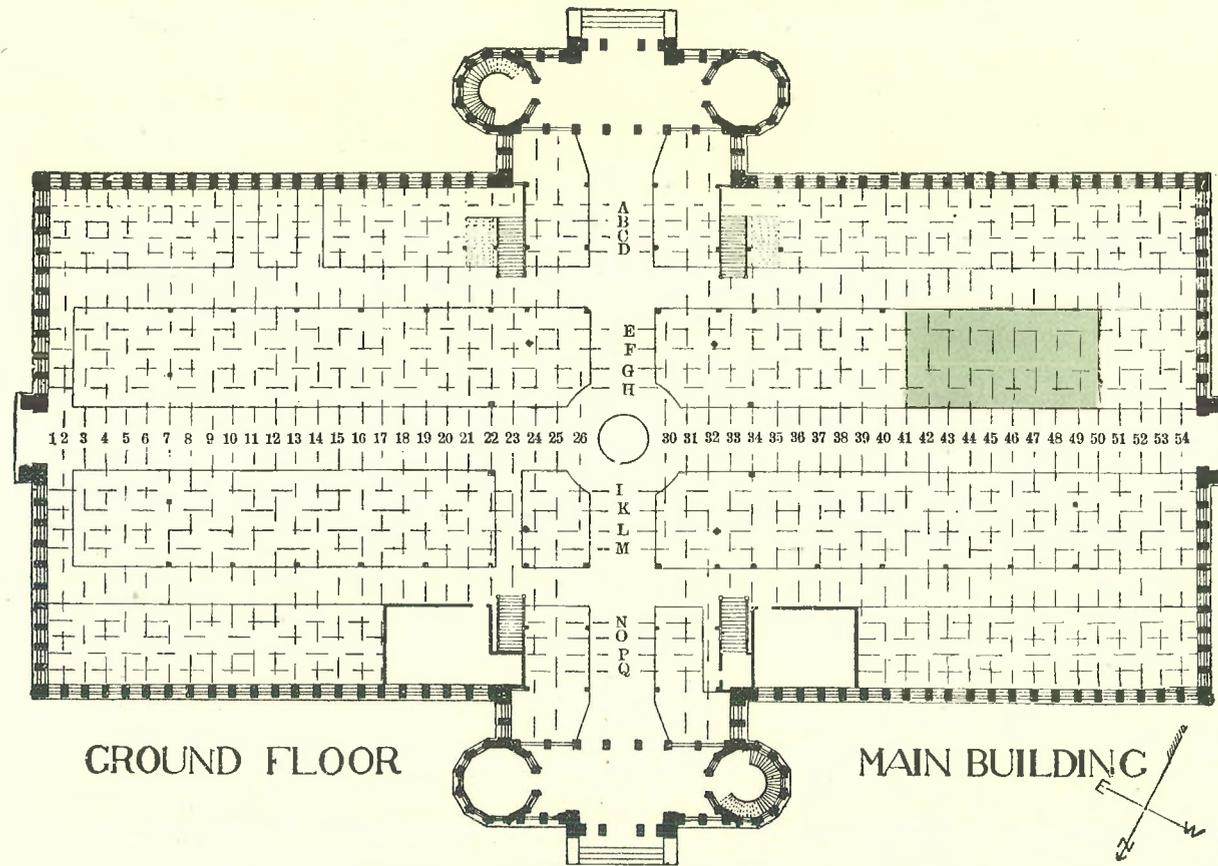
The Government aquaria, in the annex of the Fisheries Building, were converted into picturesque combinations of water and rock, where live fish were made to feel quite at home in congenial surroundings. In these aquaria, trout, carp, golden ides, and gold-fish disported. United States Fish Commissioner M'Donald, in speaking of the preparation of the saltwater for the tanks in which marine fish were placed, said of the Government exhibit:—

For three months we experimented with evaporating sea-water, and using the material for shipment to Chicago, in order to avoid sending water so far inland. For some mysterious reason the revamped sea-water we thus obtained would not do, and the fish died. We have found that by mixing a brine made from Turk's Island salt with natural sea-water, half and half, fish got along nicely in the combination. This is what we use in the aquaria. In all, we have about 70,000 gallons of sea-water for the saltwater fish. As it is something we cannot afford to waste, our arrangements for its purification are complete. It is conducted from the aquaria in rubber tubes to the filter, which is located in the cellar. This consists of stone, gravel, and sand made in strata, as in natural soil. The water comes from the aquaria into the top of the filter, and is drawn off from the bottom after it percolates through the sand and gravel. It then runs off into a cistern, with a capacity of 60,000 gallons. A duplicate set of pumps, run by electric dynamos, drives the water again to the reservoir in the top of the building. From there it runs back into the aquaria, entering through a jet just above the surface. The entering stream carries enough air with it to aerate the water and give the fish air. In the filter the top layer of sand will be changed frequently. With our fresh-water fish lake water will do fairly well. It is not clear enough, and must be filtered carefully. No attempt will be made to save it, as with sea-water."

The Government aquaria, as I have said, were in a circular building in this department, nearly 100 feet in diameter. A row of aquaria lined the outer walls with the space broken only at the doors, and the effect as one passed through the aisle was as if he were walking on the bottom of a lake, with the waters held back by a heavy plate-glass. The inner row of aquaria was 12 feet wide, and in the centre of the building a mound of aquatic and semi-aquatic plants. On this inner row was the large aquarium for the Mississippi River. It was 72 feet long, 12 feet wide, and 5 feet deep. A submerged bank, such as is so often seen in Western rivers, rose from the bottom of sand and gravel. Nearly every variety of fish found in the Mississippi Valley was there. Cat-fish, 80 lb. in weight, and 7 inches between the eyes, and sturgeon, 5, 6, and 7 feet long, were in the collection, with pickerel, outclassing the record, for company. The series of aquaria, showing all varieties of trout and salmon, extended along the south side of the building.

One peculiarity of the building was a remarkable odour, an odour such as one seldom meets with. It might be described as the concentrated essence of the odours from all the different kinds of fish in the various rivers, seas, lakes, and oceans of the world. To be able to get a scent of all the species of the finny tribe, both living and dead, in one breath, was an exceedingly rare experience, and it was found here.

New



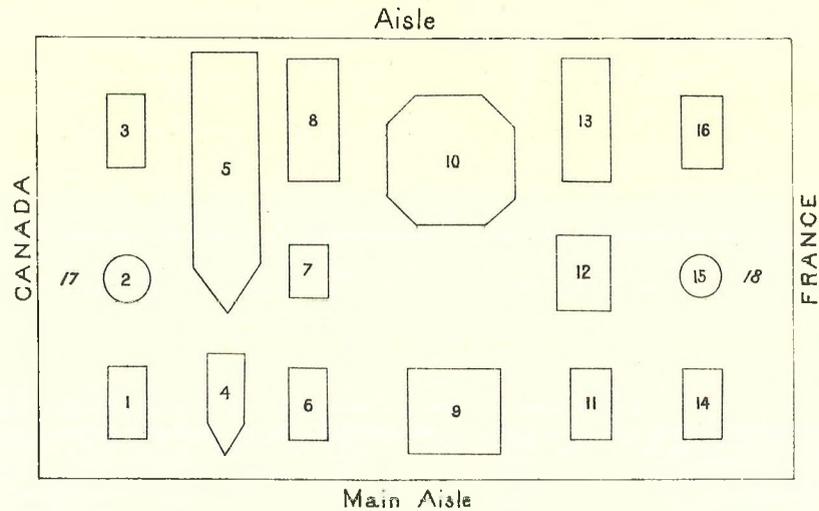
GROUND FLOOR

MAIN BUILDING

Fish and Fisheries Building

WORLD'S COLUMBIAN EXPOSITION.

FISHERY



1. Commissioners for New South Wales, Sydney.
2. Clarence River Fresh Fish and Canning Co., Grafton.
3. Commissioners for New South Wales, Sydney.
4. Commissioners for New South Wales, Sydney.
5. E. Fanner, Sydney.
6. Commissioners for New South Wales, Sydney.
7. Hugh, W. L. Holt Waratah, N. S. Wales.
8. Cape Hawke Fish Preserving Co., Foster, Cape Hawke.
9. Commissioners for New South Wales, Sydney.

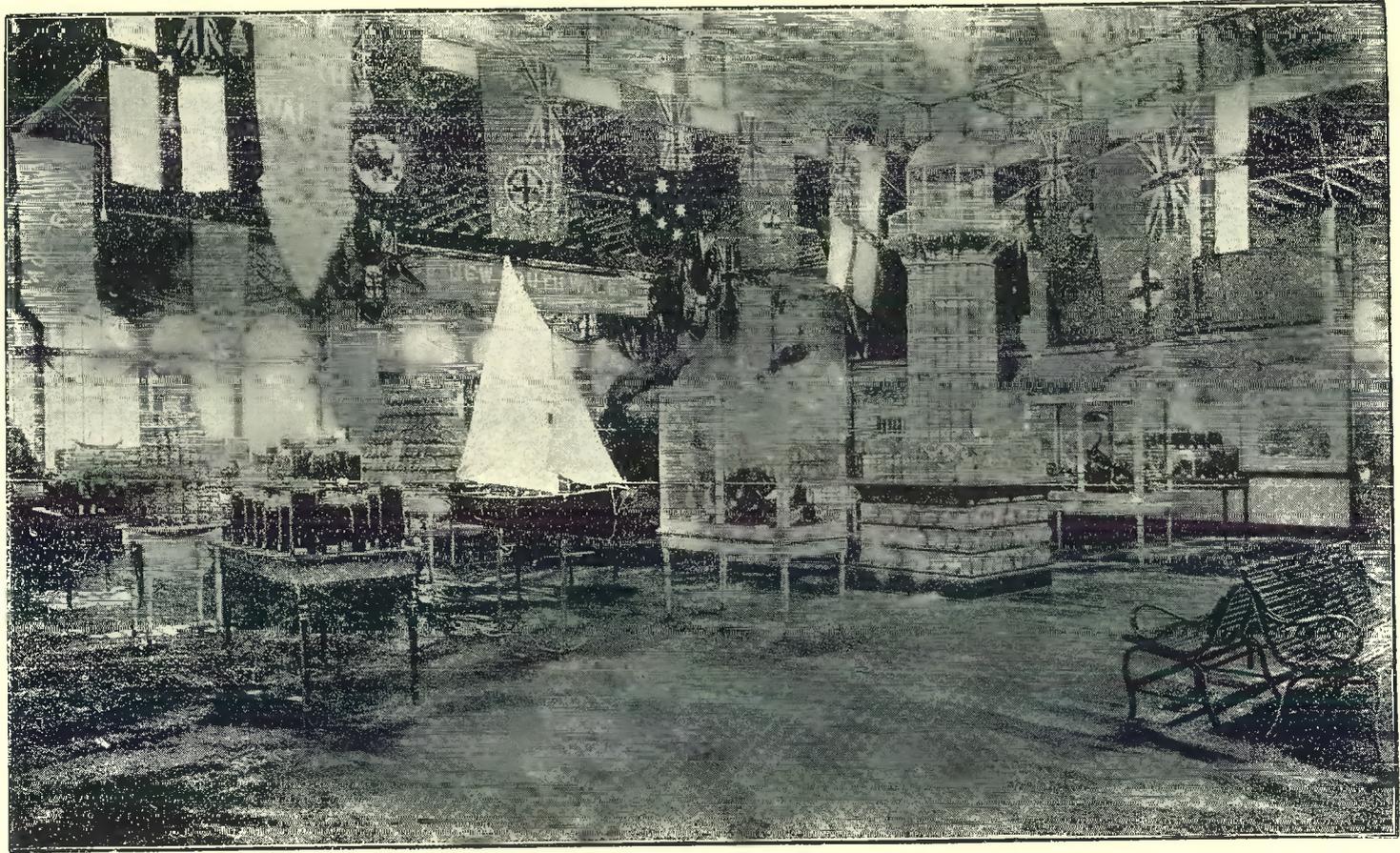
10. Commissioners for New South Wales, Sydney.
11. D^o " " "
12. D^o " " "
13. D^o " " "
14. D^o " " "
15. Cape Hawke Fish Preserving Co., Foster, Cape Hawke.
16. Commissioners for New South Wales, Sydney.
17. D^o " " "
18. D^o " " "

1. Collection of Fishes in Specimen Jars.
2. Canned Fish (Flat Tail)
3. Collection of Reptiles in Specimen Jars.
4. Model of 22 cent reboard working fishing Boat.
5. Yacht Gig 18 feet.
6. Collection of Stuffed Birds, destructive to fish.
7. Collection of Australian Snakes and Reptiles in Specimen Jars.
8. Canned Fish, Whiting, Bream, Mullet, Schnapper, Tailor, Perch.
9. Group of Seals (*Avicelophatus Forsteri*) Mounted on Rockery.
10. Collection of Stuffed Birds, destructive to fish.
11. Collection of Oysters, Mutton Fish, Shells, Mussel Shells, Beche de mer, Fish Viscera, Fish Oils, Cuttle Fish, Prawns, Dried Oysters, Sharks Fins, Fish Manure, Fish Oil Soap, Fish Guano, Pearl Shell.
12. Collection of Fishes, preserved in Specimen Jars.
13. Canned Lobster.
14. Collection of Fishes, Collection of Crustacea, preserved in Specimen Jars.
15. Collection of Water Color Drawings of Fish 25 by George Padmore, & 2 by J. H. Carse.
16. Collection of 16 Water Color Drawings of N. S. Wales Fish, by G. Padmore.
17. 2 Photographs of the Exterior & Interior of the Sydney Fish Markets.

- Frontage 34'
Depth 30'
2 Partitions 30 x 10'



NEW SOUTH WALES COURT. FISHERIES BUILDING--View 1.



NEW SOUTH WALES COURT, FISHERIES BUILDING. View II.

New South Wales Fisheries Court.

In this building New South Wales was allotted a space of about 3,000 feet, but I found, when placing the exhibits, that some I had expected, such as nets, boats, &c., had not been sent by the Commission, doubtless for good and sufficient reasons. Consequently I resigned the back portion of our space on the ground-floor, and, also, our allotted space in the gallery, to Canada. The space we occupied was bounded on the west by France, and on the east by Canada, the main avenue being north, and the minor passage south.

Within this space, with a splendid frontage to the main avenue, our exhibits presented a very striking and satisfactory appearance. Both our side enclosing-walls were covered with the very excellent representations of our fish by Mr. Podmore, and in the same place was the large photographic representation of the Sydney Fish Market, taken by electric light. Immediately in front of the court was a large model of the Sydney Lighthouse (Macquarie Light), of the following dimensions—base, diameter 3 ft. 6 in., height 12 feet—covered over with tins of preserved fish. The exhibit formed a very remarkable and attractive trophy of the Cape Hawke Fish Preserving Co., and the Clarence River Fresh Fish and Canning Co., as well as the exhibits of fish prepared with the assistance of the Chief Inspector of New South Wales Fisheries, were placed on pyramids raised on tables, and made an excellent appearance.

In the centre of the court I had constructed a large rock scene (9 feet in diameter and 11 feet high), on which, in a very natural attitude, were placed the seals from Seal Rocks, New South Wales. These exhibits had been forwarded over as skins; I had them carefully mounted by an expert, and the whole appearance of rocks and seals were remarkably effective. At the foot of the rocks a quantity of oyster exhibits were placed, giving an excellent finish to the whole scene. Other oysters and mussels were placed on appropriate tables. The collection of reptiles, prepared with the assistance of Dr. Ramsay, of the Australian Museum, placed in spirits in suitable jars obtained from Philadelphia, and as well as those of Mr. Holt, were a source of constant attraction to American visitors. The crustaceans also came in for a full share of attention. The model boat, with all its gear complete, built by George Barnett, was mounted on a stand, and beside it was the yacht gig by Fanner, which, on account of inadequacy of space, I was compelled to remove from Transportation Building. The *bêche-de-mer* and similar exhibits were placed on tables specially constructed for them, as were the fish oils and the tanned porpoise skins. A very attractive feature of the court were the pearl shells by Lichtner and Solomon, which were placed on pyramidal trophies. The fish-eating birds I had stuffed and mounted, and placed in two large cases which formed the extreme wings of the front of the court. On the tops of these cases were placed the large albatross and pelican, forming an excellent summit to the exhibits. The various pamphlets sent by the Commission were placed on tables for distribution, and were also handed to the officials in the courts of the various countries represented in the building.

The whole court was decorated with New South Wales flags and masonic blue banners, with "New South Wales" and "Australia," in silver letters, emblazoned on them, and the representation, as a whole, was very effective.

Of the other countries, Norway, Canada, and Massachusetts had by far the best displays, that of Norway being undoubtedly not only the most extensive but also the most characteristic and the most scientifically arranged.

Norway's

Norway's Exhibit.

In the north-west corner of the main building was the Norwegian exhibit. It was the most complete and attractive display in the Fisheries Department. Great skill was displayed in its arrangement, and every separate article was placed so as to be seen to the best advantage. Great economy was observed in the work of installation, and every available inch of space was occupied. The large posts extending from floor to ceiling were covered with artistic displays, and the walls on the north and west sides were hung with beautiful paintings and pictures executed by Norwegian artists. The complete exhibit was divided into five groups and represented over 100 individual exhibitors. In the first group were seen varieties of sea-weeds, mussel shells in endless varieties, casts of various species of Norwegian fishes and gaudy plumed aquatic birds. The next group contained paintings of herring fisheries and whale-fishing; also models of whaling steamers, maps, drawings, and literature illustrating fisheries; fishing gear and lines, nets, seines, weirs, lobster-traps, knives, gaffs, and models of fishing vessels. Maps showing statistics of Norwegian fisheries, foghorns, guns, harpoons, equipments for whales and porpoises, hooks with artificial bait, cod-fishing apparatus, boats, self-regulating line buoys, and winches for seines and sails were also to be seen in this group. In the third group fishermen's clothing outfits were displayed. It included skin and oil clothing and equipments such as boots and the regular fisherman's oilskin suits nicely made. The fourth Norwegian group was large enough to discount many of the exhibits in the building by itself. There were all kinds of fish cured and ready for food, and models of fish-curing and canning establishments were exhibited as well as models for drying, salting, curing, smoking, trimming, and cooking. There were also products prepared from fish, such as oils, roes, isinglass, and manures, and the methods and appliances for preparation were illustrated. There were sea and fresh-water pearl-shells, mother-of-pearl, sponges, corals, and other such products for purposes both useful and ornamental, and appliances for carrying fish and preserving them during transport, and models of fish-markets and connected appliances. In the last Norwegian group apparatus and implements for fish-culture were exhibited. Hatching, breeding, and rearing establishments, including oyster and other shell-fish grounds, were shown.

Canadian Exhibit.

Canada had the largest space of any country in the Fisheries Building. It was located just to the left of the main entrance on the south side of the building. The exhibits were neither so compactly nor so scientifically arranged as in the case of Norway. There was a good deal of the artificial look about Canada's display. The stuffed fish had an exceedingly dead look, as had also the aquatic birds and mammalia. The oyster, clam, and star-fish exhibit was excellent and met with hearty praise on every hand. The primitive Indian fishing gear was one of the most attractive features of the exhibit. Canada's display covered a wide range, there being an exhibit for each of the five groups into which the department was divided.

United States.

The different States of the Union were well represented in this building. Massachusetts made the best State showing, the Boston exhibit being very fine. Boston is without doubt the largest fish market in the world. In 1892, 90,000,000 lb. of fish were handled on the wharf alone. It is estimated that in 1892 208,000,000 lb. of fish products passed through the hands of wholesale dealers in that city, the value reaching the aggregate of \$11,000,000. Statistics show us that the United States lead all countries of the world for the amount in pounds and value of fish caught, England ranking second, and Norway ranking fifth, and yet praise for the finest exhibit of fish products must be accorded to Norway. The

The New England States made a very fine showing of the different appliances used in the fishing industry. They showed boats, pound-nets, trap-nets, weirs, seines, gill and purse nets, and lines. Mackerel and herring are caught in gill-nets. The cod is also caught in the same manner, but only in the three first months of the year, as the general mode of catching the cod is by line. The season's catch of mackerel for 1892 was very poor, as it has been for some time past. New England fishermen ascribe this to the use of the purse seine. A law was passed about six years ago prohibiting the catching of mackerel before 1st June. The object of this bill was to prevent the wholesale destruction of spawn fish when coming north in the spring. This law expired last year, but it certainly should have been continued. The fishery officials of the Canadian Government are very pronounced in their protest against the purse seine, as a destructive method of catching mackerel, and at the present time a proposition is before the United States Government to abolish the use of it. The purse seine can only be used of course when the fish school; but as they school in great numbers and always on the surface, it will be easy to show the variations. The difference between the gill-nets and the purse is as follows: The meshes of the gill nets are so made that the small fish, which are not good for market, can pass through, and in line fishing the smaller fish will not take the hook; but in purse fishing the net is so constructed that when it has been floated under the school of fish, the bottom is closed by means of lines and everything is thus brought on board the vessel. The smaller fish are then picked out and thrown overboard, and as it takes some time to do this, the fish are all dead or nearly so when they reach the water, and so great has been the slaughter that it has been stated that the coast from Boston Bay to Mantinicus Island, in Maine, during the month of August, from 5 to 30 miles off the shore, was covered with dead mackerel. This kind of work will of course drive the fish away, and as the fish have a tendency to come back to the place where they spawn, they do not appear in such great numbers as formerly. The modes of catching mackerel have varied. They used to be caught by seines and at night. The present method is by fishing by steam seine boats. Three of them were ready May 1st, 1893. A great feature of these boats is that the look-out man steers the boat from his post 25 feet above the deck, by means of wheel ropes, in the direction of the fish as soon as he sights them. It is estimated that these boats can make three sets against two of the old.

I have already made reference elsewhere to the fish exhibit in the United States Government Building, but I may here refer to some statistics which were published in that building showing the importance of the trade in that country. These statistics, it was explained, had been collected with considerable difficulty, as might naturally be inferred from their character. It was only by personal visits to those engaged in fishing, or kindred industries on the Atlantic, Pacific, and Gulf coasts, the great lakes, and the larger streams to tidewater, that it became possible to tabulate the figures for the year 1892. Of these the grand totals for all the States and Territories are as follows:—

Persons employed in fishing and fisheries	178,415
Number of vessels engaged in fishing	6,484
Net tonnage	172,319
Value of vessels, with outfits	\$14,137,075
Number of boats under 5 tons burden not registered in the Custom-houses	67,584
Value of these boats	\$4,419,087
Value of shore and other property directly tributary to the fishing industry	37,143,117
Total of investment in fisheries	55,699,279
Total value of product to fishermen	40,154,979

If half this total value is added as the amount of the profits of the wholesale and retail trade, subsequently—and this is said to be

be a reasonable allowance—the value of the trade will amount to \$60,000,000; and hence it is not surprising that the Government of the country is taking every possible means to assist this industry, by scientific research, for the purposes of increasing and cheapening this wholesome article of food. Further information on this subject will be found in the description of the fisheries exhibits in the United States Government Building.

ANGLING EXHIBITS.

The Western Rotunda Annex was chiefly devoted to a display of the various forms of angling apparatus, and a number of novel devices and improvements in angling goods were exhibited, chiefly by American houses.

Fishing Rods—Split Bamboo.

Perhaps the best display of fishing-rods was shown by A. G. Spalding and Brothers, of New York. The rods of this firm were of split bamboo—or as they are called in England—rent and glued. The improvements of the Spalding rod, known as the Kosmic Rod, in addition to the careful selection of materials and the first-class skilled workmanship employed in their construction, consisted chiefly in the peculiar character of the ferrule joints. The ferrules were short, but perfectly cylindrical and well fitted, requiring no locking device. In addition to the careful fitting of the ferrules, there was a collar of thin celluloid placed under the ends of the ferrules, thus materially strengthening the rod at the places where most rods are apt to give way. The collar was covered with a silk wrapping.

A novel feature in split bamboo rods was shown by A. B. Shipley, of Philadelphia. The rods were made of double enamel, that is, the inside as well as the outside of the rod was composed of six strips of the outer rind or enamelled surface of Calcutta bamboo, a plan which is said to add greatly to the strength of the rod. Two split bamboo rods, made by the inventor of this style of rod (the late Samuel Phillippe, of Eastern Pennsylvania), and which were made over fifty years ago and the first of their kind, formed an interesting exhibit.

Steel Rods.

The Horton Manufacturing Co., of Bristol, Conn., exhibited a new variety of fishing-rods, composed entirely of steel. These rods are made in three pieces, like other rods, and fitted with ferrules and guides or rings. They are formed of pieces of thin steel, bent around a mandril into a tube with the edges in opposition, but not braized. This arrangement allows not only a bending motion but a certain amount of twisting motion as well, and approaches very nearly the action of a wooden rod. The rods shown were very strong, and nearly as light as wooden rods of the same length.

Reels.

A number of improvements in reels, both multiplying and click, are shown in both the expensive and the low-priced article. In multiplying reels for bait-fishing, especially the large reels, some excellent reels were shown made with vulcanised rubber heads with aluminium spools and fittings, steel gearing, and jewelled bearings. Necessarily these reels are expensive—costing £10 and upwards, while some German silver reels, made in Kentucky, renowned for their fine workmanship and accurate adjustment, cost as much as a gold watch, and in many respects are quite as carefully made. They multiply four times, and are intended for making long casts from the reel. In fact I have seen them at the lagoon near the Izaak Walton cottage make casts of from 100 to 150 feet. These reels cost from £4 to £5 each. Some very fine and very light click reels for fly fishing were shown, weighing only an ounce or two, made of aluminium, while others for
salmon

salmon fishing were made of a combination of aluminium and vulcanised rubber. These reels are much less expensive than multiple reels having no gearing.

The automatic reels for fly fishing are quite a novelty. These reels were constructed on the plan of a spring tape measure, any slack being taken up by the strong coiled flat spring. The fish can take line from the reel, but any slack line is at once taken up, so that the angler has always a taut line. The reel is operated by a flat lever with the little finger, the lever lying along the grip of the rod. If it is thought desirable to reel the fish in, it can be done by pulling the line through the guide; when the spring takes it up.

One exhibit appears to be very excellent of its kind. It was shown by a Rochester firm. This automatic reel, the attendant stated to me, was an invention giving the angler perfect control of his line. With this appliance a slack line is an impossibility. It may be wound with the rapidity of lightning, or as slowly as desired. The beauty of it is that it winds on the barrel evenly without twisting or kinking. A manufacturing company of Bristol, Conn., showed fourteen styles of steel rods, which certainly seemed a vast improvement on the common jointed rods now in use.

A silk company had a working machine showing the silk fish-lines it makes in actual process of manufacture. In some beautiful samples of this work the heavier lines were about the thickness of a common thread of worsted, containing 576 threads of raw silk, the lighter lines containing 96 threads.

A Battle Creek, Mich., manufacturer showed his famous folding boat, the largest of these boats, which will carry four men, weighing with oars and complete outfit only 75 lb.

As a part of its exhibit the Chicago Fly-casting Club built on the banks of the North Pond and east of the Art Building a little staff-house which presented a complete reproduction of Izaak Walton's fishing-house on the Dove. The "Compleat Angler's House" still stands after two hundred years, a monument of one man's affection for the gentle art. The old house was built to accommodate Walton whenever the latter might come down from his city home, and this little building was a pretty representation of the original.

For the principal portion of the information herein contained I am indebted to Dr. Henshaw, in charge of the Angling Department, who kindly supplied me with a number of reports by the Expert Judges in this section.

Mines and Mining Building and Exhibits.

Description of the Building.

THE building devoted to Mines, Mining, and Metallurgy, although not having the same marvellous architectural beauty as some of the other structures, was, in my humble judgment, one of the best of the buildings in Jackson Park for exhibition purposes. With its large floor space, covering an area of $5\frac{1}{2}$ acres, and its extensive galleries, 60 feet wide and 25 feet from the floor, running round the whole building, well lighted on both sides by large windows, it was admirably adapted for the purpose it was intended to subserve. I think considerable credit was due to the architects for their avoidance of marked architectural features, which would necessarily be lost in consequence of the surroundings and the character of the exhibits placed within the building.

It was the first Exhibition Building that was distinctively devoted to the mining industry, and within its walls was gathered the first separate and comprehensive mineral and metallurgical collection of exhibits.

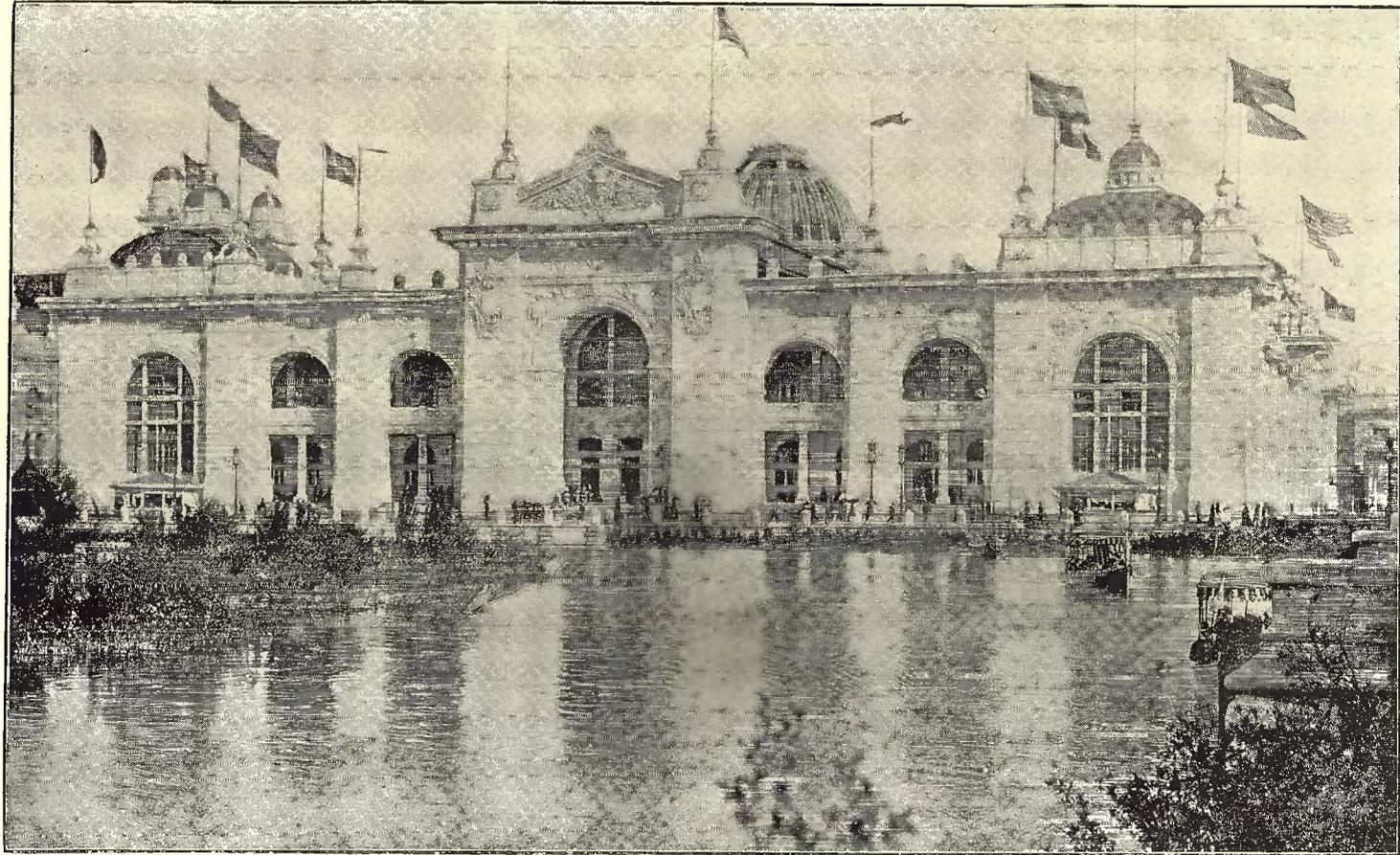
The building was rectangular, and embraced on the ground-floor spacious vestibules, restaurants, toilet-rooms, &c. On each of its four sides were placed the entrances, those on the north and south fronts being the most spacious and prominent. On the right and left of each entrance, inside the building, started broad flights of easy stairs leading to the galleries. These were 60 feet wide, and 25 feet high from the ground-floor, and were lighted on the outer sides by large windows. Above there was a high clerestory which extended entirely around the building. Between the main entrance and the building were decorated arcades forming an open loggia on the ground-floor, and a deeply-recessed promenade on the gallery-floor above. From this level there was a fine view of the lagoon, with its wooded island to the northward; whilst from the southern end the visitor looked out on the animated scene displayed by the great Central Court. These covered promenades were each 25 feet wide and 230 feet long, and from them access could be had to the building at numerous points.

The roof rested upon ten great cantilever trusses, so that the floor was practically unencumbered, there being only two rows of iron columns on either side. This was the first instance of the application of the cantilever system to building, and the result was a structure signally adapted to exhibition purposes, the gain in space being quite large.

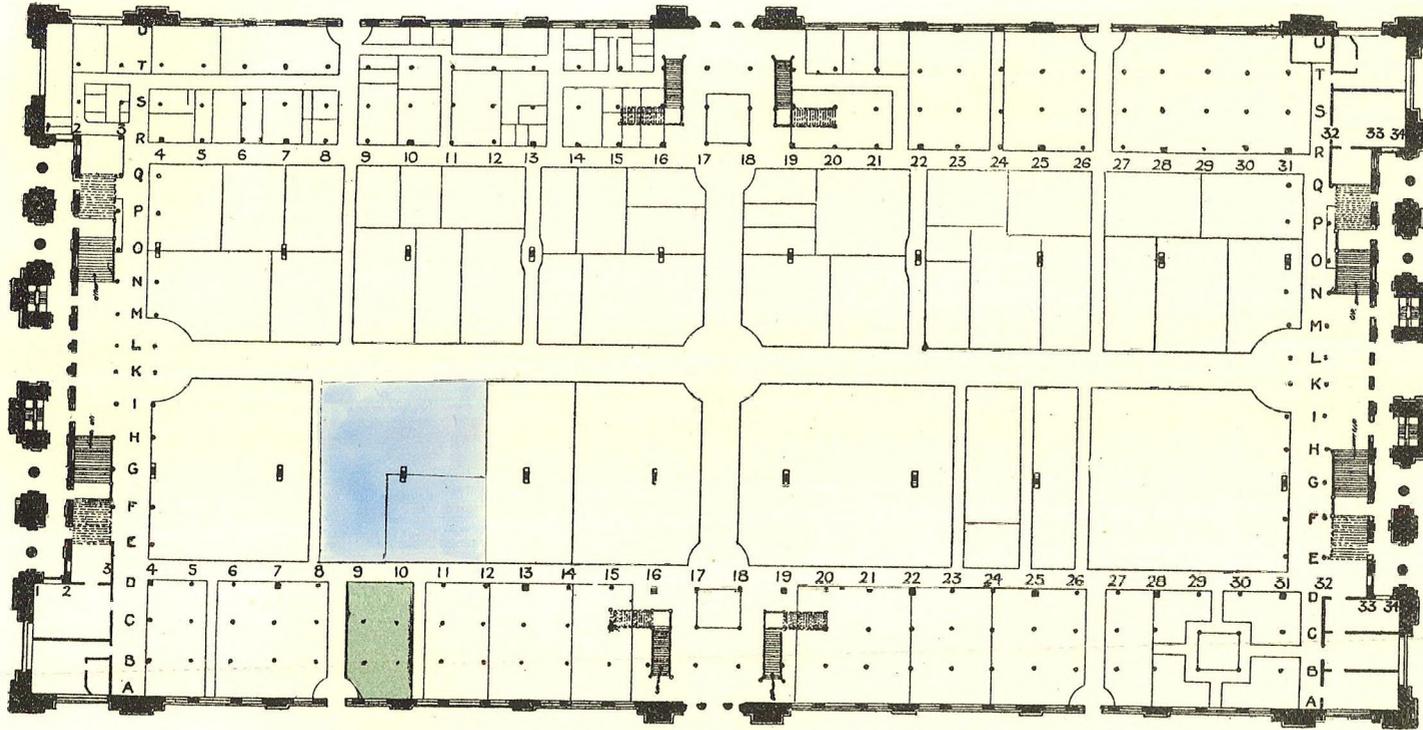
The cost of the building was \$250,000. It was commenced in July, 1891, and was the first building finished. In its construction there were employed 592,000 lb. of iron, 282 car-loads of lumber, and three car-loads of nails, while the glass in the skylight covered $1\frac{1}{2}$ acres.

Character of the Exhibits.

The exhibits seen within the walls of this great building were as varied as they were attractive and interesting. Here were presented all the precious minerals and gems, all the economic minerals and materials,



MINES AND MINING BUILDING.



(sig. 299)

—OFFICIAL ALLOTMENT OF SPACE— —MINES AND MINING BLDG.—
 —GROUND FLOOR PLAN— —WORLD'S COLUMBIAN EXPOSITION—



materials, all the metals in the crude as well as in the manufactured state, and all the machinery, implements, and appliances; in fact everything pertaining to the arts and sciences directly or indirectly involved in the mining and metallurgical industries. Of the official classification, twenty-seven groups and one hundred and twenty classes were required to cover the exhibits that were shown on the floor of this building. The exhibit space was laid off in regular sections so that the visitor could readily understand and follow out the installation.

Bullion Boulevard.

The wide central avenue, running the length of the building, and named "Bullion Boulevard," divided the foreign exhibits on the west from the domestic exhibits on the east. The boulevard was one of the most attractive and entertaining promenades on the grounds, and furnished a scene of striking beauty. The States and Foreign countries had here presented a large portion of their wealth of rare and representative mineral products, and built enclosing pavilions and pagodas of symmetrical design and graceful proportions.

Allotment of Space.

On the west side of this aisle were France, New South Wales, England, Canada, and Germany; Mexico and Brazil had large areas at the south end; as well as Cape Colony, whose exhibit of diamond washing, sorting, and polishing, was here a centre of attraction. Beyond these countries, Austria, Spain, Italy, Japan, Russia, and the South and Central American countries spread out their mineral treasures. Upon the east side of the boulevard, and facing it, were artistic façades of classic columns, capitals, and pediments, arched entrances and colonnades forming the structures erected by the United States of America. The north section was occupied with numerous exhibits of coal, iron, clays, building and ornamental stones, mined in the vast mineral belts of the Alleghanies and the central basin. In the south section predominated quartzose ores, the gold, silver, and precious metals, produced by the treasure States of the west.

Character of Exhibits.

Many features of unusual interest were to be found within the courts of the States, such, for instance, as the geological obelisk illustrating the geology of New York, the silver statue revealing the wonderful richness of Montana, the quarter-of-a-million-dollar collection of gold nuggets from Colorado, and the precious gems of North Carolina. All these, as well as other mineral products to be found within these structures, enabled the visitor to gain a comprehensive conception of the great mineral resources of the United States. Including some three or four displays in the gallery, thirty-two States in all were represented on the floor of the mining building. Beneath the gallery were in operation machines of every description used in and out of mines—all the usual methods and appliances for sinking, shafting, and driving levels; pumps and engines for driving and hoisting; trams and cars for loading and unloading; huge crushers for pulverising rock of adamant; ingenious apparatus for quarrying stone, and for turning and polishing into marketable shapes; roasting and chloridising furnaces; apparatus for refining precious metals, &c. A complete working plant in miniature illustrating the methods of placer and hydraulic mining was also shown. The outside exhibit of well-drilling machinery connected with this department was located south of Machinery Hall. Here were all the rarities of apparatus employed

employed for drilling for water, gas, and oil. The tramway connecting the outside ore-yard with the building was constructed to carry material for purposes of demonstration to the mouth of the tunnel, which ran across the south end of the building, but, owing to water, this tunnel was abandoned when constructed. The gallery was occupied with displays of a lighter and more technical character, which I may here briefly enumerate. At the north end one of the leading oil companies of the United States had an exhibit presenting the entire story of oil production, manufacture, and distribution. Near by were arranged a series of courts in which were grouped, according to affinity, all of the industrial economic mineral material, such as graphites, clays, asbestos, limestones, cement, salts, sulphurs, pigments, mineral waters, abrasives, &c. A national display of building-stones in cubes of uniform size was situated at the centre of the west gallery, and in connection therewith were to be seen very interesting enlarged microscopic slides of rock sections, &c. Next to this was a departmental coal display, consisting of samples of coal from all of the principal coal-mines of America, in uniform size, upon aluminium mounts, and arranged around a large plate-glass map, showing the geographic and topographic position of the contributing mines. An extensive coke-plant was reproduced in miniature. An operating assay laboratory was open to the inspection of visitors in the room at the south-east corner. In the western gallery, at its south end, the rooms which we originally occupied as offices before Australia House was erected, were devoted to a library for mining and metallurgy, with a very comfortable reading-room, in which the periodicals and other literature of mining were placed at the disposal of those interested in this subject. Here, also, the associated societies of mining and civil engineers had offices. Models of famous mines and of special mine-workings were exhibited in the north-east corner. Almost the entire west gallery was occupied by departmental collections in metallurgy and mineralogy, which were displayed in cases and cabinets of uniform size, and illustrated a valuable and scientific mineral series, while a sequential exhibit of metal-reduction samples exemplified the processes employed in the metallurgic arts. A low row of ground-glass transparencies hung before the windows, and showed pictorially the primitive appliances and methods used by the ancients both in mining and metallurgy.

New South Wales Court.

In arranging the space in this building to be allotted to our large and valuable mineral display, I found when I arrived in Chicago, in September, 1892, that an altogether inadequate allotment of about 4,000 feet had been made. The situation of the space was unobjectionable. I at once endeavoured to have the extent increased. The difficulty in connection with this matter arose from the fact that official notification of their location had already been made to the countries in the immediate vicinity of our space. I stated, as an ultimatum that all our exhibits would probably be withdrawn unless adequate provision were made for this most important department of our exhibits, and through the kind co-operation of Director-General Davis, after much communication with Belgium and the Latin Republics of South America, additional space occupied by Belgium and Cape Colony was granted to us, provision being made for those countries elsewhere. By this means we acquired a space of 13,920 feet, and I had hopes that, at a subsequent stage, I would obtain additional space from Canada; but in this latter anticipation I was disappointed. The consequence was that we were unable to make such a grand display as I had originally hoped; although our exhibits were well placed, the avenues through the courts were much narrower than I could have wished them to be. Notwithstanding this, I have no hesitation in stating that, taken as a whole, and regarded from an



NEW SOUTH WALES COURT, MINES BUILDING, CENTRAL AVENUE.



NEW SOUTH WALES COURT, MINES BUILDING, TRANSVERSE VIEW.



NEW SOUTH WALES COURT, MINES BUILDING, SHOWING TROPHIES OF BULK-ORES.

an exhibition standard or an educational standpoint, or as a display of the mineral resources of the country, our representation was unrivalled.

The following description of our courts in this building, as written by Mr. Carne, the Superintendent, will be found to be interesting:—

The New South Wales exhibit for the mines display at the World's Fair consisted of 2,550 packages, measuring 11,106 cubic feet, and weighing $275\frac{1}{4}$ tons. The contents of these packages were arranged on a floor space containing 8,301 square feet.

The court had a frontage of 87 feet on the Main Central Avenue, and a depth of 160 feet to the western wall of the building. A main divisional passage traversed the space at right angles to the frontage, the entrance to which was formed by two massive octagonal trophies of tin and copper ingots with bases of ores. Following this passage west, two raised platforms, one on either side, were met with; on these were advantageously placed four handsome upright show-cases with pyramidal plush-covered stands within, each containing rich exhibits of gold or precious stones, to be mentioned later on. The passage then passed under the centre span of a large triple archway, and through an avenue formed of full sections of coal-seams, ranging from 6 feet to 14 feet high; these sections were partially encased in panelled framings, which carried small archways, supporting trophies of flags and coats of arms. At about 60 feet from the western wall a cross-passage formed a good division between the metallic minerals and coal, and the non-metallic minerals and geological collections and maps. The entrance to the latter section was formed of large handsome marble slabs panelled into an archway frame; the main passage continued between large and massive pyramids of building-stones, trophies of cement, paint ochres, alumstone, &c., and terminated at the Superintendent's office. The whole court was decorated tastefully with trophies, formed of shields with the Australian arms and flags, which were advantageously placed at all convenient points. On the wall space and partitions excellent enlarged photographs of mining and cave views and geological and mining maps were arranged effectively.

The most striking objects in the court were the handsome silvered column erected by the Broken Hill Proprietary Company, and the massive triple archway which spanned a portion of the space not far from the frontage. The column will be described hereafter. The archways, having two clear spans of 11 ft. 6 in., and one of 15 feet, sprung from four massive pillars 12 ft. 6 in. high, and 4 ft. 6 in. square; two consisting of bituminous coal, and two of petroleum oil coal or boghead mineral. The bases of the pillars were formed of sandstone 1 foot in thickness, and capped by 6 inches of Sydney sandstone. The 11 feet of coal between the sandstone bases and caps of the two centre pillars represented about the average working thickness of the main (borehole) seam from which the coal was taken in the Newcastle coal-field. The sandstone bases represented the strata below the upper coal-seams, which are quarried in this district for building purposes, and the sandstone cap the upper beds of the coal measures at Sydney, and of which the principal public and private buildings of the capital are constructed. As before stated, the remaining pillars consisted of petroleum oil cannel coal, or kerosene shale as it is locally termed. The two principal mines in the Colony each contributed a pillar formed of rough blocks, and into which full sections of the seam were worked.

The superstructure of the archways, which rose about 28 feet from the floor, was covered with black cloth, and bore an inscription
on

on both sides in bold silver letters, giving statistical information of the quantities and values of the various metals and minerals produced in New South Wales from 1851 to end of 1891. The inscription is as follows:—

Total value of minerals raised in New South Wales from 1851 to end of 1891, \$453,353,378.

Mineral.	Value.
	\$
Gold	178,758,698
Silver, silver lead, and silver ore...	54,978,350
Tin	46,300,228
Copper	29,273,874
Antimony	562,778
Bismuth	178,075
Fluxes	511,701
Sundry minerals	844,648
Coal	124,195,672
Shale (petroleum oil coal)	6,885,269
Iron	1,864,115

It is worthy of note that a comparison of the *per capita* values of the production of the United States and of New South Wales respectively, for the ten years ending 1891, on an estimated population of 65 millions for the United States and one and a quarter for New South Wales, shows a result of \$149.5 to \$11.1 in favour of the latter. This calculation is based upon the return given in the 11th United States Census, and the Annual Report of the Department of Mines and Agriculture (N.S.W.) for 1891. Taking the total production of each country to the end of 1891 on the same *per capita* ratio, the result is also largely in favour of New South Wales. Though coal has taken, and is destined to hold, the premier position in the mineral productions of New South Wales as regards the value of its annual output, it is to the indigenous gold that the Colony owes its rapid advancement. Gold was first mined in Australia in 1851, though its existence was known and reported by several different persons at intervals antedating the above date by twenty-eight years; the first authentic record of its discovery was by a surveyor named McBrien in 1823. Recent researches, indeed, have been brought to light a record dating back four centuries. On an ancient Portuguese chart of the 14th century the north-west coast of Australia is depicted and marked Costa Dora, the gold coast.

At the present time the gold supply is chiefly drawn from reefs or veins, the easily worked shallow alluvials of the earlier discovered gold-fields having been worked out. Alluvial or "placer" gold-mining is, however, still carried on on a small scale in numerous localities, and in the New South Wales Court were exhibited samples illustrating the physical characteristics of the precious metal from all the principal workings, whilst neat labels afforded analytical information as to quality and value, from tests made in the Sydney Branch of the Royal Mint. Conspicuous among the gold specimens exhibited by the Department of Mines and Agriculture was a handsome nugget containing upwards of 313 oz. of gold, and a fine specimen of reef quartz with 258 oz. of gold. Mr. Isaacsohn, of Nundle, had a magnificent display of crystallised gold, as well as a large number of reef and alluvial gold specimens. In his exhibit was also included a number of large and handsome aggregates of quartz-crystals from "vugs" or cavities in the auriferous reefs in the Peel River District.

Professor Liversidge, of the Sydney University, in his collection of crystallised and other gold specimens illustrated some rare and specially interesting forms of occurrence.

The display of auriferous reef and lodestone in the New South Wales Court was as varied as it was extensive and massive. The exhibits ranged from carefully prepared general collections of hand specimens, illustrating the nature of the vein and lodestones and associated

associated minerals in nearly all of the principal mining districts of the Colony, to large blocks and pyramids of ores several tons each in weight. These massive displays arrested attention, and by the size of the blocks composing them, afforded some evidence of size as well as character of the deposits from which they were taken. In the arrangement of these pyramids, the position and transition of the ores from oxidised to sulphurised conditions was maintained in accordance with natural order; the sulphuret ores from beneath the level of the water forming the base of the trophies.

Gold-bearing reefs occur in New South Wales in sedimentary rocks of Silurian, Devonian, and Carboniferous ages, also in hornblende granite, porphyry, diorite, and serpentine. The auriferous alluvial drifts are of Permian, Tertiary, and Quaternary ages. Examples of gold-bearing veinstones, and of alluvial gold, from each of the above-mentioned formations were on exhibition.

In all the best known and proved mechanical appliances for separation and saving of gold from reef or limestones, a certain percentage of loss is inevitable even under the most kindly conditions of gangue, or association or refractory sulphides. Samples of veinstones possessing one or more of the above characteristics were also on exhibition. With a view of endeavouring to obtain some really practical results from the display at the World's Fair, large bulk samples of ores of a refractory character were brought to it for the express purpose of testing any new appliances or processes which it was confidently expected would be in full working order within the Fair grounds; and thus if a patentee should achieve results superior to any hitherto attainable, the mine-holder and the inventor would by this means be brought into touch to the mutual benefit of each and the good of the country at large. But it is a matter for regret that these expectations have not been realised. The mining machinery exhibits at the World's Fair fell far short of anticipation, little or nothing new was shown, and even the extremely limited display of well-known machinery was not fitted up on a working basis. Tests of ores on a reasonably large scale, such as would afford some indication of the value of the invention for the treatment of certain varieties of ore, were not possible owing to the almost total absence of adequate provision for sludge and other requirements.

Apart from the great practical and educational value of a display of mining machinery in active operation, the general attraction of the Fair to visitors would have been greatly enhanced by such a demonstration, as was evidenced by the daily-crowded condition of the South African space devoted to diamond-washing, cutting, and polishing.

Perhaps the most conspicuous object in the whole building was the silvered column of the Broken Hill Proprietary Company, which rose to a height of nearly 40 feet from the floor. The base of the trophy was formed of rough blocks of the native ores from the famous Broken Hill lode, 10 tons of which were used for this purpose. Over the rough ores were eight plate-glass compartments containing picked samples of the richer ores. From the top of the glass cases rose a handsome column supporting atlas and globe, the whole ornately figured, and covered with silver leaf. The complete column above the ores at base representing in bulk the average yearly production of silver from the Broken Hill Proprietary Mine during the first six years of its smelting operations. From May, 1886, to May, 1892, the total production during that period being over 36,500,000 ounces of silver, and in addition nearly 152,000 tons of lead.

In connection with this famous lode, which was fully represented by exhibits from all the mines along its course, a very important and critical problem presents itself, and one, too, which is more or less forcibly

forcibly obtruding itself upon the silver producers in almost every silver-field the world over, viz., the excessive percentage of zinc sulphide which makes in the material below water-level. In the lode in question this difficulty is still further intensified by the extremely intimate mixture, in almost equal proportions, of the zinc and lead sulphides, which renders mechanical separation impossible by any known methods. The ores at present operated are the easily worked oxidised masses above the water-level, and vast though the supply of such material undoubtedly is, yet at no distant date the refractory sulphide supplies must be drawn upon. The local conditions are, perhaps, the chief obstacles to the utilisation, with reasonable prospect of success, of any of the known processes for treatment of ores of the character indicated. Costly timber and fuel, owing to total absence of either within reasonable distance, and uncertain labour conditions, are the chief impediments.

It was hoped that by bringing a large quantity of the particular ore in question to the World's Fair, and thus affording practical evidence of new and abundant supplies of refractory material requiring an efficient economic process for successful utilisation, investigators and inventors gathered there from all countries would be stimulated to effort in that direction, the abundant supply in the New South Wales Court being at the disposal of such for experimental research and practical test.

Silver lodes occur in numerous localities over a large proportion of the area of the Colony, and the nature of the ores in them was fully illustrated by extensive collections of hand specimens and large bulk trophies.

Next in importance are the tin ores, of which an extensive display was made, embracing both lode and alluvial tin deposits. Tin ores were first mined in New South Wales in 1872 in the north-east portion of the Colony, known as New England. The tin production is a steady source of wealth, though the easily worked surface deposits and shallow alluvial leads first discovered have been, comparatively speaking, exhausted. As the "leads" or "gutters" were traced into deeper and wetter ground, generally covered by an extensive sheet of basalt, the annual yield decreased to its present stable condition. With the advent of more powerful machinery and a larger bases of operation the deep leads will be rendered more productive and remunerative. So far little has been done in the way of lode tin-mining. Several lodes have been worked to some extent in the New England field; but the irregular bunched character of the lodes deterred small parties from the continuous exploration necessary for proper and successful development. Near Broken Hill, in the north-western portion of the Colony, a number of tin lodes occur, some of which were partially opened a few years since during the mining boom in that district. The lodes occur as greisen dykes in schist country; the tin-stone being disseminated through the gangue in irregular bunches and scattered grains. The locality is naturally waterless, but no doubt in the near future present difficulties will be overcome, and this district will add tin to the list of its already great mineral productions.

Copper and copper ores formed a large feature in the display. A large trophy of ingots from the Nymagee Copper Mine surmounted a base of ores from all the chief mines, whilst in show-cases was a general collection illustrating the character of the ores in nearly all the known copper lodes in the Colony.

At the present time copper mining and smelting are practically at a standstill owing to the low price of copper; the conditions governing the production in Australia at the present time are such as to render profitable working impossible when the market price to the producer of copper falls below £45 per ton.

Bismuth

Bismuth ores occur in three localities in the Colony, but have been only exploited on a small scale in one locality; though a new find at present being opened at Pambula, from which a sample was shown, offers fair promise; at this locality it is associated with payable silver ore. At Kingsgate, near Glen Innes, bismuth mining was carried on for a short period. The lodestuff occurs here as "pipes" or bunches in granite near its junction with slate; nodules of bismuth up to 50 lb. weight were obtained. The ores consisted of carbonate, oxide with sulphide, the two former generally coating a nucleus of native metal. Under the method of working adopted considerable loss was occasioned owing to the fine powdery condition of the carbonate disseminated through the lodestuff. The ore and associated minerals at the localities mentioned are fully illustrated by specimens in the display.

Antimony in the form of star, granulated, crude, and artificial oxide, was exhibited by Lark and Sons, of Sydney, in the form of a massive trophy, about 16 feet high, facing the main avenue, formed of plates of star antimony, with show-case at the base containing the crude and oxide, and samples of the ores worked. A general collection of antimony ores was also exhibited by the Department of Mines and Agriculture. In the Macleay district, from which Lark and Sons exhibit was obtained, the lodes occur in Devonian rocks. In the Hillgrove gold-field antimony sulphide occurs as veins and bunches in the auriferous quartz-reefs. The antimony sulphide in this district contains up to 3 ounces of gold per ton, but owing to the difficulty and cost of extraction a large proportion of the gold is lost to the producer. The Garibaldi and Eleanora Companies on this field forwarded bulk exhibits for the purpose of having tests made of any new processes for separation which might be in operation at the World's Fair; but, as already pointed out, this purpose was defeated by the absence of any exhibits of the nature required.

Iron ores formed an important part of the New South Wales display, and much interest attaches to them, inasmuch as they form an important source of as yet undeveloped wealth. About twenty-five years ago iron smelting operations were begun, and were carried on for a short period on a limited scale in two localities, but were not financially successful owing to labour troubles, and the extremely low price of imported iron brought out as ballast. It is confidently anticipated, however, that at no distant date the iron-smelting industry will be established in one or more centres in the Colony. The most available deposits are close to railway carriage, and in proximity to both coal and limestone. The ores chiefly are brown hematites and magnetites. Large bulk samples of these ores from all the principal deposits were exhibited, as well as a large general collection of show-case specimens from all the known iron-bearing localities. Included amongst the bulk samples was an exhibit of magnetite from Port Stephens, near Newcastle, the great coal port. This ore was from the only extensively bedded deposit as yet discovered in New South Wales, and is close to water carriage and limestone. The presence of a high percentage of titanitic acid unfortunately renders this ore at the present time practically unworkable in its present condition, owing to the destructive action of the titanitic acid upon the furnace lining; but no doubt the difficulty will be overcome in the future, in view of the fact that titaniferous iron possesses special qualities which render it peculiarly adapted for certain manufacturers.

Chrome iron and manganese oxide are as yet practically unworked, though limited quantities of each have been shipped abroad, there being no local market for such ores. The conditions of land carriage and freight to a foreign market very materially bar the colonial article in view of the more cheaply won material of other countries. Chrome iron ore occurs in quantity in several localities, as also manganese oxide. Examples of these are exhibited.

Cobalt

Cobalt and nickel ores in the form of sesquioxide in manganese wad, and as arsenide with mispickel, were also shown in the New South Wales Court; an attempt to work the former by a leaching process was not brought to a successful issue. The arsenide of cobalt is likely to prove an important discovery. The lode occurs at the junction of intrusive diorite, along the contact of which with the slates it forms bunches; reliable assays of average samples have yielded 14 per cent. of metallic cobalt. A trial shipment of 30 tons of this ore has recently been dispatched to England.

Traces of nickel only have been discovered as yet in the Colony.

Platiniferous sand was exhibited from the North Coast, where it occurs in several localities, chiefly between the Richmond and Tweed Rivers. Fine gold occurs associated with it in the black beach sand, and for many years beach-working has been carried on for gold, especially after easterly gales. In the miners' ordinary cradles a small quantity of platinum collects on the blanketings, but no efficient means of saving this metal has yet been tried. The sand consists of ordinary quartz grains, titanite iron ore, zircons, and a little cassiterite. Platinum in limited quantity occurs also in small grains in the auriferous gold drifts of the Colony in several localities. Platiniferous lodestuff, with assay yields varying from a trace to 1 or 2 ounces per ton, has recently been discovered in the Broken Hill District; but so far, owing to the extremely fine state of division of the metal in the ore, no practical method of treatment has been suggested.

Mercury ore—cinnabar—has been discovered in three localities in the Colony, but not in payable quantity. At the first discovered locality it occurs as scattered grains in drift, in the other localities in serpentine and quartz veinstone respectively. Examples of the latter were shown in the display.

Lead ores are so intimately associated with the silver-bearing deposits of the Colony that no special mention need be made of them. As showing the importance of the Broken Hill Proprietary Mine as a lead-producer it may be mentioned that in six years the output of this metal reached a fraction less than 152,000 tons.

Zinc ores—the zinc blende—is also, unfortunately perhaps, associated in large measure with the silver lodes below water-level; but there is little doubt that when an economic process has been discovered for treatment of ores of this class, the large quantities of zinc, probably in the form of zinc oxide, will be produced in the Colony. An extensive display of the ores referred to was on exhibition.

Tungsten ores—wolfram and schleeite—were shown from several localities in New South Wales. These ores are not yet worked, but the recent great advance in their values will doubtless cause exploration of some of the known deposits.

Gemstones.—An interesting display of cut and uncut gemstones was made in the New South Wales Court by the Department of Mines, Professor Liversidge, and Mr. Isaacsohn. The occurrence and association of the diamond in the Colony was fully illustrated by a series of carefully prepared and excellently displayed samples of the diamond-bearing gravels, associated gems, minerals, &c., from a number of localities in which the diamond has been found. About 60,000 carats of diamonds have been obtained from the diamond workings of New South Wales; but mining for them has neither been extensive nor continuous. The stones exhibited were characteristic of the size and quality of the New South Wales diamonds, being small but brilliant. A recent discovery of emerald-bearing matrix was illustrated by a number of samples of the veinstone, and cut and uncut emeralds, from the New Emerald Proprietary Mine, Vegetable Creek, New England,
New

New South Wales. The colour of these gems is good, but the hardness of some of the matrix renders their extraction without injury very difficult. Beryl and topaz, of great beauty, were shown from the alluvial tin leads of New England in which they occur; together with sapphire, cairngorm, amethyst, &c. A small display of opals was made from White Cliffs, but these specimens are rather of mineralogical interest than economic value; opal of highest quality occurs in the fields and finds ready local sale; recently a rush has taken place to White Cliffs because of the quality and beauty of the later finds. Opal also occurs in a vesicular basalt at the Abercrombie River, samples of which were shown.

An interesting display was made of alumstone and alum crystals from a recently-discovered deposit in the Gloucester District. The Australian Alum Company, which made the exhibit, has commenced operations at Bulladelah, where the alumstone occurs as a massive outcrop resembling limestone. It is the intention of the Company to ship the stone as ballast to England and thus to treat it where sulphuric acid is obtained cheaply, for though very good results can be obtained locally by ordinary roasting and dissolving and evaporation, yet infinitely superior results can be obtained by the addition of sulphuric acid.

The western portion of the New South Wales space was devoted to non-metallic minerals, building stones, and fossils. The entrance was in the form of an archway, constructed of polished marble slabs and tiles. These marbles were of excellent quality and colour. So far little has been done in marble quarrying and working for building and ornamental purposes; and the finest slabs exhibited were from surface outcrops, being the first cut, and polished therefrom. Serpentine, of varying shades of colour and texture, was shown from Bingera and near Young, and a handsome verde antique porphyry from near Cowra.

Three large trophies, principally of sandstone, in 1-foot cubes, represented the building stones, which are chiefly used in the city of Sydney and in the Hunter River District. Sydney is situated on the Hawkesbury (triassic) sandstone formation, and many quarries are at work within the city limits. The stone is of excellent colour, grain, and of great durability; of high crushing stress, easily worked, and capable of receiving and retaining very fine edges.

The sandstone from the permo-carboniferous measures of the Hunter River District is usually of very fine grain, colour, and quality, and is extensively used in the city of Newcastle.

Granite from Moruya and Trial Bay was exhibited in the collection in large rough and smaller dressed blocks. The Moruya granite is a handsome grey stone, and is used for columns and pedestals. The tall polished pillars in the colonnade of the Sydney Post-office are from the Moruya Granite Quarry, also the pedestals of the principal statues erected within the city. Granite of excellent quality and great variety of colour abounds in the Colony, and will in the future be largely availed of for building and ornamental purposes.

A very durable stone from Bowral, syenite, was exhibited in rough-dressed blocks. From the compact texture, hardness, durability, and resistance to the ravages of seawater, this stone has been selected as the most suitable material for construction of piers, buttresses, sea-walls, &c.; it is also largely used for railway permanent-way construction, erection of public buildings, street curbing, and blocking.

Paint ochres of all shades, from light-yellow to rich red-yellow and purple, were shown by the Gordon Emery and Colour Company, J. Clabby, and the Kalsomine and Metallic Paint Company. The latter company also displayed a large exhibit of prepared kalsomines of

of exquisite shades of colour. The Gordon Emery and Colour Company have recently established works for the grinding and preparation of the ochres from their property.

The Cullen Bullen Lime and Cement Company made an important display of hydraulic cement, and illustrated its character and preparation by a series of samples of the raw material, and from the different stages of preparation to the finished article, and practically demonstrated its high character by a number of fine castings and printed reports of properly authenticated Government tests and uses. This cement, known as the "Kangaroo" brand, is largely coming into favour.

Amongst the numerous other economic minerals in the New South Wales Court which may be briefly mentioned were kaolin of high grade, barytes, limestone, calcite, tripolite, whetstone, &c. Six large geology show-cases were devoted to geological specimens, and these were arranged near the display of geological and mining maps of the Colony. The fossils consist of the characteristic forms from the principal sedimentary formations of New South Wales, and range in geological age from the upper Silurian (which is the oldest formation yet identified by organic evidence) to the Quaternary, each of the important divisions of the geological record within this range being represented. The whole were grouped, classified, and adequately labelled, and formed an interesting and valuable illustration of the geological formations depicted on the maps. Of the latter the most valuable was the geological map of the Colony brought up to date of the present year (1893). This map showed great advancement upon any previous issues in general artistic features, colouring, and elaboration of details. A striking feature in this portion of the display was the number of natural-size sections of the principal coal-seams of the Colony. These formed an important illustration of the massive sections of coal already mentioned.

The great value of the unique display which New South Wales made of her vast mineral resources was enhanced by a carefully prepared detail catalogue, which described minutely each and every exhibit from reliable reports; gave statistical information as to analyses, assays, and bulk yields wherever obtainable; and furnished a concise introductory account of the nature, occurrence, and associations, &c., of all the elements of her mineral wealth.

I may conclude this description by quoting the published opinion of a mining expert, who critically examined the Court and its contents:—"It was not a breach of courtesy to other exhibitors to state, what is generally conceded, that the best all round exhibit in this building of Mines and Mining is found in that court over which floats the light blue flag of New South Wales."

German Court.

The exhibits of Germany were very imposing, but, unfortunately, the most important of these, in the principal space, were not mining exhibits so much as representations of the manufacturing processes such as forging, casting, and welding, applied to steel and iron. These exhibits were truly grand, but quite out of place in a purely mining building. As a matter of fact the German Empire is the leading State on the European Continent as regards the quality and value of its mining productions, in which it is only excelled by England and the United States. The mining of precious metals, which predominated in former years, has lately found a rival in coal-digging, for in Germany and other European States just as much attention is paid to this branch of mining as to the others. The production of coal comprises three-fourths of the entire mining industry of Germany, and by it 800,000,000 merks (£40,000,000) were realised proper in the year 1891.

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The main part of the exhibit was installed on the north gallery of the Mining Building, where an extensive exhibit of samples of minerals and a photographic display showing the geological formation of this source of Germany's industry in a scientific manner.

This exhibit was composed of five groups, formed according to the government districts in which the minerals are mined. The geological survey was illustrated by maps of the Kingdom of Prussia and the Thuringian States; samples of bituminous coal were shown from the Lower Rhine, the Ruhr District, and upper Silesia. Iron, zinc, and lead ores from the Siegerland, the Prussian Province of Saxony, and Upper Silesia were well represented. There were also specimens of gold and silver ore from the Kingdom of Saxony and the Hartz Mountains. The raw and unmanufactured salts of the potassium salt-mines of Stassfurt, and exhibits of the Royal saline at Schoenebeck gave some idea of this source of Germany's natural products.

The approximated value of iron production in the year 1881 (\$72,753,000) had increased to \$118,000,000 in 1890. Germany stands third among the iron-producing nations of the world.

Besides the exhibits mentioned, graphite and graphite manufactures, limestone and ornamental stone, quarry products, nickel and cobalt, were represented by individual exhibitors. The royal oberbergamt (assay office) at Halle made an exhibit of plans of the brown coal deposits and models of the brown coal-mines. The United Chemical Works at Halle, on the Saale, made an interesting exhibit of products extracted from brown coal, such as brown coal tar, illuminating oil, yellow oil, red oil, dark paraffine oil, paraffin, and candle materials.

Among the iron exhibits was a column of cast-iron pipe and sewer pipe, all artistically arranged, and a cold bent rail fifty-four metres long. Beams of ingot iron, twenty-four metres long, completed this most comprehensive exhibit.

The magnificent and imposing iron and steel trophy exhibit of Baron Stumm, a display made by the personal solicitation of the Emperor of Germany, erected at an outlay of nearly \$200,000, always arrested the attention of the visitor. Pyramids and branching columns of structural iron and steel were built up to a height of about 100 feet, and assumed figures as bewildering in ramification as they were graceful in outline. An entrance arch was surmounted with bronze allegorical figures, while within the space statuary groups of metal-workers and metal-working appliances formed an ornamental fountain. Lofty obelisks of polished beam and rail sections stood at the corners and on the rear wall. There was worked out, in mosaics of burnished blast-furnace slags, plans of the works and names of the products.

This German exhibit in the western gallery, in its central portion, contained a large number of most excellent models and specimens of metallurgical works, among which the model of a coal dust brick works was conspicuous. Specimens of the bricks as used for fuel were shown. There was also a model of the Royal salt works at Schoenebeck exhibited by the Huyssen firm, and various models of the processes of sinking shafts through quicksands. On one of these a pulsometer stood on a floating platform and pumped up a mixture of sand and water. Sections of the tubes used to form the water-tight wall of the shaft were linked together, as if in actual use, to form the wall of the exhibit. An interesting model was that of a man-engine in a shaft, showing the working of this process of vertical transportation. In addition to the models of the smelting works at Rorstag, Lautenthal, there were representations of those at Oker, Clausthal, and Gosler, and a great variety of models of the apparatus used in the various mining processes. In the court specially devoted to coal-

mining,

mining, there was a model showing the tipping of the coal trucks by means of a revolving steel circle, with catches to fit on the upper margin of the truck.

Austrian Exhibits.

In the Austrian exhibit there was a very interesting exhibit of crucible steel, termed "Poldihutte" (poldi-steel), from Kladno, Bohemia. Eighteen crucible-steel posts, in groups of three, formed a hexagonal booth. These posts were 18 feet long and were hammered from crucible-steel ingots which were 2 feet long by 1 foot square, leaving the base 1 foot by 1 foot, and the other or top end into first a hexagonal and then finishing into round steel $1\frac{1}{4}$ inches in diameter. The centre of the booth was formed of hammered steel in many shapes for commercial uses. The cases about this centre were filled with fractured steel, showing all degrees of hardness, from the mild to the hardest of tool steel. These fractures, under the magnifying glass, showed a perfect degree of homogeneity, a point in manufacture that has not hitherto been surpassed. An exhibit of scythes, hammered into exceeding lightness, was made. In another stand, files, hand and machine made, from the lightest for jewellers' use, to the largest, 16 inches, were shown. The latter were produced by the Steel and Iron Co., St. Egyd, Austria. At the front of the aisle, hanging up, was a rolled plate or sheet, 162 feet in length by 3 feet in width and $\frac{1}{12}$ of an inch in thickness, which is the largest plate ever rolled. It was made of iron and was rolled by a new process or arrangement of rolls, designed and patented by Herr Wittgenstein, of Vienna, and rolled at Rudolfshutte, Toplitz, Bohemia.

Cape Colony.

In the small but well arranged court of Cape Colony the exhibits from the celebrated Kimberley Mines of that country were shown. The original blue diamond-bearing earth, with the diamonds in the rough, were a constant source of attraction, especially on the days when the diamonds were washed out of the watery matter by the actual machines employed at Kimberley. A number of lapidarists from Tiffany's establishment cut the rough diamonds in a part of the space, and the various operations connected with the work were observed through the glass walls of the Court.

A most instructive opportunity was afforded the visitors at the Fair in the illustration of the processes employed to make a diamond ready to be placed in an ornament. First the clearing process, which consists in first making a nick in that part of the crystal below the part to be removed. The nick must always be parallel to an octagon, which forms the face of the stone. A quick blow is given a knife, which has been placed in this almost microscopic nick. If this blow has been successfully dealt the piece drops off and shows a smooth face on both sides. This clearing process is used only for gems containing flaws, and it is only necessary to a small percentage of gems.

The cutting of diamonds is most interesting. They are cut by the rubbing of two diamonds together. To do this they are cemented on the cutting stick with shellac. The dust obtained in the cutting is used afterwards in the polishing. When shaped for polishing, the gem is given to the setter. The setter secures the diamond in a cone-shaped, fusible metal, which has been fastened to the end of a stick. The point to be polished is always exposed, and points sharply outward. A diamond when brilliantly cut often requires to be set at least twenty, or thirty times. The process of polishing requires mathematical correctness, in order that it may, as nearly as possible, reflect the light that enters the centre of the stone. Diamonds are polished on horizontal circular disks or wheels of iron. The wheels are covered with oil and diamond dust. The light, life, brilliancy, and even colour of a diamond is almost entirely insured by its scientific polishing.

United

United States Exhibits.

Whilst foreign countries occupied the western side of the floor space, the American States exhibits, as I have said, were placed on the eastern side of Bullion Avenue, for the most part in separate pavilions of handsome and, in some cases, very elaborate structures. Classic pediments and columns, parapets, arches, and turreted battlements made a beautiful and interesting spectacle, each separate pavilion forming a fitting temporary habitation for the exhibits of the States. Every marble slab, the clay, brick, and tessellated pavement, was material selected for the purpose to represent the characteristic mineral of the State. In this way a monotonous repetition of mineral riches, either as heaps of ores or as carefully-arranged cabinets or cases, was avoided, and an ever-changing picture of mineral and metal wealth was afforded. A remarkable exhibit seen in the centre of the Avenue was an object of interest and wonder to every visitor. It was the column of coal, representing the famous 60-foot seam of anthracite, contributed by Pennsylvania. There was also another wonderful column arranged by the chief of the division of Mining Statistics and Technology. This column represented the mineral output of all kinds, for one second of time, in the United States. The base was formed of a block of bituminous coal 4 ft. 6 in. on every side; above was a smaller block of anthracite; then, in order of their volumes, limestone, natural gas, petroleum, iron ore, granite, salt, sandstone, phosphate rock, marble, gypsum, marl, mineral waters, copper, zinc, lead, and a number of other metals, the column being surmounted by blocks of the precious metals, and the summit being formed by a small group of gems. The quantities and values of the principal material composing the column, according to the latest Census reports, are as follows:—

Material.	Tons.	Dollars.
Bituminous coal	105,268,000	117,188,000
Anthracite	45,236,000	73,944,000
Limestone	5,000,000	2,300,000
Natural gas ... ..	.....	15,000,000
Petroleum	54,291,000	32,575,000
Pig iron	8,000,000	128,337,000
Salt	9,000,000	4,716,000
Building stone ... ..	.....	47,294,000
Phosphate rock	587,000	3,651,000
Marls	135,000	67,000
Mineral waters ... ..	.....	2,996,000
Copper ... ..	.....	38,455,000
Silver, troy oz.	58,330,000	75,416,000
Gold	1,604,840	33,175,000
Gems ... ..	.....	235,000

The foregoing list does not, by any means, include all the minerals that made up the column nor the official Census list, but it comprises those which are the most important. To summarise the mineral wealth illustrated in this ingenious manner, and in the courts of all the pavilions of the different States in the Mines Building, I may here give the following figures:—

Metals	\$302,307,922
Non-metallic mineral substances	353,790,416
Value of miscellaneous minerals	10,000,000
Total	\$666,105,837

Remarkable Exhibits.

The most notable display in precious metals was the renowned Montana statue, "Justice," cast in solid silver, worth \$61,800, which rested on a plinth of solid gold representing \$230,000.

The

The largest and most complete exhibit of nickel ore made was that of Ontario. Upon a base of heavy masses of pyrrhotine and other nickel ores rested the cone-shaped concentrate or nickel matte, surmounted in turn by a huge ingot of pure nickel.

One of the most interesting collections of gems and semi-precious stones was that of New South Wales, by Kunz, the author of the standard work on "Gems and Precious Stones." This exhibit contained Amazon stones, noble opals, amethysts in glodes, hydrophanes or "mad" stones, sectionised and polished jades and agates, quartz, a tiger's eyeball 4 in. diameter, a collection of cones, flakes, and chips of obsidian, illustrating the ancient method of making spear and arrow points, and a great variety of gems, antiques, and curios, together with a set of illustrated works of ancient writers on gems.

In the Arizona section there was a magnificent show of variegated ores of copper, which vied in colour with the transformations of the kaleidoscope. Surrounding the massive piece of azurite streaked with green malachite, which formed the central trophy, were pictures and symphonies in blue, green, and silvered plush, and satin mineral surfaces. The polished sections of agatized wood, shown here as well as in the Manufacturing Building, were the largest and best specimens ever exhibited.

The singular but important use of asbestos as an incombustible fabric was exhibited by operating machines which took the crude rocky fibre through the processes of separation, carding, spinning, and weaving, and produced a theatre curtain or a suit of asbestos clothing. The exhibits of asbestos from Canada were very excellent and extensive.

Standard Oil Company's Exhibit.

A very remarkable exhibit in the north gallery was that of the Standard Oil Company, which displayed not only the results obtained by this company but also a summary of the natural oil resources of all the United States. In the centre of the exhibit was a large glass vessel, equal to the contents of a barrel, of crude oil, just as it is delivered from the pipe lines of Pennsylvania; in fact a mixed product of many wells, as pumped through the lines commercially. Shale cases, containing the leading products from the barrel, were displayed, such as naphtha and its results, burning oils and their different grades, and the residues used for lubricating purposes, the manufacture of paraffin oil, &c. The specimens in their different colours, about 200 in number, arranged in the order of their specific gravity, and other characteristics, were also shown. There was also a representation of the first refinery erected by this company, as well as one of a more modern refinery, in which all the stages of the various operations were shown by the collection of glass bottles filled with the various products from the different parts of the works. In another case were examples of the commercial uses to which paraffin is applied. A very interesting exhibit was the pyramid of barrels representing the oil-production of one day of the whole of the United States; and as it contained the equivalent of 142,000 barrels, the importance of the industry was at once forcibly conveyed by the exhibit. The pyramid was painted in various colours, which were intended to indicate the proportions of the various products—burning oil, naphtha, lubricants, &c. A large and curious collection of lamps, ancient and modern, was also shown, together with a large light-house lamp burning petroleum; and to complete this very remarkable exhibit there was a modelled geological section nearly the length of the gallery, explaining the different formations with which the occurrence of oil is associated.

The

The Galleries.

In the north end of the western gallery the mineralogical section was filled with cases containing hand specimens of American minerals of every kind, but the system of classification and examination was very crude. One interesting exhibit was a series of large prints on glass, or transparencies, showing the state of mining processes in the 16th century. Just beyond this part was the large and varied collection of phenomenal geology by the celebrated Ward, of Rochester, N.Y. There was in the north gallery a splendid map in relief of the Rocky Mountains (sea-level), and several of the Sacramento Valley, and others representing the State of New York, which were remarkably well executed. In the east gallery there were a number of remarkably good booths, highly decorated and very ornamental, from the different American States, containing representative exhibits of sulphur, salt, mineral waters, and other matters contained in the group 40 to 48 of the official classification. At the southeastern end of the east gallery were some rooms devoted to the chemical analysis of ores, &c., and containing the usual apparatus for this purpose. Here the chemist was enabled to make assays and similar tests, and experiments of a practical nature were carried on during the currency of the Exposition.

Coal-mining Machinery.

Amongst the mining machinery exhibits under the eastern gallery perhaps one of the most interesting and important to the coal operator was that of the Jeffrey Manufacturing Company, of Columbus, Ohio. Here were shown the latest improvements in coal-mining machinery, operated by air and electricity. The machines exhibited were the result of years of careful study and experiment, and have rapidly advanced in perfection since 1877, when the first successful coal-mining machine, operated by compressed air, was introduced by this company into the Hocking Valley. Since that time no fewer than 500 air-machines have been put out, and are working successfully in every coal-producing State in the United States, as well as in British Columbia.

The rapid advance of electricity as a means of conveying power was utilised by this company, and they now have over 100 machines so operated, while they turn the same agent to account in lighting the mines, as well as for running mining pumps, ventilating fans, and hauling the coal out by electrical locomotives. The extreme flexibility of the conductors, and the ease with which it can be subdivided and transmitted from place to place, makes it the best medium by far for power transmission in mines.

This mining machinery exhibit consisted of electric mining locomotives, electric and air mining pumps, electric and air drills, and electric and air under-cutting machines. The under-cutting machine is made substantially in the following manner:—A rotary cutter bar 3 feet long, into which steel cutters are inserted in such a manner as to present a cutting edge along its entire length when revolved on its axis, is held by means of bronze journals at one end of a sliding frame, having an electric motor or air engine at the other end. The speed of the motor or engine is reduced by suitable gearings, and connects through a shaft with the cutter-bar by means of an endless link chain belt, which drives the bar and drags back part of the cutting. Three small chains act as conveyors for the cuttings, and run in the same plane and parallel to the driving chain. The whole frame, with motor, bars, and chains, slide freely in a stationary frame, which is held securely in a horizontal plane by jacks placed at each end.

This

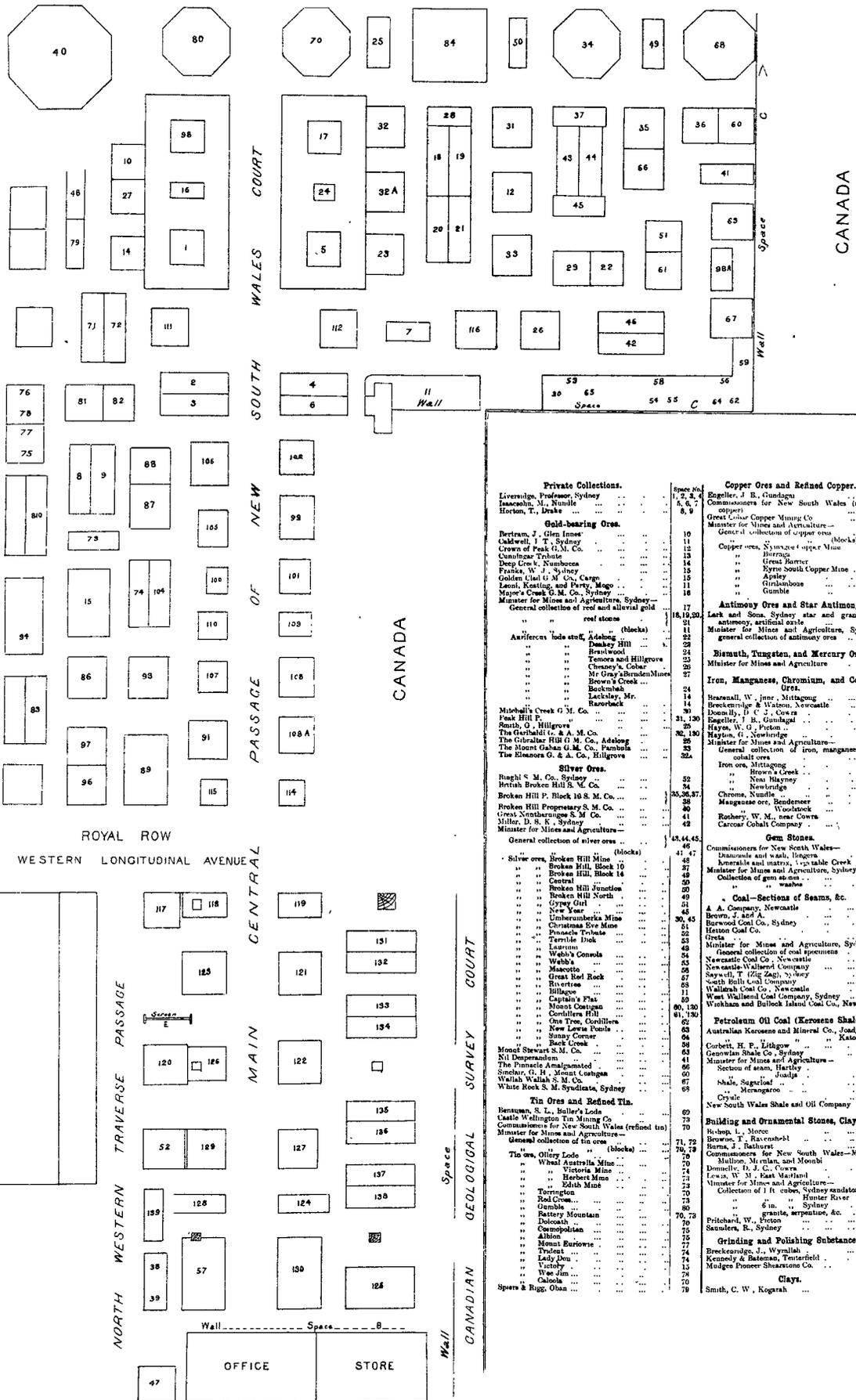
This frame acts as a guide to the cutter-bar frame, and is provided with two racks, into which two pinions, on the sliding frame, run in such manner as to feed the bar forward or backward as they are engaged into one of two worm wheels, which are driven by the motor in opposite directions, the one driving the bar ahead having a slow motion, the other running faster, thereby making a quick return. The method employed in mining coal is as follows :—

The machine is placed cutter bar end against the wall, at one end of the same, with the frame at right angles to the face. The machine is then clamped securely in position, started, and a cut made the required depth ; then the bar is withdrawn, the machine shifted to one side the length of the bar, and operated as before until the entire wall is undercut. Holes are then drilled near the roof, into which blasts are placed, and the coal is blown down, broken up, loaded, and hauled away. In this manner from 1,200 to 1,800 square feet of coal are easily undercut in ten hours, reducing the labour, waste of coal, and cost of mining the same to a minimum. The drilling is all done by air or electricity, the company making apparatus especially designed for that purpose, which is as compact and light as is possible. With these drills 6-foot holes, 2 inches in diameter, are drilled in one minute. They also exhibited coal-conveying, elevating, and screening machines, which they manufacture in endless variety.

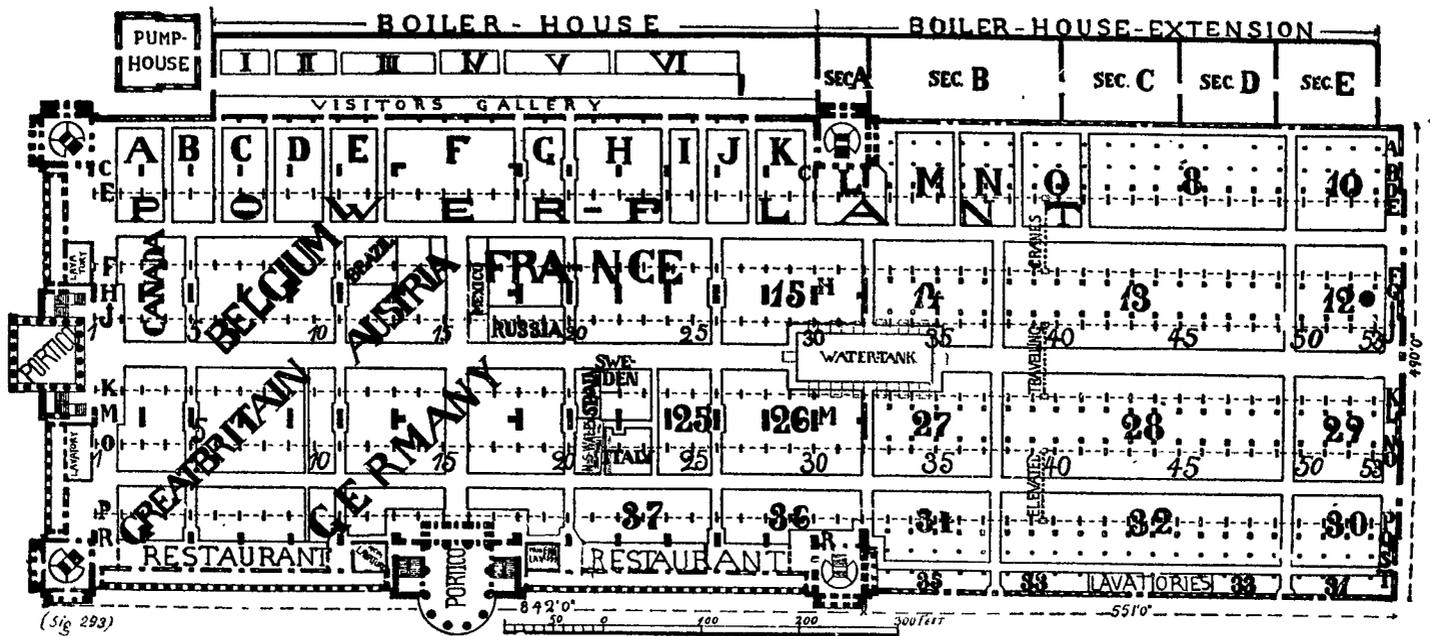
Their different classes of apparatus are carefully illustrated in descriptive catalogues, especially prepared for World's Fair distribution, and which they gladly mail, post paid, to interested parties desiring the same.

As has already been stated, I experienced great disappointment in consequence of the absence of machinery suitable for the treating of the large quantity of low grade and refractory ores which, at my suggestion, had been forwarded for practical testing, in order to discover, if possible, economical methods of reduction. In the absence of this information I obtained, on the recommendation of the Premier, the assistance of Mr. Jewell, who travelled over various parts of the United States in order to investigate the methods employed at various mines and smelting works. The information which Mr. Jewell has supplied (which I hope will be of value to our mining community) will be found in Appendix L.

BULLION BOULEVARD (MAIN CENTRAL AVENUE)



Private Collections.	Space No.	Copper Ores and Refined Copper.	Space No.
Liversidge, Professor, Sydney	1, 2, 3, 4	Engeller, J. B., Gundagai	15
Isaacson, M., Newcastle	5, 6, 7	Commissioners for New South Wales (refined copper)	80
Horton, T., Drake	8, 9	Great Lakes Copper Mining Co	81
Gold-bearing Ores.			
Bertram, J., Glen Innes	10	Minister for Mines and Agriculture	81A
Caldwell, J. T., Sydney	11	General collection of copper ores	82
Crown of Peak G.M. Co.	12	Butteridge (blocks)	83
Cumulative Trusts	13	Copper ores, Newcastle upper mine	84
Deep Creek, Nambucca	14	Great Barrier	85
Franklin, W. J., Sydney	15	Byrne South Copper Mine	86
Golden Lad G.M. Co., Cargo	16	Aspley	87
Leoni, Keating, and Parry, Mogo	17	Girlandstone	88
Mayor's Creek G.M. Co., Sydney	18	Gumble	89
Minister for Mines and Agriculture, Sydney	19	Antimony Ores and Star Antimony	84
General collection of reef and alluvial gold	16, 19, 20	Antimony, artificial oxide	85
" " " " " " "	21	Minister for Mines and Agriculture, Sydney	85
" " " " " " "	22	general collection of antimony ores	86
" " " " " " "	23	Bismuth, Tungsten, and Mercury Ores.	85
" " " " " " "	24	Minister for Mines and Agriculture	85
" " " " " " "	25	Iron, Manganese, Chromium, and Cobalt Ores.	86
" " " " " " "	26	Breanell, W. June, Mittagong	86
" " " " " " "	27	Breckenridge & Watson, Newcastle	87
" " " " " " "	28	Donnelly, D. C. J., Crows	88
" " " " " " "	29	Engeller, J. B., Gundagai	89
" " " " " " "	30	Hayes, W. G., Piton	90
" " " " " " "	31	Hayden, G., Newbridge	91
" " " " " " "	32	Minister for Mines and Agriculture	91
" " " " " " "	33	General collection of iron, manganese, and cobalt ores	89, 92
" " " " " " "	34	Iron ore, Mittagong	89
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GROUND FLOOR PLAN, MACHINERY HALL, WORLD'S COLUMBIAN EXPOSITION.



MACHINERY HALL.

Machinery Hall, or the Palace of Mechanic Arts, and its Exhibits.

ALTHOUGH this building was not of such vast proportions as the Manufactures Building, and had not the same enormous roof span, it was nevertheless an imposing piece of engineering work, as well as a beautiful architectural structure. In regard to site its chief façade fronted upon the great central basin; it lay south of the Administration Building and west of the Agricultural Building, from which it was separated by the north branch of the lagoon.

Description of the Buildings.

The main building was 850 feet long and 500 feet broad, and with the Machinery Annex and Power House cost about \$1,200,000. The building was spanned by three arched trusses, and the interior presented the appearance of three railroad train houses side by side. These iron trusses were about 50 feet on centres, and the spans about 125 feet each. The naves were lighted and aired from above by large monitor roofs; in the centre three domed roofs, each covering an open space 125 feet square, took the place of monitors. Outside of this immense three-naved room on the north-east and south ran a 50-foot wide two-storey building. This opened directly on the main hall; both on the first floor, and on the second floor on the north and east fronts, forming a great gallery.

There were two main entrances to Machinery Hall, one on the north facing Administration Building, and one on the east facing Agricultural Hall. In each of the four corners of the main building was a domed pavilion containing a grand staircase, and there were other staircases adjacent to the two grand staircases referred to. There were other entrances along the sides and ends of the main hall and annex, giving ample accommodation to the immense crowds.

The annex building contained three naves, and ran 550 feet to the westward, carrying out the long naves formed by the trusses in the main building.

On the south of the main building for its whole length was a one-storey structure, which contained the vast steam and electrical plant which supplied power and light to the whole of the Exposition buildings and grounds.

The area of Machinery Hall was $17\frac{1}{2}$ acres, of which 425,000 square feet were in the main hall, and 269,990 square feet were in the annex. This total was not quite as large as the space covered by the great Machinery Hall and its annexes at the Paris Exhibition of 1889, and the demands for space were far in excess of that at the disposal of the Exhibition authorities. The fact was much to be regretted. A large number of exhibitors had to curtail their space, much to their disappointment, while others determined not to exhibit. Their disappointment was shared by the visitors, especially those from abroad, as the United States could not organise any exhibition more popular than that devoted to machinery, America being par excellence the home of mechanical ingenuity.

Although more fully described elsewhere, I may here give a short account of the installation for the generation of electricity for power transmission and lighting, inasmuch as all the machinery for
that

that purpose was housed in this building. The heart of the Columbian Exposition was in Machinery Hall. From there its vital force leaped through a thousand channels to every part, infusing that light and life which made the White City the grandest achievement of man's achievements. The adoption of electricity on a very large scale for driving machinery in motion was one of the most interesting features of the Exposition; 25,000 indicated horse-power was provided, or 25 per cent. more than would be necessary to drive two of the largest British battle-ships of the Royal Sovereign class at ordinary full speed. This gigantic power-station formed an annex to the Machinery Hall. It was arranged along the south wall, a space being reserved 850 feet long by 150 feet wide for the purpose. This building contained the engines, dynamos, and boilers (themselves exhibits) for generating steam and electrical power, which are fully described in a subsequent part of this report. The conductors, after leaving the dynamos, were arranged in a suitable fire-proof rack under the main floor, about 150 feet from the south wall and running along the length of the building. From the rack five distinct groups of feeding wires started to supply various sections throughout the grounds and buildings. Starting from the generating station, a tunnel was provided and its passage was of sufficient capacity to accommodate 150 insulated cables of varying sizes up to 600,000 millimetres diameter. The tunnel leaving the generating station ran north under the Machinery Hall and across the space in front of the Administration Building to the Electricity Building. But a full description of this tunnel and its contents will be found in the report of the Electrical Building.

The whole of Machinery Hall throughout rested upon planking and trestle work foundations. Its frame was very largely of wood, but the main trusses spanning the building were of iron, and of such width that they will be serviceable in the future in the construction of railroad service. The main building and annex added together gave a perspective of nearly 1,400 feet in a straight line. In each of the naves an electric travelling crane moved from one end to the other. These were used for installing and moving the machinery exhibits. Platforms were built on these travelling cranes, and they were used to carry visitors.

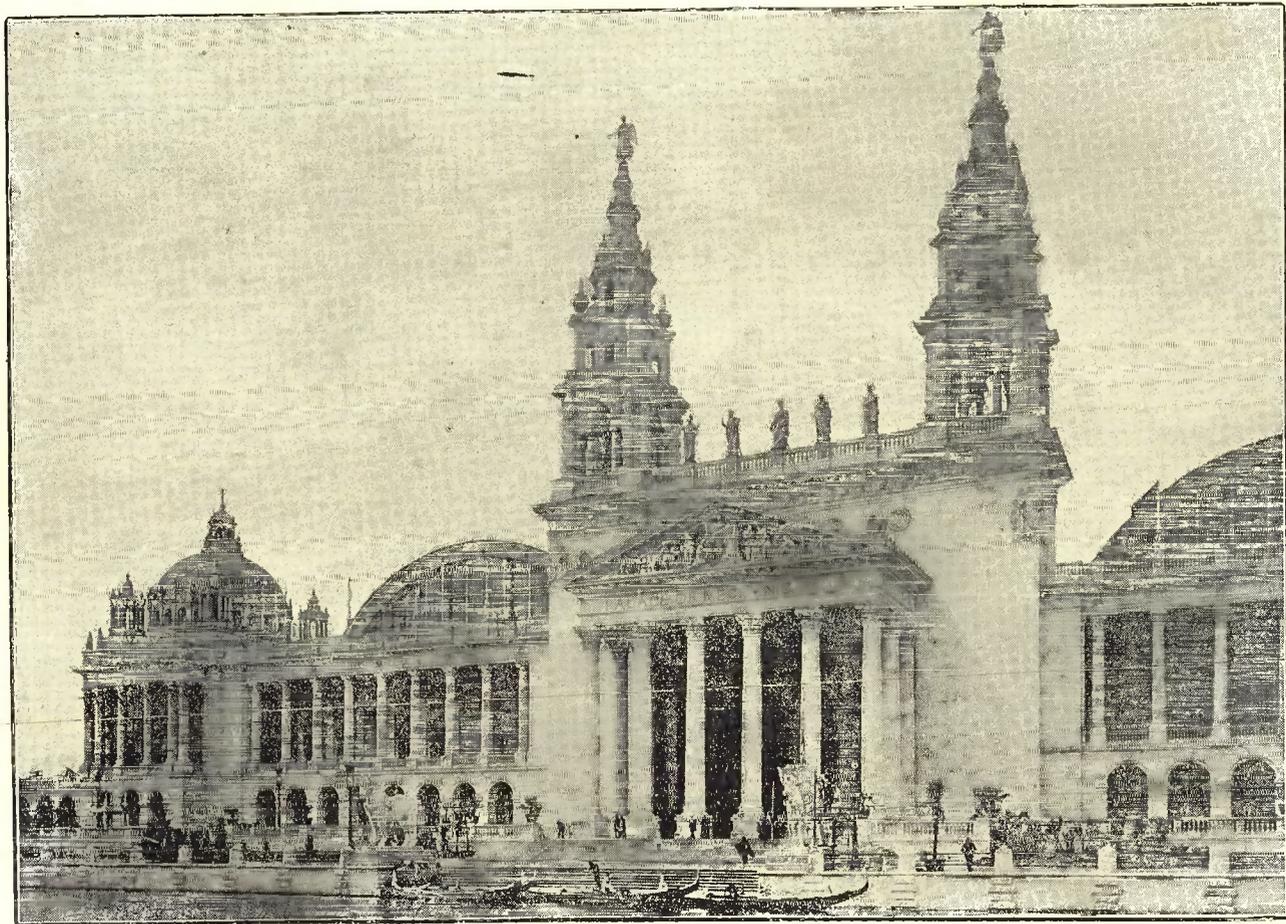
The exterior of the building was covered with staff, which was used for the covering of all the other buildings at the Exposition. In the figure and ornamental work every attempt was made to indicate the purpose of the building, the statues representing mechanical force, or carrying portraits, or the names of inventors.

Running the entire length of the main building and the annexes were three avenues or aisles, the centre one 25 feet width, and the sides each 15 feet in width. At the western extremity of these aisles entered the tracks of the auxiliary railroads for the conveyance of heavy machines to the first cross aisle, from which the travelling cranes carried them.

The comprehensive character of the display to be seen in this branch of the Exposition was apparent from the classification. Eleven groups, comprising eighty-six classes, were devoted in the general classification to the Department of Machinery. Among these eighty-six classes were found almost every known mechanical device.

New South Wales Court.

In this department we had allotted us originally a space of almost 3,000 feet, but, in consequence of the paucity of our exhibits in this section, I resigned the back portion of our space to Germany, retaining 1,425 feet. The Court was walled round, as our chief exhibits were the large photos. of the water supply of Sydney and the hydraulic cranes



EAST FRONT, MACHINERY HALL.

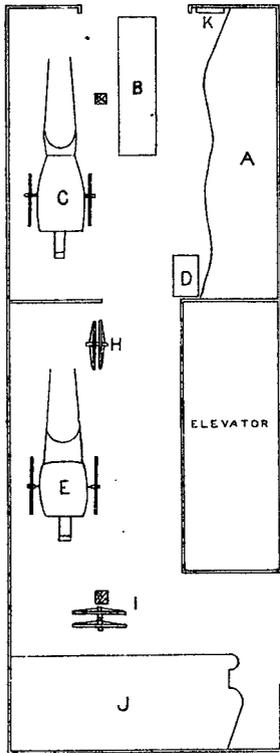


MACHINERY HALL—NORTH ENTRANCE.



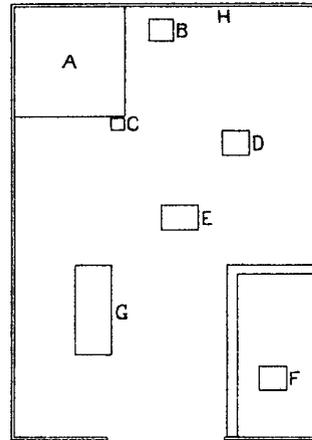
SOUTH CANAL, EAST FRONT OF MACHINERY HALL, COLONNADE, ROSTRAL COLUMN, AND NEEDLE.

TRANSPORTATION



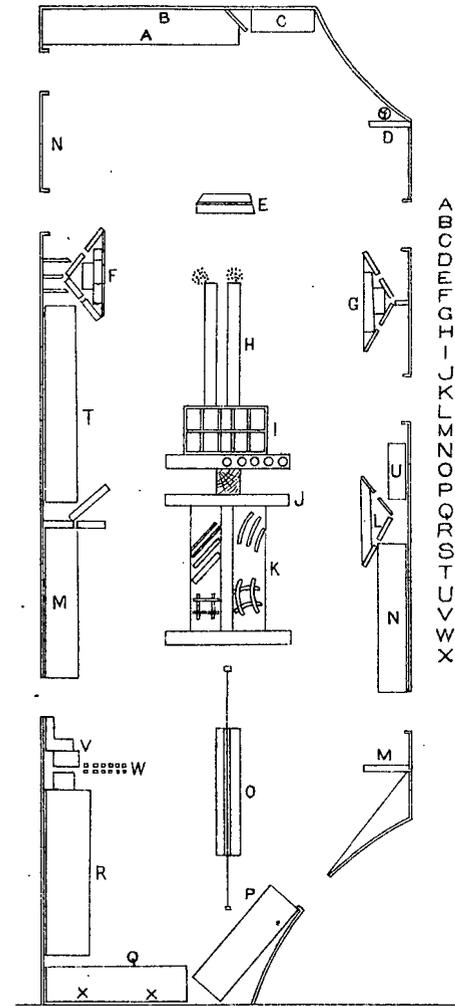
- A Zig Zag.
- B Orient Co SS Austral.
- C Glenross Patent Cab.
- D Stamped Washers
- E Glenross Brougham.
- H Wheels.
- I Sutherland Dry Dock.
- J Whips Etc

MACHINERY



- A Patent Switch.
- B Circular Bellows.
- C Patent Fire Escape.
- D Washing Machine.
- E Patent Sink Etc.
- F Band Saw.
- G Gov Printing Etc.
- H Bellows.

FORESTRY



- A Blue Gum.
- B Seeds.
- C Door & Dry Plants.
- D Cedar Plank
- E Cedar Plank
- F Resin & Gum.
- G Gum & Resin Bark.
- H Cedar Planks Flitches.
- I Bark (Wattle).
- J Cedar Legs & Stocks.
- K Blue Gum Planks.
- L Beech & Spotted Gum Planks on end
- M Beech Plank & Forming Table
- N Spotted Gum.
- O Cedar Planks Flitches.
- P Spotted Gum & Mahogany.
- Q Hubs & Spokes.
- R Felloes.
- S Railway Sleepers.
- T Blue Gum Plank.
- U Seeds Bark.
- V Cedar Legs.
- W Shafts.
- X Bark.

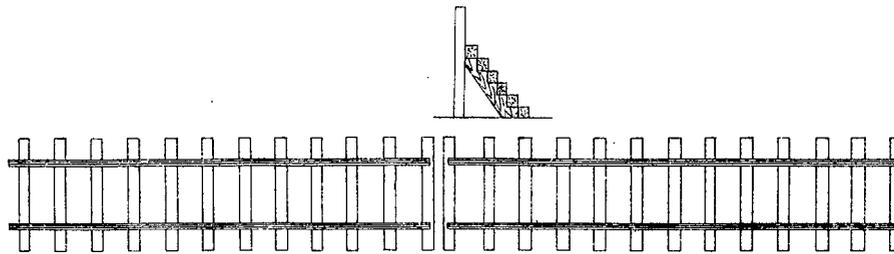


Exhibit of Sleepers and Steel Rails. Transportation.

cranes at Newcastle, for which screen space was required. This court also contained the fire-escape of Dr. Moir, the series of bellows by M'Nab, and the Austin perfect patent washer, as well as the patent grease interceptor of Mr. Griffiths, of Ashfield, and the patent rail switch of M'Creddie. In large and suitable glass-covered cases, on tables specially made, were exhibited the beautiful specimens of typographic electrotypes sent by Mr. Potter, and the specimens of heraldic and commercial embossing and chromolithography of Messrs. Turner and Henderson. To make the court attractive, and to fill up the space, I permitted Mr. Gregor, of Sydney, to erect a band-saw, with which articles of fancy, cut from the timbers obtained from our forestry exhibit, were made daily with the power placed free of cost at our disposal. There was also a stamping-machine, made by the Hoskins Engineering Co., with which medals marked as stamped in the New South Wales court, World's Columbian Exposition, were produced.

Classification.

The arrangement of the Machinery Department included eighty-six classes, collected in the following groups:—

GROUP 200.

69. Motors and apparatus for the generation and transmission of power, hydraulic and pneumatic apparatus.
70. Fire-engines, apparatus, and appliances for extinguishing fire.
71. Machine tools and machines for working metals.
72. Machinery for the manufacture of textile fabrics and clothing.
73. Machines for working wood.
74. Machines and apparatus for type-setting, printing, stamping, embossing, and for making books and paper working.
75. Lithography, zincography, and colour printing.
76. Photo-mechanical and other mechanical processes of illustrating, &c.
77. Miscellaneous hand-tools, machines, and apparatus used in various arts.
78. Machines for working stones, clay, and other minerals.
79. Machines used in the preparation of foods, &c.

The contents of Machinery Hall were the products of the tireless thought, labour, and experiment of millions of men, each having added his mite to the total sum of exact knowledge exhibited in the mechanical wonders which amazed and bewildered every beholder.

The constant demand for great steam power, combined with safety and economy, produced in the group of fifty-two boilers the highest type and perfect arrangement of steam generators. The old cylindrical shell and modern return flue boilers were completely discarded, each of those exhibited and used being of the water-tube type, a type as old as Watt's tea-kettle. Difficulties of construction and the simplicity and cheapness of the shell boiler checked its development and use until changed conditions and improved tools now make it the only type of boiler capable of supplying the power with the safety and cleanliness required by the needs of the Exposition. These boilers, working under a pressure of 125 lb. to the square inch, developed a combined force of from 25,000 to 30,000 horse-power. This great power being divided into some 11,000 tubes in the fifty-two boilers reduced the danger of an explosion to a minimum. This was illustrated by the fact that several of these tubes burst during the course of the Exposition without damage, except to the tubes actually ruptured.

ruptured. The fuel used was oil reinforced in heating power by a jet of steam, the flow being regulated by the simple movement of a valve. The absence of coal, ashes, dust, and customary smudge of the common boiler room permitted the firemen to wear white uniforms, and enabled some of the exhibitors to paint their boiler fronts a lily white. The steam supply operated eighty-three engines, which illustrated the methods of converting steam-power into motion. The great variety and complexity of the mechanism by which this transformation was effected furnished an interesting but perplexing sight, and yet amid all its intricacy the essential parts of each engine were but the more perfect mechanism of the Watts, Stephenson, and Fultons of the past. The cylinder, piston, crosshead, connecting rods and crank, and eccentric were in them all, more beautiful in form, perfect in fit, and effective in operation. The rotary engine, which a few years ago concentrated so much attention from machinists, and by which the more perfect and economical use of steam was to be effected without the use of the parts above mentioned, had no place in Machinery Hall, nor was there any form of engine exhibited in which these parts were absent.

Improvements in Modern Engines.

In Appendix M will be found a detailed statement of these various engines, but in this plan I desire to refer to the leading principles involved in their construction. The most conspicuous, because of its size, was the Allis engine. This machine represented the development of the general horizontal type.

The distinctive lines of the improvement illustrated in the engines exhibited apart from the scientific distribution of metal, combining strength with lightness and beauty of form, together with accuracy of fit and finish, were to be found (1) in the variety of valve motions designed to secure perfect control of the admission and exit of steam into and from the cylinder; (2) the utilisation of the expansive force of steam under high pressure; (3) high speed; (4) economy of space.

The prevailing type of valve was the Corliss, the name given to the 1,000 horse-power engine which furnished power at the Centennial Exposition at Philadelphia and now in use at Pullman. This valve was also used on the 2,000 horse-power engine in Machinery Hall. This valve motion is a combination of four cylindrical valves, one at each end of the upper side of the cylinder for the admission of steam, and one at each end of the lower side for its exit. Perfect and instantaneous regulation of these four valves is obtained by mechanism so complex and costly that machinists are stimulated to seek more simple and cheaper methods, many of which were illustrated in the engines exhibited.

The value of utilising all the expansive force of steam was shown by the fact that the expansion was the prevailing type, and the great Allis engine with its four cylinders showed the highest development. The application of the expansive use of steam was not confined to the stationary engines, but was also the prevailing type of the locomotives exhibited. Nor was its adoption limited to American engines. English, German, French and Belgian exhibits showed the universal recognition of its value. In this, as in the valve motion, the principle is the same yet the methods adopted were quite varied. The Allis engine had its four cylinders set at the four corners of a square, the course of the steam passing through these cylinders forming the letter "Z." Each cylinder increases in size proportionately with the decreasing force of the steam, its expansive force being exhausted in the fourth or low-pressure cylinder. The decreased pressure of the steam in this cylinder is assisted by the vacuum formed by the condensation of the steam

steam in the condenser, operated by a separate engine. Other engines had the cylinders in "tandem," one ahead of the other, some side by side, or one directly over the other.

For economy of space and high speed the vertical or marine type of engine seems destined to succeed the horizontal type. The Edison, Westinghouse, English and German exhibits showed splendid engines of this type.

In the English exhibit the Williams' high speed, central valve, vertical engine greatly attracted the attention of machinists employed by the Exposition Company to erect the various engines exhibited. One of these engines, a triple expansion of 360-horse power, ran the great search-lights, furnished by Schukert & Co., a German firm, on the Manufactures Building. This engine occupied a space of about 8 feet by 8 feet by 6 feet, and ran from 300 to 400 revolutions per minute. One end of the triple crank shaft connected directly with the dynamo. The governor fixed at the other end of the shaft operated a throttle-valve. The steam valves were in the piston-head, and exhausted directly into the air. The small size of the engine and its plain appearance caused it to be overlooked by many, but machinists did well to give it more than a passing glance. In order that the best information on this subject might be provided, I have had prepared a complete account of these engines, which will be found in Appendix as stated at the beginning of this article.

Having now referred to the great engines exhibited in Machinery Hall it will not be inappropriate as a contrast to mention the smallest engine in the building.

This engine, which, together with the boiler, could be covered with the bowl of an ordinary wine-glass, was a high-pressure beam engine, constructed principally of gold and silver, and was composed of over 150 pieces. The diameter of the cylinder was $\frac{1}{16}$ of an inch; length of stroke, $\frac{3}{16}$ of an inch; diameter of flywheel, $\frac{3}{8}$ of an inch. The cylinder, cross-head, and beam were made of gold, and the boiler of silver, in five separate sheets. The screws which held the several parts together were so small that they could scarcely be seen with the naked eye. The engine, boiler, stack, and plate, on which the whole rested, weighed 9 dwt. and 10 gr. (less than $\frac{1}{2}$ oz.)

In the tools used in the construction of the mighty machines just described was shown the same perfected growth which comes alone from patient industry and experiment. The musical dreams of a Mozart, or the artistic inspiration of a Michael Angelo have no parallel in the world of machinery. From the open blacksmith's forge and his simple tools to the furnace, steam-hammer, shears, punch, bulldozer, drop-hammer, and electric welding machines, the progress has been step by step. To-day the smithy has been transformed into a machine shop, and Longfellow's "Village Blacksmith" remains but a pleasant memory of the past. To sever a bar of iron 5 inches square or punch a 3-inch hole in a plate of iron 2 inches thick, when highly heated, was something of a job for a blacksmith and his helper. Some of the machines exhibited did this with cold iron as if it were so much cheese. From heavy connections for engines and other heavy machinery to the most delicate parts of the sewing-machine, a range of forging that would test the skill of the best blacksmith is now done with great rapidity and perfection by the drop forge. A fine exhibit of this work was shown by J. H. Williams in the model machine shop in Machinery Hall, and by the United States in the Government Building.

Another attack on the ancient blacksmith by the machinist and electrician was exhibited in the electric welding machines of the Thompson Electric Welding Co., in the Electricity Building. The principle

principle involved is that of causing currents of electricity to pass through the abutting ends of pieces of metal which are to be welded, thereby generating heat at the point of contact. The scope of this welding process is almost unlimited, passing entirely beyond the range of forge or furnace. The link of the lady's smallest watch-chain, or the anchor chain of a man-of-war can be welded with equal facility. Railroad frogs, crossings, or rail joints can be welded solid, or the boiler head of a locomotive can be sealed by this magic force.

The planers exhibited ranged from the small machine worked by hand to the giant of 30 foot bed and 12 foot all round clearances. The improvements secured increased accuracy and scope of work, with care and quickness of manipulation. A screw set at an angle of 30 degrees to the run of the bed was substituted for the rack and pinion. A friction clutch took the place of shifting-belts for reversing. The cross-head was raised or lowered by power, and all motions could be controlled from either side of the machine. On the giant in the Niles exhibit six tool heads were operated at once, covering the face, sides, and portions of the under sides of the work.

Lathes are being perfected on similar lines. The speed from cone to back gear can be changed instantly by a friction clutch between the cone and large gear. The tool can be raised or lowered by the double wedge rest. Micrometer attachments on the slide rest and tail block made the finest adjustment of cut practicable. Hollow lathe spindle and tapering attachments were the rule. One lathe had its set of screw-cutting gears fixed in a box in front of the lathe head, and with one change of gear on spindle and intermediate all the ordinary threads might be cut by the simple movement of a lever.

The milling machine, if not already so, bids fair to become the most valuable tool in the machine-shop, with the perfection attained in the manufacture of cutters. Its scope and power are wonderful. Hillis and Jones exhibited a vertical machine fitted with a compound slide rest and chuck in one, capable of doing all kinds of heavy machine or engine work. In addition to standard machines, Pratt and Whitney exhibited many specimens of milled work which illustrated the power and scope of these machines. One was part of a lathe bed 20 inches wide, with two ways for slide rest and tail block all finished, including the in and outside edges at one operation, the feed being one and one half inches per minute. The work moves with the run of the cutter instead of (as usual) against it. Milling machine-cutters, shown by Brown and Sharpe, Pratt and Whitney, and T. E. Reinecker, of Chemnitz, Germany, were among the most beautiful products of the machine-shop. Browne and Sharpe's representatives refused to explain the method of getting clearance on the teeth of their curved and spiral cutters, while Reinecker, the German machinist, showed the special tools made for that purpose in operation. The cutters after being turned and grooved are put in the lathe and made to revolve slowly. The lathe tool, which is operated by a cam underneath the slide rest, moves slowly in, taking the cut just back of the edge of each tooth, and moves out again rapidly to escape the face of the next tooth. The speed of the cam is regulated by suitable gearing.

The machines exhibited for drilling, boring, and tapping covered the whole field of this class of work, automatic movements, rapidity, and ease of adjustment being the lines of improvement.

A machine exhibited by Pratt and Whitney had a capacity of 2,500 globe valves bored and tapped in a day. The specimens of work exhibited showed that these machines had been brought to great perfection. The two and three cutter heads in common use have been discarded, and for all work under 6 inches the four-cutter head is used. For work of larger diameter more cutters are used, but always an

an even number. Powerful lead screws, the same pitch as the thread to be cut, feed the work into the cutters, which produce square and "V" thread screws for machine, "jack," vice, and bridge purposes, fully equal to the work so slowly done in the lathe.

The Acme Machine Co. exhibited a screw made of machinery steel, 26 inches long, $1\frac{1}{4}$ inch diameter, $\frac{3}{4}$ core, two threads to the inch, finished at one cut.

A non-breakable bolt machine was exhibited. The feature of this machine was a safety block, so fixed as to resist the force employed to forge the bolts, but whenever the machine becomes jammed from any cause the block is moved by the extra strain, thus preventing the slipping off of the belt or breaking the machine.

Among the nut-tapping machines was one rated at a speed of 30,000 $\frac{1}{4}$ -inch nuts per day. Its operation was entirely automatic.

The chain saw mortiser, exhibited by the Dubuque S. Speciality Machine Works, of Dubuque, Iowa, appeared to me to be one of very great utility. The machine has only been introduced to the wood-working trade during the last two years, and is stated to be the means of supplying a long felt want in the trade. It is intended to supplant the old style chisel or power mortiser. In stock work it is stated that the machine has great advantages over any other, and works much more accurately and rapidly. For blind mortising it is an excellent tool, as mortises of any depth to 6 inches can be made with it, and is always free from dust and chips. Its range is greater than that of any other machine, being adapted for all sizes of mortise from $\frac{1}{4}$ inch to 1 inch, and from an inch and a half in length upward. The proprietors state that some of its advantages are that:—

It mortises faster than other mortisers. In hard woods it will mortise from four to six times faster. Its work is always accurate. No boring is required in making a mortise in any wood, either hard or soft. No chips or shavings are left in the mortise to be removed, but the mortise is always clear of chips. No reversing of stock is required to make a thorough mortise, up to 6 inches. It makes blind mortises as easily as through mortises, and always leaves them clear of chips. A smooth-running machine, it requires no extra bracing of floors. Gives relief from the annoying jar of chisel machines. In yellow pine and cypress the machine is of special value, as the gum has no evil effect. By an arrangement of stops in stock doorwork, all mortises in a stile can be made with five movements of the table, and with no laying out of stile.

Beaman and Smith exhibited a safety drill and tap holder, constructed on the principle of the common union coupling used in gas and steam fitting. The male part is made with a taper shank to fit lathe or machine; its face was recessed, and a ring of vulcanized fibre inserted. A similar ring is fitted into the coupling-nut; the union is made as a socket for drill or tap.

One of the most novel and interesting exhibits were the machines of the Morton Manufacturing Co., of Muskegon Heights, Mich. To chip and file a key-seat, or fit a key with the file, is a slow, laborious, and unsatisfactory job for most machinists. The Morton machines dispense with these methods. The tool-bar was a square steel of any length, moved with rack and pinion, set perpendicularly, and marked from above or below, the machine being fixed or portable. A keyway, 3 inches wide, $1\frac{1}{2}$ inches deep, and 35 inches through the hub, has been cut by this machine in thirty-seven minutes. The tool takes the full width of the keyway at each cut, cast-iron shavings being exhibited $3\frac{1}{4}$ inches wide. The reverse motion, feed, chucks, and other adjustments were in keeping with the extraordinary effectiveness of these machines.

The

The exhibit of taps, dies, reamers, punches, gauges, scales, micrometers, and fine tools of all kinds was great beyond description. The subdivision of labour and the duplication of parts of machines has made accuracy of size and fit such a necessity that the microscope has been called into use to enable the machinist to read the measurement of standard tools. A measuring machine was exhibited by Brown and Sharp, with microscopic attachment, by which the 100,000th part of an inch could be measured.

The exhibits of Great Britain and of France, as a whole, were quite unworthy of those countries; what were shown, although good, were not at all representative. Canada's exhibit was better than I expected to find it, although not to be compared with the exhibits of America or Germany. This latter country was well represented, and I have elsewhere referred to several of its exhibits, especially to that of Krupp, who, in Machinery Hall, represented samples of mining machinery, powerful ore crushers and grinders, also improved assaying machinery.

A very interesting exhibit was made by a Berlin firm, which constructs machines for the manufacture of safety-matches and match-boxes. These matches can only be ignited on the surface of the box they are packed in. Both box and match are prepared with a certain chemical substance. The manufacture of the matches and boxes was shown here in a practical manner. One person can work a single machine, and in Germany this is done mostly by girls. The process for the manufacture of the boxes is started by a machine which does the shaving of a block of wood (cottonwood) into very thin sheets; then another machine does the cutting, folding, and labelling of the 36,000 boxes per day. Two peeling machines can cut 24,000,000 matches out of prepared blocks of wood per day. The dipping process—placing the chemical preparation on one end of the match—is also done by a very ingenious contrivance, whereby 2,200 matches are dipped. To prevent the matches sticking together they are placed in a frame with a holder for each one. Thus the process is facilitated, and one operator can dip almost 2,000,000 matches per day. Although poplar and cottonwood are used chiefly in Germany, the process at the exhibit was demonstrated with willow. Another interesting feature of the process of the manufacture of matches was the filling of the boxes. With the aid of automatic machines, a girl can fill 1,800 boxes per hour.

Another part of the German machinery exhibit was represented by kneading and mixing machines—machinery for the manufacture and working of paper by combined rolling and friction calenders, with from ten to twelve rollers 90 inches on surface, and a downward pressure of 50 tons on each end of the journals, these mammoth calenders being driven by two twin engines.

The electrotyping process for rotating printing presses was demonstrated by an Augsburg firm. Prominent German illustrated papers, such as the *Fleigende Blaetter* and *Leipziger Illustrirte Zeitung*, &c., use electrotypes for their rotating presses instead of stereotypes. The single and double page ruling machines, exhibited by a firm from Leipzig, were of interest to the representatives of the book-binding trade and to manufacturers of stationery goods.

The Austrian exhibits were very limited. The principal exhibit Austria made was that of Emil Ritter von Skoda, of Pilsen. Some remarkably fine open hearth steel castings and rapid firing guns were displayed by Mr. Skoda. A propeller screw, for the North German Lloyd steamship "Spree," was 22 feet in diameter, and weighed 25 tons. Several very large gears and a number of pinions, locomotive and car-wheel centres, car-wheels, air chamber for a pump, cylinder-head,

head, crank shaft, shrinkings, and miscellaneous castings, formed the balance of the cast-steel exhibit. Tests of steel from Mr. Skoda's foundry withstood projectiles discharged from the most powerful guns, and the Austrian Government is now using it for armour plates. The Siemens-Martin process is used, and the product is free from flaws or "blow holes." Tensile strength of the Skoda castings ranges from 60,000 to 100,000 lb. per square inch, with an elongation of 20 to 35 per cent., and a reduction of the area at fracture of 40 per cent., according to hardness and softness. What material such steel is for marine and for bridge work, where dead load is a too important factor, and in many other departments of engineering construction, where lightness, strength, longevity, or maintenance are of moment, and forgings too expensive to use. Small samples of cast-steel bent at right angles, and one doubled on itself, did not show visible fracture. Although the subject of ordnance is referred to under "Transportation," I may refer here to the Skoda rapid-firing guns, which attracted fully as much attention as the big propeller screw. The trio was 47 m.m., 37 m.m., and 8 m.m., in diameter. The latter, the mitrailleuse, automatically discharges itself when set in operation, by taking advantage of the recoil at a speed of 350 to 500 shots per minute. The other guns can be readily fired twenty-five times per minute.

To the military engineer these guns were very interesting, on account of the simplicity of their mechanism. The breech-lock contained only five parts. Another very important feature was the electric sight points, and in practice an entirely new one. Both sights in darkness are very distinct, enabling a gunner to aim as well at night as during daylight. According to official reports by the war departments of Austria-Hungary, in a test for ascertaining the longevity of the mitrailleuse, 30,000 rounds were continuously fired without exhibiting any deterioration of any of the parts, though, of course, theoretically there must have been some, especially in the barrel. It has been given severe trials in hot, cold, rainy, and dusty weather, and worked equally well under all conditions.

Printing Machines.

The display of printing presses at the World's Columbian Exposition was large and representative, comprising, as it did, not only the most recent advances but also the interesting relics of the mode of printing adopted many years ago. Immediately opposite our court was the exhibit of R. Hoe & Co., with two presses (in full operation) of the style known as the quadruple stereotype printing machine. The following description from the *Chicago Herald* by an expert (Geo. E. Smith) is interesting:—

This press prints and delivers folded four, six, or eight page papers at the running speed of 48,000 per hour; ten, twelve, fourteen, or sixteen page papers at the rate of 24,000 per hour, and twenty or twenty-four page papers at the rate of 12,000 per hour. It has the appearance of being a very intricate and complex piece of mechanism, yet a skilful pressman operates it with ease. There are many different sizes and varieties of these machines made, and they can now be seen running in nearly all the large cities of this country, as well as in Great Britain and her colonies. Their special features are speed, simplicity, durability, and completeness.

The latest achievement of the Hoe Company is the "sextuple" stereotype perfecting press, a monster machine of double the capacity of the "quadruple." A working brass model of this press, manufactured at the special request of the United States Government for its Patent Office exhibit, can be seen in the Government Building at the Exposition. The full-sized press costs a fortune, and there are only two of them in operation. Each press is composed of over 16,000 pieces, weighing together 130,000 lb. Its total length is 26 feet and 3 inches; width, 18 feet; height, 12 feet. It prints on both sides of three continuous webs of paper, supplied from three separate rolls, splits the web longitudinally, associates the narrow webs in one of several groups, severs the webs collected transversely into sheet lengths, unites the sheets together by pasting, folds them, and delivers a perfect newspaper composed of many sheets bound together, cut open at the head and counted. And the speed with which all this is done is

marvellous.

marvellous. Papers of from four to six pages are turned out at the rate of 96,000 per hour; eight-page papers, 72,000 per hour; ten or twelve page papers, 48,000 per hour; sixteen-page papers, 36,000 per hour; fourteen, twenty, or twenty-four page papers, at 24,000 per hour.

Passing on to the exhibit of the Goss Printing Press Company, an opportunity was afforded of studying three specimens of the presses patented and manufactured by that Company. The improved Goss newspaper perfecting press, with folder, prints papers of from four to eight pages, the width of which may be six, seven, or eight columns, and has a capacity of 10,000 papers per hour. Then there was the improved Goss book press, especially adapted for catalogue, novel, or pamphlet work, printing from a continuous roll of web, delivering the sheets folded in signatures of eight, sixteen, thirty-two, or sixty-four pages at a speed of from 4,000 to 16,000 per hour. This press, built on solid foundations, requires small space, and is easily managed. All the cylinders being very heavy, and having large solid journals, the machine is held rigid and firm, insuring a perfect and even impression. There are no grippers, and a perfect register is thereby insured. Every part of the press is accessible to the operator from the floor on which it stands, and while a high rate of speed is attained, the action is always easy and noiseless, and the quality of the work uniform. The object aimed at by the makers and patentees, the Goss Brothers (who have been practical printers for twenty years), has been to produce a simple, strong, and reliable machine, which can be worked with the greatest economy, and at the same time possesses every good feature that practical experience has shown to be valuable. But the principal feature of the Goss Brothers' exhibit is their straight-line press and folder, which has no angle bars, collector or tapes. It prints from four to sixteen pages, inclusive, and at a speed of 24,000 per hour. Its notable points are simplicity, durability, and ease of action, and its manufacturers claim that it can be operated at less expense than any other press of the kind. Its additional merits are perfect distribution and fine finish.

The next exhibit was that of the Potter Printing Press Company, whose quarto and folio web printing and folding machine has acquired great popularity since it was first introduced to the trade. This press takes paper from a roll, prints from stereotype plates, and cuts and pastes and folds as many as may be desired at the rate of from 10,000 to 12,000 per hour of eight-page papers, or 24,000 per hour of four-page papers. Among the many features which conduce to its popularity and success may be mentioned its compactness, simplicity, durability, maximum of result from minimum of time and labour, and absolute certainty of delivery and freedom from clogging. This last result is secured by using the smallest number of tapes, and by having the sheet under positive control at all times, so that it cannot stray from its course or choke the folder. In this machine the number of columns is fixed, but their lengths may be changed at will. The special features in which superiority is claimed for the Potter press are the character of work produced, economy of production, and the simplicity of the machinery. Its capacity can be doubled at any time by the use of a supplementary printing attachment, which enables it to produce the work of two machines. It was on this press that the *Daily Columbian*—that unique publication made up of the initial pages of the leading dailies—was printed, and the appearance of this beautiful paper spoke volumes for the character of the work done on the Potter. But a still better illustration of the excellence of the work turned out by this press is *The Chicago Herald* itself, which is conceded to be the handsomest daily paper in the United States. *The Herald* is printed entirely on the Potter press, its press-rooms being equipped with ten of these superior machines, and arrangements have recently been made, owing to the rapid growth of *The Herald's* circulation, to double the capacity of these machines.

The exhibit of Walter Scott & Co. included eight presses and a number of other devices belonging to the printing trade, the entire collection representing a value of not less than \$60,000. Press No. 1 in this exhibit was a rotary plate-printing, inseting, pasting, cutting, folding, and counting machine. It will work a different number of pages, inseting, pasting, cutting, and folding them in book form, and counting the copies in packs of fifty at a speed of 28,000 per hour—a greater speed than ever before attained by the use of two sets of plates on such a machine. No. 2 is a rotary plate-printing, cutting, pasting, and folding machine, which will work newspapers of four and eight pages, of six, seven, and eight columns, delivering them folded to a quarter-page size at a speed of 12,000 per hour. The columns are placed around the cylinder so as to work a different number or width of columns to the page. The third was a lithographic stop-cylinder machine, constructed with a view to efficiency, durability, and simplicity. The stone is adjustable in the bed-box in all directions, and the cylinder starting and stopping device is positive in its action, capable of working at great speed without jar or noise. A perfect register is ensured at all times. The sheets are delivered direct from the delivery-cylinder to the fly, and the fly-fingers are each mounted with steel star-wheels to prevent smut. Press No. 4 was a flat-bed perfecting, with table and roll-feed. It was constructed similar to the two-revolution press, but had two impression-cylinders and two sets of inking devices—one set for each form. The bed movement is new, dispensing with the universal joint so long in use, and gives a uniform motion, which ensures a perfect register. Automatic means are provided for preventing offset, allowing very fine printing to be done without inconvenience. No. 5 is a two-revolution four-roller press, with table and cam distribution and front delivery, very strongly built, and provided with the new bed motion and various other improvements. Air-cushioning cylinders with adjustable heads are used to assist in reversing the bed. The impression can be thrown off at the will of the
feeder

feeder without stopping the machine. No. 6 was a two-revolution two-roller press, constructed on a plan similar to No. 5. The next was a single large cylinder book and job press, with table, rack, and screw distribution and back delivery. The cylinder is geared to the bed during the impression, and the bed is unyielding. In addition to the various other improvements, it is fitted with a new safety gripper device to prevent accident, should the gripper be left in the wrong position. No. 8 was a two-revolution pony press, especially adapted for stationery, railroad, insurance, and job printing.

Next was an exhibit of lithographic presses, manufactured by the Potter Printing Press Company. These presses were among the first introduced in this country, and have been improved from time to time, until to-day there is probably no more popular machine than Potter's patent lithographic cylinder press. It was equipped with heavy side-frames, girders, ribs, bed-plate, &c., which, when bolted together, form a super-structure that so immovably sustains every working part of the machine that absolute precision of movement is assured. The cylinder was rigidly held in position at perfect rest until the bed begins its return movement, affording ample time for the deliberate feeding of the sheet to the guides and for closing the grippers. The patent feed-guide tongues were located in the cylinder-opening, a marked improvement on the common plan of attaching them to the underside of the feed-board. This admirable arrangement has a twofold office—the first being to support the sheet as it is seized by the impression-cylinder grippers without wrinkling it; the second to prevent the possibility of the thin paper curling away from the delivery-cylinder grippers. The stone-bed is provided with vertical bolts properly located, by which stones of various thickness may be readily adjusted and accurately levelled. An automatic system, put in operation by moving a single lever, causes two or three rollers to be given to each impression, while by a trip-at-will the impression-cylinder is under the control of the feeder at all times. Fine specimens of the work done upon this press were on exhibition.

Passing on to the display of McIndoe Brothers, of Boston, Mass., there was something interesting in the shape of a cylinder job-press. The inventors and manufacturers having had a practical experience of a quarter of a century in the printing business, devoted to the finest quality of work, saw the necessity of a better and more powerful job-press for producing fine work, combined with high speed, if necessary, for the ordinary grades; in fact a press capable of turning out all classes of woodcut or commercial printing, at any range of speed, according to the ability of the operator. The result of their undertaking in this direction is the McIndoe press, a new machine for fine printing with a speed of 2,500 per hour, and a weight of 4,000 lb. Perfection is claimed for it in the three important features of speed, solidity of impression, and distribution of ink. The frame is made of one solid piece of iron, no bolts or screws being used, and contains all the mechanism of the machine. The great advantage of this form of construction is that every part of its mechanism will be in line even if the machine should be placed out of level. The press has a swinging tooth attached to the rack, the pitch of which is raised above that of the driving rack, and within that of the cylinder gear. At the beginning of the stroke it swings up and engages with the roll, to which it is as firmly held as if it were cast in position. The forward movement of the bed brings the tooth of the cylinder gear and rack into mesh. As soon as the first tooth of the cylinder gear engages with the rack the swinging tooth drops down level with the surface of the rack, where it remains until it is returned to the first position, when the operation is repeated. The running gears are made after the pattern of the stop-cylinder form of construction, which is claimed to be the best for the finest quality of work. The rolling gear is placed above the centre line of the large driving gear, to ensure as perfect and even motion to the bed as is possible with a direct rotary connection. The bed, which is extra thick and heavily ribbed, passes over four wide rolls at the contact of impression. The connecting-rod, which transmits the motion from the driving gear to the bed, takes the strain by compression during the moment of impression, instead of a tensile strain, so common in other machines of a similar movement, thereby making it as rigid as possible. The cylinder is very heavy, and is shrunk on the solid steel shaft before the printing surface is turned, while the ink-plate is a simple yet valuable device for distributing ink without the aid of angle rollers, and the feeding device is no less clever.

The Campbell Printing Press and Manufacturing Company made a display of four presses, introducing the "Economic," the "New Movement," and other specialties. The "Economic" is an improved two-revolution press, in which the bed-driving mechanism is direct, with no multiplying gears to develop lost motion and consequent loss of register. The most defective feature of the two-revolution press has always been its liability to loss of register, but this difficulty, it is claimed, has been entirely overcome in the "Economic" by the continuous register rack, which gears bed and cylinder together throughout the whole printing stroke. The press is fitted with quadruple air springs, non-breakable gripper motion, and all the modern improvements. The "New Movement" is a pony press with a record for colour work and accurate register. It delivers without tapes, clean side to the fly, and will fly a sheet with as small a margin as one-sixteenth of an inch. It has both table and screw distribution, and its bed and cylinder are especially accessible. The Campbell hand cylinder country press, designed especially for use in country offices, is also to be seen here.

An interesting feature of the Campbell Company's exhibit was a relic a century and a half ago—the first printing press in New Hampshire. This antiquated object, which is about as destitute of machinery as a clothes-horse, is of the most primitive pattern, having been built by Thomas Draper, Boston, Mass., in 1742, and purchased by Daniel

Daniel Fowle on Oct. 7, 1756. It was afterwards owned by John Melcher, the first state printer of New Hampshire; later by Frank W. Miller, of Portsmouth, N.H., and now by the Campbell concern. The old-fashioned ink-balls and all the old type that was used with the press in its early days have been preserved, and during the progress of the Exposition they have been used in printing slips on the old press for distribution to visitors. Over 230,000 of these slips had been given away up to Sept. 15. They contain the following:—

“Printed on a press 151 years old by Campbell Printing Press and Manufacturing Company. World’s Fair, Chicago, September 15, 1893.

Once I was young and spry as any of my name;

Now I am old and slow, but I get there just the same.”

A press manufactured to meet a special demand was the Cox Duplex, exhibited by the Duplex Printing Press Company, of Battle Creek, Mich. It has a flat-bed, type-perfecting machine, built for daily newspapers of 2,000 to 10,000 circulation, and for weeklies and monthlies of large circulation, the design being a saving of expenses, time, and trouble. It had an easy running speed of 4,000 to 5,000 complete papers per hour of any size from four to eight pages, and the expense and annoyance of stereotyping are obviated. In this respect it accomplishes what has long been desired. The secret of speed in the Duplex is not in rapid running of the machine, but in the fact that two impressions on the opposite sides of the sheet are simultaneously printed on two beds, and that the impressions are taken with both the forward and backward movement of the cylinders, which have a travel of only thirty-six inches in the largest-sized presses.

Nine specimens of the improved “Universal” printing presses, invented and manufactured by M. Gally, of New York, constituted the next exhibit. These were job presses of more than usual weight, strength, and durability, fitted with improved distribution, improved bridge blocks, improved changers, and the least possible liability to breakage in all parts. They are adapted to all kinds of work, from the lightest card work to the heaviest embossing and wood printing. One of the styles (No. 3) is especially intended for printing on any thickness of board, inlaying book-covers, hot or cold stamping or embossing, and the finest and heaviest classes of cut and solid tint printing, including half-tone engravings. Style No. 4 is built only for very heavy embossing and book-cover stamping, and has no inking apparatus whatever.

The “Optimus” and other presses manufactured by the Babcock Printing Press Manufacturing Company attracted considerable attention. The “Optimus” is a two-revolution typographic machine, which delivers printed side up without touching the printed surface. Its patented improvements are a safety gripper mechanism which registers accurately, an air valve for removing the spring when desired, adjustable piston head, roller or journal bearings, reversing mechanism, positive spiral slider mechanism, front delivery, impression trip, cylinder-lifting mechanism and knuckle joint. It is claimed for it that it does excellent cut and colour work, delivers heavy cuts without smut or off-set, wears well at high speed, and has an admirable delivery.

C. B. Cottrell and Sons made a display of six machines, including the most recent and important improvements in the printing press design, and marking clearly the progress of all styles of impression printing. Presses Nos. 1, 2, and 3 are different types of the two-revolution press, combining strength, durability, simplicity, speed, and convenience of handling. They are extensively used for printing books, magazines, newspapers, and illustrated catalogues, and are especially adapted to the printing of half-tone engravings. Among the patented improvements peculiar to these presses may be mentioned air-springs, with patent piston and vacuum valve; patent governor attachment for putting on and throwing off the spring, controlling it automatically; patent attachment for controlling the momentum of the cylinder, insuring perfect register and speed; patent trip-at-will for throwing off the impression if a sheet is missed or not properly fed; patent hinge roller frame by which the form rollers can be instantly uncovered for removal without unscrewing the sockets; patent sheet delivery, with adjustable skeleton delivery cylinder, the wheels of which are set into the margins to prevent smutting; patent power backing-up motion, by which the feeder can back up his press for the grippers to take a sheet without leaving the platform; patent geared sliders, by which unity of movement is secured between the bed and sliders protecting the rollers from undue wear. Press No. 4 is a flat-bed perfecting press, which prints on both sides of the sheet while going through the machine once. It is built on the two-revolution principle, having two cylinders and two beds, and embodies all the improvements of the two-revolution press, besides many others. One of these is a patent automatically shifting tympan, which supplies the second impression cylinder with an entirely new and clean tympan at regular intervals while the press is running at full speed. This effectually prevents offset, and enables the press to print cut work on supersized and calendered paper. Press No. 5 is a stop-cylinder printing press, in which the bed is driven by a crank motion, and the cylinder derives its motion by being geared directly to the bed while printing. It is supplied with six $3\frac{1}{2}$ -inch rollers, which cover a full form, and is equipped with the various patent devices described above. It is very strong and simple, and is capable of working the very heaviest forms of the finest illustrated work. Then there is a machine called the country press, designed to supply the needs of country printing offices. Its strength and rigidity, together with the air springs, permit of high speed, and the appliances for the convenient handling of the press, together with its extreme simplicity, are especially adapted to offices where skilled labour is not always obtainable.

When

When you reach the exhibit of the Miehle Printing Press and Manufacturing Company you find an improved two-revolution machine that is described by its exhibitors as possessing a perfect, swift, noiseless, and everlasting bed motion. Seven or eight years ago its inventor, Robert Miehle, was a pressman in the employ of Poole Brothers, railway printers, of this city. He began experimenting to satisfy himself as to the causes which produced the intermittent movement of the bed in the Napier press he was at work on, and while doing this conceived the idea which, completed, has made him famous. Strange as it may seem, it devolved on a practical pressman to teach printers and mechanics how a type bed should run in unison with a moving cylindrical surface. Miehle accomplished this by using a large, straight, actuated gear wheel and double rack fixed to the bed, one line of the teeth being above, the other below. The gear wheel moves from the line above to the line below, alternately driving the bed forward and backward. On the gear wheel is a large roller which, after each stroke is completed, falls behind a straight cam, or slide, the toothed wheel rolls off the rack, and the type bed is then actuated by a veritable crank motion, which graduates its speed, carries it over its centre, accelerates it again and drops it into mesh with the lower rack to give the bed its next movement. This most ingenious device places Mr. Miehle, a young Chicago pressman, among the distinguished inventors as the creator of a new mechanical movement. But aside from the bed movement Mr. Miehle has carried his practical knowledge as a pressman into every detail of the machine. Thus the manipulator of the press will find himself getting at his form rollers without soiling his hands or seeking the aid of his feed boy; he will find his angle rollers distributing his ink as evenly and as cleanly as the form rollers; and he will find the feed guides, sheet delivery, everything, in fact, arranged with the view of aiding the pressman in the rapid production of work. There are twenty of these presses in operation in Chicago offices alone.

One of the exhibits that seemed to have an attraction for printers was that of Golding & Co., of Boston. It consisted of five Golding jobbers, three pearl presses, and a heavy embossing machine. The Golding jobber is constructed on a plan that affords great strength and durability and ensures perfect alignment of parts. The impression shafts are of crucible steel, as are also the side-arms and pinions, while hardened steel studs are supplied on parts subject to the greatest wear. By a patented arrangement a continuous rotary movement without cams or slides is obtained, giving a period of rest for feeding, a dwell on the impression, and a quick return. The maximum speed of the eighth is 3,200 per hour; of the quarto, 2,500; of the half medium, 2,000; and of the half super-royal, 1,800. The ink is supplied by the automatic brayer fountain, the operation of which is simple and accurate, all classes of work coming within its range. The Pearl press is a well-built little machine, and seems to have become a favourite with printers of specialties like druggists' labels and envelopes, or any kind of work that calls for great speed. The larger sizes are capable of doing nearly all the work that could be put on a 10 by 15 inch quarto medium. By means of a duplex fountain and a reversible disk movement a perfectly even colour can be carried. Any speed is attainable within the ability of the feeder.

Colt's Armory Printing and Embossing Company, of Hartford, Conn., exhibited four jobbers and three embossing presses. These machines, it is claimed, combine all the best features of other presses of that kind, with many new devices owned exclusively by this company, insuring finer work than any of the older styles.

The North Press Company had on exhibition its eighth-medium web-feeding press, which prints from one to four colours at each impression, and will make 5,000 impressions per hour. The press will make, if desired, one, two, or three cuts to each impression without the removal or addition of a single part or appliance.

The Linotype, as one of the latest representations of the advances in type-composing machines, attracted considerable attention. By this machine it was stated that all previous records of rapid and perfect typesetting were eclipsed—one operator being able to set 400,000 ems in one week, or over 8,500 per hour. The Linotypes were produced instantly and ready for use on the press by fingering keys, very like those of an ordinary type-writer, the keys serving temporarily the purpose of collecting in line metal matrices bearing individual letters, against which the slugs or linotypes were cast in metal type. The machine produced finished printed matter of the highest quality, and permitted the face or style of type to be changed at pleasure. The operator could read and correct the matter as he proceeded, thus avoiding the usual errors in correcting. The art of working the machine could be acquired in a very short time.

The only printing press from Germany came from the largest manufactory in that country; it was the "Maschinenfabrik Augsburg," of Augsburg, Germany. It consisted of two presses, one being a large rotary for the printing of high-class illustrated work, capable of 12,000 impressions per hour. It will print sixteen pages at a time, folded or unfolded, and on both sides of the sheet. The arrangement for ink distribution

distribution is among the strong points of the machine, and the offset paper roll, for the protection of the printed sheet from smut, is a perfect guard, which does not need to be renewed oftener than twice a year. All parts of the press are easily accessible, and the specimens of fine illustrations turned out by it are veritable works of art. The other press is a flat bed, for printing in two colours, and this also turns out a class of work that shows the remarkable degree of perfection that has been reached by the Augsburg Company in the manufacture of printing machinery. The press is simple in its construction, and yet shows ingenuity of invention in the adjustment of its parts and the methods employed to produce the best results at the least expense and trouble. The manufacturers of these presses at Augsburg, Germany, employ 2,000 workmen, and have sold more than 4,000 of their machines.

Machine Shop.

In the model machine-shop, south of Machinery Hall, and forming a continuation of the boiler-house, were to be seen all the ordinary machine tools, such as would be found in a well equipped machine-shop of the present day performing the usual operations of such an establishment. It was most interesting to enter this building and see iron and steel, as well as soft metals, turned and planed like wood and cut and punched like so much paper. Of the American exhibitors, several of the leading firms showed excellent appliances. The Hillis & Jones Co., of Wilmington, had a fine display of boiler, locomotive, and bridge shop tools with punches and shears of good design. A plate-edged planing-machine, of recent type, for planing the edges of boiler, ship, and bridge plates, of massive design, and well adapted to boiler-shop work was a conspicuous exhibit. A punching and shearing machine for plate work was especially adapted for boiler-makers' and ship-builders' requirements. For flattening ship and bridge plates, with six rolls only instead of seven as in the ordinary type, the plate-straightening machine exhibited, as recently patented, appeared a most useful machine.

Painting Machines.

The requirements of the vast structures of the Exposition necessitated the invention of some contrivance by means of which the painting and calcosining of the walls might be performed efficaciously, cheaply, and rapidly. For this purpose a peculiar machine was employed, on the principle of the atomizer or spray. A large tank containing the liquid calcosine or paint had two lines of hose connected with it. A five-horse power electric or steam motor was made to pump in air until an internal pressure of 20 lb. or more to the square inch was indicated. Two workmen then took up the nozzles attached to the far ends of the hose and sprayed the colour on the wall or ceiling. Fourteen of these painting machines were employed in the great buildings, each of which required the services of three men, but painted as rapidly as twenty painters with hand brushes. A single machine, working eight hours, I was informed, painted as much as 30,000 square feet.

Milling Machinery.

At the north-west corner of Machinery Hall there was a collection of milling machinery which was characterized by two points. First, the collection of superior American machinery of this class, and next the conspicuous substitution effected in later years of roller mills for the burr mill-stones as well as the greater improvement in flour-dressing machinery. Rolls of noiseless roller mills, the workmanship of which was excellent, at once attracted attention, the castings were clean, the lines clear, the finish of the machine work was fine, and the polish of the chilled steel rollers was perfect. There was a splendid collection

collection of flour dressers with centrifugal reels, purifiers, and dust collectors, wheat steamer flour and bran packers, one of the latter of which could pack 100 lb. of bran into a space 44 in. by 40 in. in one minute. The centre of attraction, was, however, the plan-sifter, the latest invented bolting machine, having a gyrating motion, the smoothness of which was a wonder and a surprise to all interested in flour-dressing machinery. A noteworthy feature of the whole exhibit was the absence of noisy bevel gear and counter shafts, owing to the introduction of the link belt here and the endless leather belting. In the same group were a series of crushing, grinding, and attrition mills for pulverising the hardest of materials, of which the design and workmanship were good, and the proportions of the heavy mills appeared consistent with the work for which they were designed. An interesting exhibit also was an automatic grain weigher, with scales and elevator complete.

In the French section there was a complete exhibit of eight mills, with their accessories, practically illustrating Schweitzer's Rational System of flour mills. Although rather adapted to use in farming, it recommended itself to the miller by the results obtained, although the workmanship was scarcely first-class. The production of millstones is pre-eminently a French industry, and the Department of Seine et Marne exhibited a dozen millstones, not made as formerly, but of burrs extending from eye to skirt, and through the whole thickness of the stone, and hooped with four iron bands. The eye was of the usual diameter, 12 inches. The stones ranged from 54 inches to 18 inches in diameter, and from 48 inches downward. They were composed of one solid stone taken from the largest quarries in France, and the dressing is clean and good.

In the Machinery Hall there was a series of roller mills from Brunswick, Germany, plansifters and purifiers, which for design, workmanship, and finish were quite equal to the best American. Adjoining this was an exhibit from Dresden of a "Dustless Reformed Purifier," the name of which properly designated its purpose. It was a pretty little machine, well made, simple in its details, and up to the present time 1,100 of them have been sold in London alone. I was informed that the inventor proposes to have these machines manufactured in America, in order to avoid the exorbitant import duties now in force, which are quite prohibitive as far as the importation of these machines into the American market is concerned.

Spain had an exhibit of a machine for crushing and separating nuts, as well as mills and models for the production of pastes, vermicelli, chocolate, &c.

Amongst the exhibits of Switzerland silk bolting cloth—the one great factor in flour-dressing machinery—was exhibited.

Great Britain showed six millstones for rice grinding, quarried from Derbyshire Peak, nicely dressed by machinery, which were destined for the large rice mill at New Orleans, in Savannah.

There were three other cloth-cutting machines—the Weyburn, the Phillipsohn and Leschziner, and the Fenno. The two last-mentioned were of the same pattern and same method of working, and supplant hand labour in about the same proportion. The Weyburn has an arbor of piping overhead, is very much more clumsy and complicated than the Caldwell, though it runs by electricity; it also has a circular knife. The Fenno has a single bar over the table, a double arm. The operator moves the cutter within prescribed limits, and slides the cloth from time to time within those limits.

The German edition of the Fenno machine was of stouter build, had no bar over the table nor framework above it, but stood beside the table, the double arm being high enough to allow the operator to
pass

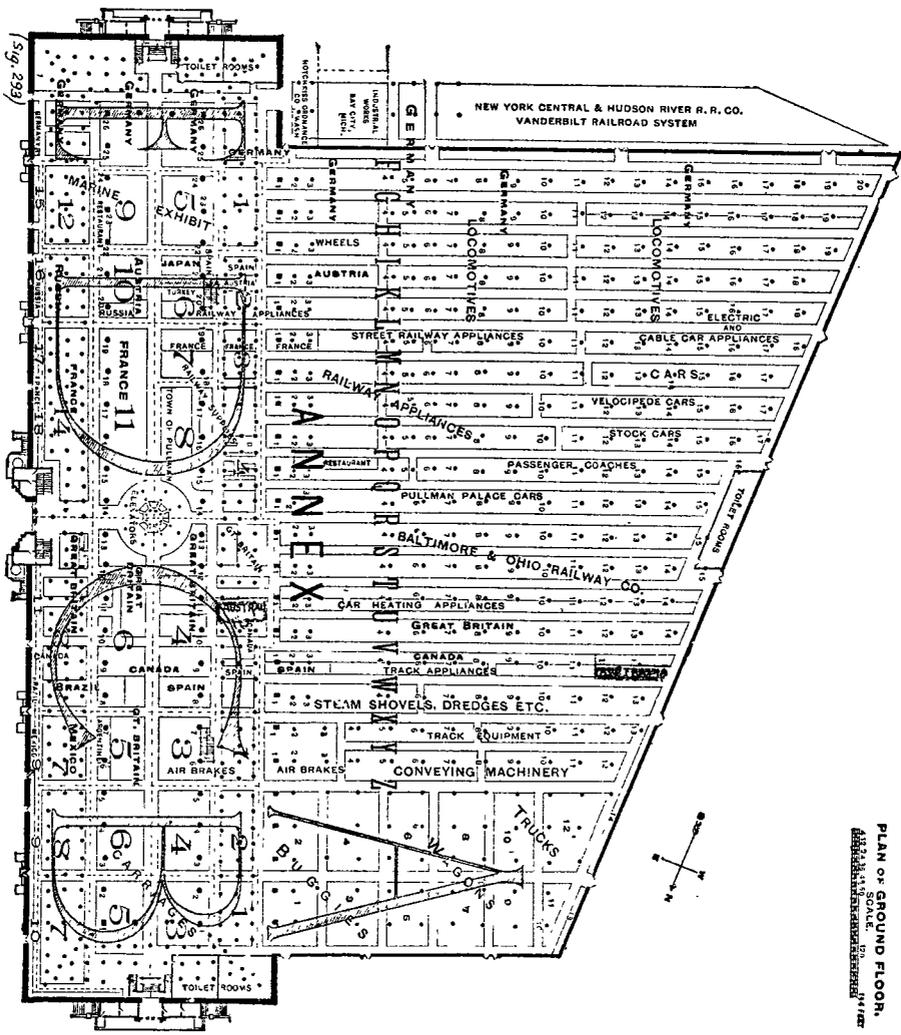
pass under and move freely, as with the Fenno; it was also a hand or power machine; it was of coarser build and not so finely finished, and did not sharpen itself while in action, as does the Fenno, which, in fact, is the only one of these machines that does. It would be impossible for the novice to decide as to the merits of either machine while seeing them work under the guidance of expert operators, so far as the execution goes; but certainly everyone would have an individual fancy or preference on account of other features mentioned. Machinery Hall was the home of machines of all imaginable forms and descriptions, and for all kinds of work, from the great Corliss engine down to a little kneading-machine. One would hardly find a machine in the whole collection that did not in some way replace hand labour directly or indirectly. As, for instance, in weaving with the hand-loom of centuries ago—slow, tedious, and tiresome—it took at least one operator to each machine. These are replaced by rapid-power looms of complicated construction to produce all kinds of fabrics from the heaviest woollen goods to finest silks and laces, and one operator can tend several looms, and one loom do the work of many old ones. Knitting-machines, as now used, have made it unprofitable to knit by hand, as well as undesirable, because of the great difference in the labour. There were sewing-machines for buttons on cloth, for button-holes, for any and all kinds of goods or garments or embroidery in any design, however intricate or difficult, or on fabrics of finest texture, in an incredibly short space of time, and better and more accurate than expert hand-work. It seems just as incongruous, however, to see men doing this kind of work as to see women working in a brickyard.

Moulds for Metal Castings.

A new system of making sand moulds for metal castings was exhibited by the Tabor Manufacturing Co., and a full description and drawings of these machines will be found in Appendix.

Saw-mills.

The saw-mills, situated out of doors, on the south side of Machinery Hall, were put in full operation every afternoon. The process exhibited was as follows:—A log, for example, from 18 to 20 feet long, and 24 inches in diameter, was taken by a link-belt chain off the ground up an incline to the mill-door, 20 feet above the ground, sawn into 1-inch boards, the boards edged and ended, the slabs cut into 4-foot lengths and laths, and the whole operation usually occupying 2 minutes. The band-saws, 12 inches wide, were splendid pieces of mechanism, and reflected great praise on their makers. The variable friction feed saw-mills was an excellent and a novel substitute for the belt feed.



PLAN OF GROUND FLOOR.
 SCALE: 1/4" = 1'-0"
 DRAWN BY: [illegible]

(Fig. 293)

Transportation Building and Annex and Exhibits.

For the first time in the history of Exhibitions a special building was provided for the reception of exhibits connected with transportation. In all former exhibitions the subject was treated as a sub-section of some other division, and the locomotive looked upon as a part of the machinery exhibit. The reason for this was not far to seek. In America long distance travelling by train is quite an ordinary matter, and, consequently, the United States has developed the service of travel by railway to a greater extent than any other country. Then, again, in America the railroad is the pioneer and makes the settlement, whilst in most countries the towns exist and demand the railroad.

Description of the Building.

The Transportation Building was unique in its architecture. Its gorgeous exterior decoration and its superb golden door identified it at once. Its situation on the western bank of the central lagoon, looking upon the Wooded Island, brought it directly in the highway of the greatest traffic. Its polychromatic front bore the names of illustrious railway and marine inventors, and sculptured groups idealising the different forms of transportation. The north and south entrances were also elaborate, and bore the individual statues of many of the famous men who had originated and developed the scientific treasures within the building. A peculiar feature of the vast annex was the fact that it was found necessary to carry the Intramural Electric Railway over its roof, and the elevated railway from the city also entered the grounds over it. The descent from these aerial stations was at the south-western corner of the main building.

The main building measured 960 feet in frontage by 250 feet in depth. From this extended westward to Stoney Island avenue an enormous annex, covering about 9 acres, which was only one storey in height, and in which were to be seen the more bulky exhibits. Along the central avenue or nave the visitor might see facing each other scores of locomotive engines, highly polished, and rendering the perspective effect of the nave both exceedingly striking and novel. Add to the effect of the exhibits the architectural impression given by a long vista of richly ornamented colonnades, and it may easily be imagined that the interior of the Transportation Building was one of the most impressive of the Exposition. The building was refined and simple in architectural treatment, although very elaborate and rich in detail. In style it savoured much of the Romanesque.

The main entrance consisted of an immense single arch, enriched to an extraordinary degree with carvings, bas-reliefs, and mural paintings, the entire feature forming a rich and beautiful, yet quiet, colour climax, for it was treated in leaf, and was called the golden door. The remainder of the architectural composition fell into a just relation of contrast with the highly wrought entrance, and was duly quiet and modest, though very broad in treatment. It consisted of a continuous arcade with subordinated colonnade and entablature. Numerous minor entrances were from time to time pierced in the walls, and with them were grouped terraces, seats, drinking fountains, and statues.

The

The interior of the building was treated much after the manner of a Roman basilica, with broad nave and aisles. The roof was therefore in three divisions. The middle one rose much higher than the others, and its walls were pierced to form a beautiful arcaded clerestory. The cupola, placed in the centre of the building and rising 125 feet above the ground, was reached by elevators. The total floor space was nearly 20 acres. A 75-foot transfer table traversed the annex along the western line of the main building. Railway tracks were laid in the annex at right angles to the transfer table. The heaviest locomotives and cars could be run direct from the installation track, which ran alongside the southern end of the building, upon the transfer table, which took them to their proper tracks inside the building. The length of these tracks was such that an entire train could be shown connected as when in actual use. The annex opened into the main building in such a manner as to afford long and striking vistas down the main avenues and aisles.

I have already referred to the polychromatic decoration of the building, and the architects in the first conception of their design of the building carefully prepared its features externally, with a view to the ultimate application of colour, and many large plain surfaces were left to receive the final polychrome treatment. The ornamental designs for this work in colour were so interwoven in pattern as to produce an effect similar to embroidery. The colours themselves comprised about thirty different shades, which, however, were so delicately and softly blended and so nicely balanced against each other that the effect was that of a single beautiful painting. The general scheme of colour treatment started with a delicate light red tone for its base, and this was kept entirely simple and free from ornament in order to serve as a basis for the more elaborate work above. The culmination of high colour effect was found in the spandrils, between the main arches, where there was produced a high pitch of intensity of colour, and reliance was placed on the main cornice of the building, which was very simply treated, to act as a balancing and quieting effect in the general composition. In the central spandrils a beautiful winged figure was placed, representing the idea of transportation. This figure was painted in light colours and had a background of gold leaf. The colour scheme, as a whole, culminated in the great golden doorway. This entire entrance, 100 feet wide and 70 feet high, incrustated over its entire surface with delicate designs in relief, was covered throughout its entire extent with gold, and colours in small quantities were worked in between the designs and reliefs so as to give the whole a wonderfully effective aspect.

Statuary.

At the entrance to the south door of the building stood, on the right, statues of Stephenson, Barrett, Scott, and a figure typical of water transportation; and on the left there were statues of Montgolfier, Vanderbilt, Watt, and a figure typical of land transportation.

Mr. Proctor's most important works were the equestrian statues decorating the landing in the lagoon opposite the front of Transportation Building. The cowboy, as shown, was not the idealised hero of Eastern State novels, but a true representative of the manly western ranger. The horse, a typical bucking broncho with vicious eyes and ready for a spring, was curbed in by the rider's muscular hand. One could feel the quivering of the rebellion shocking his blood and gleaming in his eyes. Grim-visaged and with tense listening expression in every muscle, the Indian gazed from under his shading hand out over the prairie. The sculptor of mountain lions had caught the live sinuosity of the red man as well and portrayed the subtle mental kinship between him and his horse. This statue also was in front of the Transportation Building.

New



NEW SOUTH WALES EXHIBITS IN TRANSPORTATION BUILDING.
MODEL OF LITHGOW VALLEY ZIG ZAG.

New South Wales Court.

Our main space in the Transportation Building, containing over 1,000 feet, bounded on the north by Canada, with an alley-way on each of the other sides, was altogether too limited for our exhibits, and I was compelled to place the yacht's gig of Fanner, of North Sydney, after having it at first located in this space, in a very elevated position in the Fisheries Building, where it was an object of great attraction; and the sleepers and rails, sent by the Railway Commissioners, in another part of the building allotted to those exhibits, and where space was specially provided by the kindness of Chief Willard Smith. The limited space of the court was still further encroached upon by an elevator which ran to the next floor of the building, and for which space had been granted prior, I believe, to our allotment. The court though small was very attractive and well arranged. The large model of the celebrated Zigzag railway in the Blue Mountains, one of the famous feats of modern engineering skill, was placed at the south-east corner of the court, while the very interesting model of the large dry dock at Cockatoo Island, said to be the second largest in the world, was placed at the west end, and both models received much critical inspection. The cabs sent by Glencross, with their ingenious sliding doors, and the saddle by McGrath, Wagga, as well as the whips sent by Hodgson Bros., of Goulburn, were placed in good positions. Goodwin's wool waggon, for which room could not be found in this court, was placed in Agriculture and loaded with wool as an exhibit. The model of the R.M.S. "Austral" in this court was one of its chief features and with the photographs of the "Ophir," sent by the Orient S. N. Co., was always surrounded with visitors, who compared this model with those of the various steamship companies of the world in the immediate neighbourhood. I think the large photographs of our bridges and rolling-stock and charts hung on the walls, both inside and outside of the court, were the exhibits most carefully examined, especially by railway authorities. On the whole, although small, this court contained very distinctive exhibits, and from its character being representative rather than practical, formed a striking contrast to the immense engines of the London and North Western line in its western side.

Locomotive and Rolling-stock Exhibits.

It would be impossible to enter into a detailed list, not to speak of a description of the locomotive and rolling-stock collected in the annex of this building, and forming an extension of it. Nearly every great American Company and firm were represented.

The groups included in this Department were:—

GROUP.

- 80.—Railways, railway plants and equipment.
- 81.—Street-car and other street-line systems.
- 82.—Miscellaneous and special railways.
- 83.—Vehicles and methods of transportation on common roads.
- 84.—Aerial, pneumatic, and other forms of transportation.
- 85.—Vessels, boats, marine, lake, and river transportation.
- 86.—Naval warfare and coast defence.

Various English firms were represented, as well as those of France and Germany. The Canadian Pacific showed a standard passenger train and locomotive. Refrigerator cars formed a very interesting part of the exhibits of the various Companies.

Outside the building, near the terminus of the Elevated Line, was the remarkable exhibit of the New York Central and Hudson River Railroad Company, part of which was contained in a building specially erected for the purpose of exhibiting chiefly the drawings and photos of railway work and of scenery, &c., and part consisting of a series

series of carriages and a locomotive. This locomotive deserves special mention as being the fastest locomotive in America, and as having at times done considerably over sixty miles per hour. This locomotive was named the Empire State Express (No. 999), and with its full train of assorted Wagner Vestibule Cars represented the highest point of excellence in the American department of railway rolling-stock construction. Beside this splendid exhibit of an entire train was shown the old original locomotive which was first used on this railway-line, together with its train of coaches; this old-fashioned train came to Chicago from Pennsylvania, and at times developed a speed of fifty miles per hour. This locomotive was named the De Witt Clinton, and with its train of coaches was the first railway-train run in the United States. Its first trip was made on the Inshawk and Hudson River Railroad, on August 9th, 1831, when it ran from Albany to Shenectady and back. The following details are of interest:—

Weight of the engine, 6 tons.
 Cylinders, $5\frac{1}{2}$ in. box \times 16 in. stroke.
 Driving-wheels, 4 ft. 6 in. diameter.
 Boiler, 30 in. diameter.
 Capacity of tender, 375 galls.
 Weight of train of three coaches, with seats on top, 5,000 lb.
 Length of coach, 7 ft. 4 in.
 Width of coach, 5 feet.
 Seating capacity, ten persons.

Firewood was carried in two barrels on the tender.

The Baldwin Locomotive Exhibit.

The display of the Baltimore and Ohio Railroad consisted of two principal parts: historical engines and models and drawings collected from all parts of the world, as well as a considerable collection of permanent-way material. The historical collection of the Baltimore and Ohio Railroad will be found described in Appendix N.

The Baldwin Company occupied the most important place as regards the number of engines shown, in the annex of the Transportation Building, there being no fewer than sixteen locomotives in this exhibit. Placed beside these engines were those of the Brooks Co., of Dunkirk, N.Y., to the number of nine. These two firms occupied the principal portion of the space provided for this class of exhibits. Nine of the sixteen Baldwin engines were compound, on the system introduced by the firm some years ago, which has been adopted on several hundred locomotives, so that it may be considered a standard type. This Company has supplied New South Wales and Queensland since 1877, and, as is well known, special attention was directed to the products of the Company some time ago by a Royal Commission. I had the opportunity of conversing with a proprietor of these works on this subject. The following figures from the authorised publication of the Company are representative of the most important facts connected with the works as at present organised:—

Number of men employed	5,100
Hours of labour per man per day ..	10
Hours of work per day in principal departments ...	24
Horse-power employed	5,000
Number of buildings in works	24
Acreage of works	16
Number of dynamos for furnishing power to drills, punching-machines, &c., and for lighting	26
Number of electric-lamps in service	3,000
Consumption of coal per week (tons)	1,000
" iron " " 	1,500
" other materials per day	40

The erecting-shop of the Baldwin Works is 397 feet long and 208 feet wide; it contains 19 tracks, each long enough for four locomotives. Two galleries run down the building for the accommodation of

of 100-ton electric cranes. The engines built vary from the small mining or plantation locomotives weighing 5,000lb. in working order to the heaviest type of nearly 100 tons. These latter were well represented in the Exhibition by a compound freight engine for the New York, Erie, and Western Railway Co., which weighed in running order 195,000lb. It has ten coupled wheels and a two-wheeled leading truck, the total wheel-base being 27 feet 3 inches; the high-pressure cylinders in this engine were 16 inches in diameter, and the low-pressure 27 inches, the length of stroke being 28 inches. The total length of engine and tender was 63 feet 8 inches, and the total wheel-base 53 feet $4\frac{1}{2}$ inches. Standing near this, the latest production of the Baldwin Works, was a full-sized model of the "Old Ironsides," built by Matthias Baldwin in 1832, and which weighed in running order less than 5 tons. It is difficult to suppose that if the Baldwin Works continue to flourish for another sixty years they will at the end of that time be able to show such a contrast with their present practice.

The Pullman Exhibit.

The Pullman exhibit was unique. The magnificent train of carriages, fitted up in an artistic and luxurious manner never before equalled, and the representation of the town of Pullman, in the vicinage of Chicago, carried a story which will well bear consideration. The whole exhibit represented the practical evolution of an idea originated by an American citizen, in a wholly new field of progress, in which there had not been even any tentative gropings in other countries, and worked out along lines of strong individual personality. Of the material benefit to humanity, in the form of great comfort in travelling long distances, both as regards rest and food, as well as the cultivation of artistic taste and refinement by the highest talent in the elaboration of the cars themselves, thus making the sleeping and dining car interiors object-lessons in decorative art, this beautiful train of Pullman cars was the expression. Still more effectual a representation of the principles by which the Pullman Company, with its capital of \$60,000,000 is actuated, was the town of Pullman, of which the model was there presented. From the time the "Pioneer," the first of Mr. Pullman's cars, was constructed, after a series of experiments during the years 1859-63 till the production of the present magnificent exhibit, there has been a steadily-increasing improvement in the character of these cars. The culmination was reached as shown in this exhibit in that exclusively Pullman device The Vestibule, which makes a solid yet perfectly sinuous train with practically complete immunity from danger to passengers in even the most violent collision, and with the striking result of an entire train under one roof, in which the traveller may pass from his dining-room to his sitting room or to his sleeping room, as in his own home. With the exception of the air-brake, which puts the control of the train so completely in the hands of the engineer, there has been no event of railway development so important in securing safety to the travelling public as the invention of the Pullman Vestibule. In its latest application, as illustrated by the World's Fair Train, the principle was extended to the locomotive tender itself, thus taking into its protecting arms not only the passengers but the employees in the baggage and mail cars as well; and this extension was so constructed as to act as a wind deflector, thus diminishing atmospheric resistance to the speed of the train. The vestibule feature was also enlarged in this exhibition train to the full width of the cars by extending the sides of the cars and enclosing the ends, together with an original and ingenious arrangement of vestibule entrance doors and trap doors on the steps. This eventually adds to the comfort of passengers by doing away with the wind pockets formed by the ordinary projecting hoods over open platforms; and as well provides a comfortable and protected place for brakemen or other train employees, whose duties may require them to ride occasionally upon platforms. But

But the making of the Pullman cars was only a preliminary step toward building up the Pullman Service, as it now exists in the United States. The traveller can now start from a city in the United States, Canada, or Mexico, and travel to all accessible points of the North American continent, and everywhere over hundreds of different railroads, managed by different companies, he will find the one harmonious, perfectly administered system of transportation. Whether the traveller goes on board a Pullman car in New York or Chicago, or the wilds of Arizona, he finds the same beautiful surroundings, the same cleanliness and order, the same comfort and attentive service.

The exhibit of the town of Pullman was very interesting in many ways. When the company found its workshops in St. Louis, Detroit, Elmira, and Wilmington were unable to keep pace with the evergrowing volume of demand for its productions, it selected Chicago, with its central position with reference to the railway system of the continent, as the natural site; but, in view of many weighty difficulties touching both finance and the labour question, a site near Lake Calumet, 14 miles away from the city was chosen, and 3,500 acres of land purchased for the purpose. This entire tract is now embraced within the boundary limits of the great city, and round the Pullman district as a centre there is a connected girdle of thickly populated communities. There can be no doubt that ere long the pretty town of Pullman, with its shaded avenues, its glimpses of bright water, its harmonious groupings of beautiful homes, and churches and public buildings, will be like a bright little island in the midst of the great tumultuous sea of Chicago's population. I must not forget to state that every house and flat, even the cheapest in rent, is equipped with the modern appliances of water, gas, and internal sanitation; that the sewage of the town is collected and pumped far away to the Pullman produce farm; that there are grounds for athletic sports; that all the merchandising of the town is concentrated under the glass roof of a beautiful arcade building; that there is a market house, the ornament of one of the handsomest squares of the town; that there are churches and a school-house where nearly 1,000 scholars attend; a library of over 8,000 volumes; a savings bank paying a liberal rate of interest, and conforming in its regulations to the greatest convenience of the wage-earners; and lastly, a theatre, that is quite an artistic gem. Such is the town of 12,000 inhabitants which the World's Fair model represented.

The social aspect of Pullman rests upon the fundamental fact that it is founded solely upon solid *quid pro quo* business principles. It does not concern itself with philanthropy. It is based on the business theory that the better the man the more valuable he is to himself, and just in that proportion he is better and more valuable to his employer. So far from starting with the theory that these working men are weaklings to whom things are to be given, and who are to be supported lest they fall, the starting point is exactly the opposite. The assumption is started with that the Pullman men are the best type of American workmen, who will work out valuable and well-rounded lives in proportion to their opportunities. By the investment of a large capital it is found possible not only to give them better conditions than they could get elsewhere but to give those conditions at prices wholly within their power to pay, and yet sufficient to return moderate interest on the investment, and thus to sustain and continue the work. This is the whole Pullman proposition in a nutshell. The philanthropy it affects is that which helps men to help themselves without undermining their self-respect or affecting their independence or personal liberty. During the eleven years the town has been in existence this principle has produced a set of workmen of the highest character, with \$600,000 in the savings bank, and with the bright border of homes which fringe the outer edge of the Pullman track, and which represent the invested savings

savings of nearly 1,000 workmen. This town illustrates, in a remarkable manner, the helpful combination of capital and labour, mental strife or stultification, upon lines of mutual recognition.

The following account of the annual meeting of the company, held on 20th October, 1893, will be found of interest:—

THE annual meeting of the stockholders of the Pullman Palace Car Company was held in the Pullman Building, about \$24,000,000 of capital stock being represented. All the directors whose term of office had expired were re-elected as follows:—George M. Pullman, Marshall Field, J. W. Doane, Norman Williams, and O. S. A. Sprague of Chicago, Henry C. Hulbert of New York, and Henry R. Reed of Boston.

The statement of earnings and expenses for the fiscal year, ending July 31, is as follows:—

REVENUE.							
Earnings of cars	...	...	...	...	...	...	\$9,200,685
Patents	...	...	...	...	...	...	30,021
Manufacturing, rentals, dividends, interest, &c.	...	...	...	...	...	...	2,159,189
Total							11,389,896
DISBURSEMENTS.							
Operating expenses, including maintenance of interior furnishings of cars, legal expenses, general taxes, and insurance	...	...	...	...	...	...	\$3,825,940
Proportion of net earnings paid other interests in sleeping-car associations controlled and operated by this company	...	...	...	...	...	...	1,037,507
Dividends on capital stock	...	...	...	...	...	...	2,520,000
Total							7,383,447
Surplus for the year, being excess of revenue over disbursements, carried to credit of income account							\$4,006,448

The usual quarterly dividend of \$2 a share for net earnings was declared.

President Pullman supplemented his annual report with the following general information:—

During the fiscal year a new contract has been made with the Boston and Maine Railroad Company for a period of twenty-five years. The contract with the Lehigh Valley Railroad Company, which expired June 10, 1889, has been renewed for a period of twenty-five years, expiring June 10, 1914. The contract with the Maine Central Railroad Company, expiring May 23, 1898, has been extended for a period of twenty-five years, expiring April 1, 1918. The contract with the Norfolk and Western Railroad Company, expiring November 13, 1899, has been extended for a period of twenty-five years, expiring August 1, 1917.

There have been built during the year 314 sleeping, parlour, dining, and special cars, and seven parlour cars have been purchased, the entire cost being \$4,782,123.27. The number of cars owned and controlled is 2,573, of which 2,320 are standard, and 253 tourist or second-class cars.

The number of passengers carried during the year was 5,673,129, and the number of miles run was 206,453,796. During the previous year the number of passengers carried was 5,279,020, and the number of miles run was 191,255,656.

There has been added during the fiscal year to the company's investments in shops and plant \$388,904. The value of the manufactured product of the car works of the company for the year was \$12,329,827, and of other industries, including rentals, \$1,084,881, making a total of \$13,414,708, against \$11,726,343 for the previous year.

Railroad Coaches and Cars—Improvements in Construction.

From a review of the various railway cars exhibited in the Transportation Building, written by an expert (C. C. Dick) for the *Chicago Herald*, the following particulars, which contain a number of details connected with construction, as viewed from the American standpoint will be found interesting:—

To show the advancement made in roadbeds and tracks the Geleise-Museum of Osnabruck, Germany, prepared a collection of sixty-eight exhibits, going by stages of development, from the most primitive style up to the present time. The wooden switch and frog shown, as used in mines even to-day in Hungary, for instance, is quite a curiosity. It is operated by throwing the inside rail the full width of the track. The first section of a track proper is of cast angle iron rails three feet in length, laid on stone sleepers and held together by a single iron nail through the joint. The first locomotive experiment

experiment was made on this style of road in South Wales, Great Britain, in 1804, and was unsuccessful. The next oddity is a section with a gauge of 7 feet, laid in 1850 by the Great Western Railroad, of England, on wooden stringers held together by crossties, and not abandoned until 1892. They also show the heaviest rail used, weighing 127 lb. to the yard. The halved and lapped joint in this rail might well be considered by American builders, as it insures a much safer, more solid, smoother, and noiseless joint than the one in present use. The compartment car of the German exhibit will attract the attention of some from the fact that it rides on three axles, one under each end and one under the middle. In rounding curves the end axles conform to the radius automatically and the middle one by lateral motion. The framework is of steel, has all openings on the side, Westinghouse air-brake, rain-water gutter, and is a fair representation of more than 50 per cent. of the cars in use in Germany. The present tendency there is for longer and heavier cars, a combination of the English and American styles, having end doors, with aisle along one side into which compartments open. The capacity of this car is five first-class and twenty-one second-class passengers, from which we would infer that the latter was the greater in demand, which we cannot wonder at, as the only difference is in the grade of upholstery. While not intended for a sleeper, by pulling out the seat cushion, raising the arm rest and giving the end arm rest a slanting position a very comfortable bed can be made. The car is devoid of mouldings, but neat and substantial, and the workmanship is good. They also show a special car, built more on the American plan, in which all the mouldings are of pressed steel; all trimmings and small side panels are of brass; the glass is heavy plate, set in brass frames, which lower into the body of the car.

At first glance the ordinary observer would decide that all foreign cars were much more solidly and stronger built than the American, from the fact that in the European built cars so much iron and steel is in plain view. Their method of construction is to make a bottom framework of iron with cross-braces, on which the wooden superstructure is placed, while the American plan is to build a wooden framework and strengthen it by plates of iron bolts and rods. As each is supposed to meet the requirements exacted of it very little is gained or lost by either method, but the American car makes a neater appearance by reason of the absence of so many bolt-heads, angles, and rods near the bottom of the car, which obstructs the view and is confusing to the eye. In the German and English cars, extending from below the windows to the bottom of the car and its entire length, is a plain panel unbroken by carvings or mouldings, on which the painter's skill can be shown, and when well-finished gives a mirror-like appearance and admits of a more pleasing degree of decoration. The English coach makes a beautiful showing by the lower third being painted in a rich carmine and the upper two-thirds a very delicate light blue, with gold-leaf trimmings. The inside finish is principally polished black walnut with panel of bird's-eye maple in lavatories, and satin-wood panels with English walnut centre in compartments. The ceiling is plain sycamore with walnut bands, and this together with some very good hand-carved capitals and architraves give the interior a very attractive appearance. Each sleeping compartment is fitted up with hooks, wallpocket, and a wardrobe. The upper bunk is rarely used except in cases of necessity. Near the middle of the car is a room closed by a door with inside lock. It contains four beds, and is designed for the convenience of ladies travelling alone. Lavatories with self-emptying washbowls of heavy silver-plate, which fold back flush with the wall when not in use, are connected with each compartment. The ceiling is made of lincrusta wilton. The seats make a bed as in the German car. The rear end is fitted up as an observation car with a mounted map and views of scenery through which the car passes. This is one of five built and not especially designed for exhibition. The only exhibit shown by France is one second-class car, with seats on the top and designed for suburban traffic only.

The foreign coaches are shorter and lower than the American style, yet their carrying capacity is the same as ours if not more, all entrances being from the side of the car, thus gaining the space lost to American builders by the centre aisle. The object of the Canadian Pacific Company is to show a train as run in actual service over their lines, and the accommodation their patrons may expect while *en route*. Every part was constructed at the company's shops in Montreal, and is an extra strong and heavy train. Honduras mahogany is used for outside work, finished in the natural colour. Heat is furnished by steam from the locomotive, or in case it becomes disconnected, by hot-water heaters which are placed in each car. All wheels have wrought-iron centres, with cupped steel tyres. Second-class sleeper accommodations are far in advance of anything of the same kind used in the United States. The finish is plain, but the plan is the same as in the ordinary first-class sleeper. The interior finish of their sleepers is of the Spanish renaissance style, with woodwork in the body of the car of white mahogany or "prima-vera," imported from the western coast of Mexico. All passages are made of old oak. The bunks are constructed with 3-inch square panels and a 12-inch carved panel on each end. All of their doors, panels, and arches are very heavy, as not a particle of veneer enters into the construction of any part of their work. Their method of making a door is unique and in oak looks well. Over each table in the dining-car is a bronze alcove, with a miniature balcony underneath. Besides being a small sideboard for each table, it gives a very pleasing effect. The view of the inside of their first-class day coach is broken by arches resting on turned and carved columns, and makes a very beautiful car. A shelf for light baggage extends the full length of the car; all of the carving is done by hand, and some very good work is shown. Their chief aim is durability, which they combine with beauty and convenience; hence all their work is of high grade. In one car shown by the Pennsylvania Company, the windows

windows are fitted with a self-lifting device; by pulling on a small knob at each side of the window it is released, and rises by means of a counterbalance. By releasing the knobs it is fastened at any desired height and held securely.

This device makes a window more nearly wind and dust proof, and prevents rattling. Another invention in use on this car is a curtain fastener, allowing the curtain to be raised or lowered at will, and held at any point wished. The agent in charge of this exhibit pleaded ignorance as to the construction, and, in fact, to any information at all in regard to this attachment, but kindly referred me to the superintendent of their shops in Altoona. However, it is understood fifteen or twenty cars are fitted with this appliance, and it will become a standard fixture. In their office building they have an excellent exhibit of relics, models, and illustrations, showing from earliest modes of travel up to the present luxurious day coaches. To fully appreciate these advantages you have only to slip outside their building, where standing side by side is the first train run in the State of New York, and one of their present "overland flyers." By way of comparison it may be well to state a few dimensions: The first coaches were 7 ft. 4 in. long, while the present length is 80 feet; the former carried ten passenger, and the latter eighty-four. If a car could be constructed combining all the points of superiority we would have a perfect coach. While the Krable train will not compare with the other vestibule trains, it has several points worthy of investigation. The train on exhibition has been running for over a year, and has fully met the expectations of its inventor. The cars are very plainly finished in oak, but can be elaborated to any desired extent, and quite a number of improvements are contemplated in succeeding cars. By an arrangement of their chairs, which is peculiarly their own, they are enabled to convert a day coach into a first-class sleeper. By placing two chairs facing each other, elevating the backs, and placing a cushion on a framework between them, an upper bunk is formed, while the bottoms of the chairs make the lower berth. All linen, curtains, and frames are stowed away in the bottom of the chairs, which is fastened on a movable centre, enabling a person to ride at any angle desired. The end doors are double, giving twice the ordinary width, and in cases of crowds their passage is greatly facilitated. By placing the brake-staff near the end of the car and using a ratcheted handle, the handrail is superfluous. The two vestibules can be thrown together, and a very comfortable smoking or observation room made. The folding step when not in use forms a barricade across the passageway, preventing accidents from falling off or attempting to board the train while in motion. They claim their cars can be used in other trains, with or without vestibules, but some more convenient and safer way should be adopted than the one given in explanation.

One cannot fail to notice the lack of interest shown by the local roads towards the success of the fair. As they expect to derive a monetary benefit therefrom we should expect them to make an attempt at least at some sort of a display. Only one car is exhibited, and that is so far behind the times it is not worthy of mention. The displays of the Wagner Company and Pullman Palace Car Company are very like each other, and what is said of one will apply to the other to a certain extent. Both have a barber's shop, with bath attached, and tile floors in one end of the smoker. Day coach, sleeper, and dining car complete the train. The material is the best, the workmanship unexcelled, and the furnishings the richest and most luxurious that can be procured. The ceilings of the Wagner train are finished in stucco. The woodwork of the parlour car is of satin wood; that of the diner of Circassian walnut; and that of the sleeper of white mahogany. All trimmings are gold-plated. This company has no special improvements that they call attention to, while the Pullman Company has several, the most noticeable of which is their new standard vestibule, by which the whole platform is enclosed, affording greater protection to road men, as they do not go between the cars to make the connections. Persons going from one car to another cannot fall off, nor can anyone get on or off the train while in motion. This vestibule being built flush with the sides of the car no pocket is formed to catch the air, thereby reducing wind pressure, which is an important factor in making fast time. It has been placed on a number of cars, and has been adopted as their improved standard vestibule. Being full width, a greater resistance is offered, and the chances of telescoping greatly reduced. The greater part of the finish is of vermillion, a very hard and dense wood, from the penal colonies of India, and brought to Liverpool as ballast, where it is inspected by the company's inspector, and all that is fit for use is controlled by this company. It is a hard wood to work, and great care must be taken to prevent its splitting or breaking off in delicate work. It is well adapted to inside finish, as it takes a good polish, not easily marred, and will not shrink or warp to any extent. The colour is of a reddish cast, varying from a very light to almost black.

The different styles of deck windows and ceilings is another interesting feature. Their ten-compartment sleeper, each compartment finished in a different colour with upholstery to match, is very attractive. All trimmings are triple gold-plate, and the washstand tops are of Mexican onyx. At some time in the future it is intended to have this elegant train thoroughly written up, when all the important features and interior may be fully described. The exhibit of this company is the most complete on the grounds. The showing of their standard six-wheel trucks will give to many a chance to see the mechanism of this part of the car for the first time. The postal car constructed by this company is attracting very favourable attention by this class of employees. As the Government only pays for space in actual use by them it has been endeavoured to use every inch of space available. This is a sixty-foot car, and, by means of the new vestibule, the space on both platforms, which has heretofore been dead space, is now taken up by stove, toilet-room, and lockers, thus giving more space for Government use.

The

The top of the vestibule being connected with closed vestibule on locomotive, and braced by heavy iron bars from top of vestibule to bottom of forward end of tender equalizes top and bottom pressure, by which telescoping is rendered impossible in head-end collisions. Particular attention is paid towards lighting and ventilating by means of large double windows on side and an eighteen-light skylight over the letter case. The equipments are the latest designed Harrison bag-rack, an entirely new reversible letter case, improved paper boxes, which can be readily changed from double to single by pushing upper bottom back, where it folds out of the way. In the forward end of the car one section of letter case is hinged on the side, allowing it to be swung clear of the doorway, together with a drop-table, gives free access to end door. When the door is not in use an unbroken table and letter case extends across the end of car and partly down each side. Slip stanchions are placed among the racks to hold mail, which, when distributed, can be removed and entire car racked up. The finish is white and cherry, with trimmings of nickel and bronze, and is undoubtedly the most compact, convenient, and best arranged car ever equipped for the handling of mail.

Several seat and chair companies have made some very fine exhibits in all the latest designs. Two of these require especial mention. The Wakefield Rattan Company has a seat which is reversed by simply pushing on the back from rear to front. This makes the back the front, enabling both sides to be used, giving a greater amount of wear than in seats which revolve. It is made in single and double, finished in cane, leather, and plush. They also make a line of reed chairs for dining and buffet cars. The most comfortable seat shown is one made by the Scarritt Seat Company. The two main features are the slight elevation of the front of the seat, and the concave and convex back, which adapts itself to the contour of the person, and acts as a brace when in use. By a very simple and strong piece of mechanism the concavity and convexity is reversed, as the seat is changed from rear to front. The guides on front seat ends for back stays are a very good thing. Exhibits of car-heating apparatus, palace stock cars, refrigerators, steel, street, and electrical cars, and several novelties are shown, but space will not permit of a detailed description.

Marine Exhibits.

If a seaman visited the Fair with the idea of seeing what improvements the different nations had made in his particular industry, everywhere in the marine exhibit, wherever he turned he would find the improvement expressed in one word—steam. The marine exhibits at the Fair plainly demonstrated that the days of the sailing ship even as a freight carrier are rapidly drawing to a close. This was especially noticeable in the fact that for one model of the sailing-ship of to-day, fifty models of steamers were to be seen, and what paintings and models of sailing craft were shown in the galleries of the Transportation Building seemed to have been placed there as illustrations of the past.

So zealously did the officials of the Exposition work in the endeavour to gather a collection of models and paintings to illustrate the changes that have been made since 1492, that one could commence in one corner of the marine exhibit, in the east gallery of the Transportation Building, with a picture of the British ship, the "Sovereign of the Seas," built in 1637, showing all her heavy top-hamper, and follow the changes down by paintings and models of different vessels until he arrived at the steel-built East Indiaman with her telescope masts, which, without doubt, are perfection itself so far as it can be exemplified in a sailing vessel.

The first material change in shipbuilding, according to the paintings exhibited, was made about 1640, as seen in a ship called the "Royal Prince," built in that year, without the projecting stem or bow so common to all ships of that date. Side by side with the painting of this old ship were to be seen some fine models of the Baltimore clipper schooners. They seemed life-like; broad of beam above the water-line, but sharp in the bow, deep aft, long and low; they were the very picture of vessels built to carry canvas and hold their own close-hauled, without making much leeway. Some of the finest yachts have been built on the same principles as these schooners, and it was from models of these ships that the famous clipper ships sprang, by the adoption of the square rig for larger vessels. There was also a painting of the clipper ship "Great Republic," with four masts, her main-yard being 120 feet long, and her spread of sail consisting of 15,653 yards of canvas.

A collection of Chinese and Japanese models of sailing craft was shown in the east gallery, and they were very curious and interesting. The "Tek-pai," used on rivers and lakes, when loaded does not draw over 12 inches of water. The different parts of the vessel were tied together, and in case of her grounding, could be broken up and put together again in half a day. The seamen of this strange craft lived in a house, built of rushes, on her deck. The sampan, so familiar to Hongkong sailors, was also to be seen. It is the bumboat of China.

Germany made but a small marine exhibit, including three very fine models of iron ships, with masts on the telescope system.

No exhibit was made by any of the other nations in the line of sailing vessels, with the exception of Norway, which country showed some models of steel sailing vessels, which compared very favourably with those of the British build. Wire was used for rigging purposes in all the models on exhibition, taking the place of the hemp rope. Turn-buckles were used in place of the lanyard for standing riggings. Very little that was to be seen in blocks, lines, and anchors.

In this connection reference may be made to the great whale-back steamer "Christopher Columbus," which was regularly employed for transport purposes between the city and the Exhibition. As far as I am aware, this type of steamer is unknown in Australia.

The great whale-back steamer was built in the most remote shipyard of the United States, in the north-west corner of Lake Superior. According to *Engineering* :—

This new type of ship has been received with great favour on the American lakes, and the very extensive shipyard of the Whaleback Company, in or near the small Superior City, has more than it can do to fill orders. We remember seeing in 1890 the first of these craft at Buffalo, where a steamer and a barge attracted great curiosity as they lay in the harbour of that lake city. They attract no curiosity now, for they are rapidly being recognised as the cheapest and most convenient type of vessel for the bulk of the lake trade, and it is said that the tonnage carried by them is now almost as great as that conveyed by vessels of all other kinds upon the lakes. Be that as it may, the fleet of whale-backs is large, and is constantly increasing. But this new vessel, which is just now creating no little excitement in Chicago, is quite a new departure. So far as regards the hull and arrangement of engines, the standard system has been followed; on the structure, however, three decks have been built, giving a vast capacity for passengers; accommodation for over 4,000 was to be provided, but on a recent occasion, before the ship commenced her voyage to Chicago, she carried no less than 5,700 people, probably the greatest number ever afloat on a single vessel, unless we except the "Great Eastern," which, for anything we know, might have carried more. The ship is about 360 feet long and 42 feet beam; her engine power is between 2,000 and 3,000 horse-power, and her contract speed was to be eighteen miles an hour; this, however, has been exceeded, and she made twenty miles regularly on her station. A very remarkable feature about the "Christopher Columbus," as the new whale-back is called, is the short space of time in which she was built. All the iron used at the Whale-back Shipyard is manufactured at the ironworks belonging to the company, who possess extensive iron-mines in the vicinity. In this way the material employed in the "Christopher Columbus" was produced, and the ship was completed and launched eight months after the iron ore for her plates was delivered at the furnaces. This record adds a special interest to the vessel, and makes her an essentially American adjunct to the Exposition.

In this Building the great steamship companies of the world were very fully represented. The White Star Line had a special building erected near the "Puck" Building at the north-east end of the Horticultural Building—for official and representative purposes. In it were shown separate rooms, sections of the dining saloon, and other matters connected with their line. Other companies exhibited by means of dioramas, models, and other devices, varieties of life at sea. At one point in the building there was represented the side of a great Transatlantic Liner, or at least a section of it, 60 feet in length. Entering on the lower deck the visitor passed through the various rooms and ascended staircase after staircase for five stories, the rooms and their fittings and furnishings being identical with those of the real

real steamers. Of all these models that which attracted the greatest attention was the very large and beautiful half model of the ill-fated H.M.S. "Victoria," exhibited by Armstrong, Mitchell, & Co., of Newcastle-on-Tyne.

The French Transatlantic Company showed a number of well-executed dioramas portraying in a graphic manner the various incidents of sea travel. Every mode of transportation used in France from the earliest to the most recent date was represented, from the old sedan chair up to the latest pneumatic tire racing wheel. French civil engineering exhibits in the same building display a number of maps, plans and photographic views of many of their greatest works of skill. French seaports from Dunkerque to Bordeaux on the Atlantic and Marseilles on the Mediterranean show the resources they offer to trade and shipping.

The elevators in the building were themselves exhibits of vertical transportation; they were grouped in the centre of the building, eight in number, and led up to the dome of the building from which a beautiful prospect could be obtained, not only of the grounds but also of the working of the various railway and water systems within and without the grounds.

Of wheeled vehicles of every kind there was ample display on the main floor at the northern portion of the building. Some of these exhibits were an extraordinary contrast to each other; for example, a Lord Mayor's State Coach formed rather a startling contrast to a rude "carreta" made without metal by the untutored hands of Pueblo Indians. So, also, a gaudy outfit of a cart and harness from Palermo; land sledges from Funchal; a caleche from Quebec; a patent hansom from Sydney; and a Cuba volante appeared as remarkable examples of means of transportation employed in very different and widely separated countries. The bicycle exhibit displayed in the beautifully lighted and readily accessible gallery of the building was perhaps the largest and most varied ever collected together. Several nations contributed to this particular representation but the American makers both for the number and beauty of the displays were entitled to unstinted praise. This fact is not to be wondered at when it is understood that the use of the bicycle is almost universal throughout America, and not only do children of the tenderest years practise without the slightest fear on these vehicles, but it is quite a common circumstance to see happy couples, either singly or on the one bicycle, and not infrequently with an infant sitting in a kind of seat before them, speed gaily through the boulevards and avenues of the cities.

Our Sleepers and Rails.

The large western portion of the building, called the annex, to which I have already referred, contained over $2\frac{1}{2}$ miles of railway tracks. In this section were gathered the machinery and appliances used in constructing, maintaining, and operating all forms of railways. It was in this portion of the building that our sleepers and rails were laid, near the British section, and thus opportunity was afforded to place in contrast our durable hard-wood sleepers, or ties as they are called in America, with the wooden and iron sleepers of other systems.

The Krupp Exhibit.

The great exhibit of Krupp, of Essen, Germany, was placed in a building specially erected for it by the exhibitor on the lake shore north of the leather exhibit building, and south-east of the agricultural building. As I have stated elsewhere there were also exhibits by Krupp in Machinery Hall.

The

The pavilion consisted of a large iron hall 196 feet in length, 82 feet wide, and 42 feet high, and was constructed and erected by the Gutehoffnungshuette, of Oberhausen. The pavilion was provided with boiler-house, offices, &c. On the ends were two small towers, on the front extension two large vestibule entrances, and a high square tower in the centre; the panels on the front were decorated with coats of arms of Westphalia and Rhineland, and on the cornice were shields bearing the coats of arms of the various states in Germany.

This exhibit contained a large amount of railway material as well as a vast collection of naval and military ordnance. The largest gun in the world, 125 tons, was placed in this building, and was a great source of attraction; the successful transportation of this immense gun from Germany to Chicago created considerable interest, and the progress of the monster was daily recorded in the newspapers as one of the events of the time.

Herr Krupp expended \$1,500,000 in making his display.

The visitor entering the large hall from the north entrance found himself before a front of sixteen guns, from the middle of which the gigantic barrel of the Thunderer, 17 inches in diameter, was prominent. The barrel was a jacketed, built-up tube; it had Krupp's rounded wedge breech closure; its total length is 46 feet, and it had 120 grooves in rifling. The barrel, which had the immense weight of 121 tons, including the breech closure, was supported by a front pivot carriage with a weight of projectile of 2,205 pounds. With a charge of 903 pounds and an initial velocity of 1,981 feet a second and an energy of 60,002.8 foot-tons is developed, and the greatest range with elevation of $10\frac{1}{2}$ degrees is 968 yards.

This gun was made in 1886, and has since been fired with sixteen rounds with full-charge. A steel armour shell with the above-mentioned initial velocity can perforate, when striking at right angles, a wrought iron plate of $3\frac{1}{4}$ feet thickness at a range of two-thirds of a mile. Beneath this biggest of all existing guns was the counterpart, a petty bush gun, as it has been used in various expeditions in the interior of Africa. According to the purpose, the several parts of the gun have been dimensioned with regard to their weight, so as to allow of their being carried by men, if required, long distances. Between these limits there were a great number of guns of different calibres and purposes.

There were, moreover, five quick-firing guns, from 3 to 5-foot calibre, the barrels of 40 calibres of length, and in centre pivot ship carriage. Guns of this class constitute the main armament of cruiser corvettes and cruisers, and also form the intermediate calibres in the armament of armour-clads. All these guns are unexcelled in easy handling and great speed of firing. The 5-foot gun has a speed of over eight shots per minute, and has fired up till now 269 shots with full charges.

The 4-foot gun has a speed of firing of thirteen shots, aimed fire, per minute, and the 3-foot gun of over nineteen shots.

There were two small field guns. The first one, with a barrel of 680 lb. weight, is particularly suitable for use as the main armament of the field artillery, that is to say, as the heaviest field-gun in cases where the configuration of the roads and the grounds resemble those of the American States.

The next gun was a 3-foot mountain gun, with a wheel carriage. This gun must be carried on the backs of beasts of burden, and since the weight of the several parts must be suitable to this mode of transport its efficiency lies in comparatively narrow limits. Nevertheless the work of the gun is very good, and particularly its shrapnel fire gave very splendid results at Placilla, in Chili, during the last war.

The

The high perfection which the moulded steel castings have reached in the works at Essen is made evident by several important pieces. The excellent qualities of this material were shown in a unique way on three distorted spoke wheel centres which are bent in several ways. The spokes and the rim of the first one have been bent and twisted cold under the hydraulic press in order to show the tenacity of the material. Another has been entirely bent cold under the hydraulic press, and the spokes and the rim of the third one have been forged out while warm in order to show the forging property of the material.

The steel castings exhibited excelled by their very considerable softness and capability of elongation. They have an average of breaking load of 25 tons per square inch, and up to 34 per cent. elongation. The castings of great thickness are just as soft as in the small thicknesses. Herein lies the essential difference as compared with tempered steel. The cross sections are homogeneous and free from porous places. The castings are free from all strains; the material is not affected by rapid cooling of heated portions. After being at a red heat and put in water they can still be bent without breaking. Numerous test pieces taken from the exhibit showed the good properties of this material, which forms a complete substitute for forgings in many cases.

A boiler plate exhibited is the largest boiler plate yet made. Its length was 65 feet, its width 10 feet, and its thickness 1.26 feet, while the weight was 15.94 tons. The production of the plates of these dimensions allows of constructing boilers of the largest size from the fewest possible plates, with only one riveted joint in the circumference. Three pieces were exhibited as a test of the material:—A shallow dome-shaped piece produced by hammering while warm with wooden hammers from a plate of welding iron two-thirds of an inch thick; a distorted flue of a tenbrink boiler destroyed through want of water, constructed of Krupp's welding iron plate, and a distorted boiler end plate half an inch thick, boiler plate of homogeneous iron, distorted intentionally while cold under the steam hammer.

There was also a very large and complete collection of articles of steel, pressed and forged in dies, consisting of centrifugal vessels, protective caps for armoured towers and locomotive steam domes. All the different and various objects were exhibited in the pavilion in a very clever way, and from the wrought-iron balcony, which was designed by Halmhuber, of Dusseldorf, architect, and executed by Gebrüder Lipgens, of the same place, one has a general view of the whole display.

There were glacier fountains which were constructed by Dr. Raydt, of Hanover, and designed to cool the atmosphere of the pavilion in a novel and peculiar manner. The exhibits, together with the model of the ancestral home of the Krupp family, the model of the monument erected in honor of the deceased Alfred Krupp by voluntary contributions of the officials and workmen of the firm of Friedrich Krupp, the numerous water-colours and panel pictures, the photographs, &c., made an overwhelming impression upon the scientist and the layman.

Ordnance Exhibits.

In the Transportation Building and in the United States Government Building, was a very large, interesting, and varied collection of specimens of ordnance of various kinds, which attracted great attention. The very latest inventions in the way of ordnance, heavy and light, of all kinds were exhibited, and what made the display more interesting was that each new invention or improvement was accompanied by its ante-type of ancient time. For instance, in the British display, contiguous to some old smooth bores of the days of King George (guns taken from Nelson's flag-ship Victory) appeared the first attempt in rifled artillery. The Whitworth breech-loading
rifle

rifle was a creation of the Crimean war. It was effective while it lasted, and for some uses was a valuable accession to field and naval ordnance. But with the advent of steel armour plates and the introduction of heavier and more powerful ordnance the old Whitworth rifle ceased to be manufactured in England. Near this obsolete specimen were several of the Armstrong steel high-power guns of to-day. The English Government has ceased to manufacture any larger gun than that which is known as the 65-ton Armstrong, but no gun as large as that was on exhibition. The largest shown was a 30-ton gun which corresponded in type with the American 8-inch rifle. These Armstrong guns in their various sizes and weights form the heavy batteries of England's new battle-ships.

The German exhibit of heavy ordnance was chiefly confined to the Krupp Pavilion, already described.

Of the curious old Mexican field pieces captured in the Mexican war there was an unusual display. Some of these were very interesting, because of their antiquity. Many of the old brass pieces bore the date of the seventeenth century, and were unmistakably mounted in Mexico at the time of the Spanish conquest. The most curious of all this ancient display was what is believed to be the oldest breech-loading gun ever constructed since the invention of gunpowder. It came from China, and for many years had been in the naval museum at the Washington navy yard. The breech-loading attachment consisted chiefly of cutting out a section of the powder chamber, inserting a charge of powder, stuffing in a plug and firing it off. It was a curious contrivance, and showed that the principle of breech-loading guns was among the earliest ideas of civilised man. The gun was reported to be ever so many centuries old. Contrasting this little piece with the rapid-fire ordnance of to-day displayed at Jackson Park by every nation was well calculated to impress the human mind.

In the artillery display of every country there was something marvellous and novel, as is well-known modern rapid-fire ordnance has attained its highest state of development within the last ten years. The proved inventions in this line of artillery were so numerous that they became almost wearisome. The Americans had four types of equal value. These were the Hotchkiss, the Briggs-Schroeder, another type invented by Ensign Dashiell, of the navy, and yet another whose name I cannot now recall to memory. England exhibited the Armstrong rapid-fire gun, the chief feature of which is its calibre, its lightness, and the rapidity with which it can be handled. It has a 6-in. bore, weighs $6\frac{1}{2}$ tons, throws 100-lb. projectile with 17 lb. of smokeless powder, and is fired by electricity. The best trials of this gun showed a speed of five aimed shots in fifty-five seconds, four of them striking the target at a range of 900 yards. The powder used with this gun is known as cordite, a high-power explosive. This gun, therefore, may be regarded as the very highest type of modern rapid-firing ordnance. The Americans are improving the Hotchkiss so that it may be brought up to the British standard.

Captain H. A. Russell, of the ordnance department of the United States, exhibited a gun at the Government Building, showing the mechanism of the United States magazine rifle, model of 1893.

Krag-Jorgensen pattern.—This differs from the United States model only in being adapted to the Norwegian cartridge, which is of calibre .256 instead of .30, and which has shells with cannellured heads instead of flanged heads. The new loading clip, intended for the Norwegian service, is shown with the gun. The bayonets and sights differ from the United States model, also the gun-sling attachments, which are of novel form. Bayonets and sights for the United States rifle will soon be received, and the United States rifle itself, manufactured at Springfield, Mass., is expected about October 1.

In

In the French exhibit was shown the Canet rapid-fire gun, the largest gun of which type is $5\frac{1}{2}$ in. in calibre, and 11,000 lb. weight. It uses 24 lb. of smokeless powder and throws a 70-lb. shell. In rapidity of fire the French are ahead of both British and Americans, for at a trial of these guns at exhibition two years ago seven unaimed shots were fired in fifty-four seconds, and at another trial of another one which was smaller and of the same type, five unaimed shots were fired in twenty-four seconds. The Russian naval authorities have adopted the Canet type of rapid-fire gun for their service.

There were other types of ordnance displayed in their several departments by the different nationalities. There was a Danish gun known as the "Finspong," and a Dutch gun known as the "Gericke," the invention of Captain Gericke, of the Dutch navy. Then there was the "Gruson," which is the invention of a Prussian officer. This gun is lighter than either the British or American type, but it fires an average of thirteen shots in thirty seconds. Then there was the Krupp rapid-fire gun, which was on exhibition in the Krupp pavilion. This is a heavier gun than any except the Armstrong, but it is not so rapid. The largest type carries 17 lb. of powder and a 76-lb. shell, but its highest speed is seven aimed shots a minute.

In the Transportation Building were several rapid-fire guns manufactured by private English firms. The best of these is known as the Maxim-Nordenfeldt. This gun is $4\frac{3}{4}$ in. calibre, weighs $2\frac{1}{2}$ tons, and throws a 45-lb. projectile. Trials made in England with this gun proved that at a range of 100 yards 4-in. steel plates were pierced with ease. The chief beauty of these small pieces, however, is the speed with which they can be fired. The gun of this make, with 3-inch calibre, or what is known as a 40-pounder, can be fired thirty-five times a minute. The 2-inch gun, or 3-pounder, has attained a speed of sixty shots per minute, or one every second. In fact, at one trial this gun fired sixty shots in fifty-nine seconds. In this same exhibit was perhaps to be found the most effective machine gun of any of the smaller calibres. It is known as the Maxim automatic gun, of which there were two on exhibition. One of them, which weighed only 50 lb., attained a rate of 600 shots a minute. The other was a larger piece, weighed 364 lb., had a powder charge of 3 oz., and threw a little baby shell weighing 1 lb., but it threw it at the rate of 250 a minute. Then there was a gun called the Skoda rapid-fire gun, which was to be seen in the Austrian exhibit.

Display of Projectiles.

The projectiles ranged in size from 1 lb. to 1,800 lb. The latter was the projectile for the big Krupp gun. It was as large as a barrel and as tall as the average man. The average service projectile, however, weighed from 100 to 250 lb. The biggest American shell on show weighed 1,100 lb., and was for the great 12-inch gun on exhibit in the War Department. The ancient and obsolete projectiles were also displayed in great numbers. They included everything, from what is known as the old "bar shot" and "chain shot" down to the ingenious explosive projectiles invented during the civil war by the Confederates, some of which were very novel. The "bar shot" was made by splitting a cannon ball in two and connecting the two halves by means of an iron bar; their purpose was to cut rigging and ship spars. The "chain shot" was on a similar principle, except that two cannon balls were connected by a long heavy chain. This was employed for the same purpose as the bar shot.

Another curious exhibit was an old-fashioned furnace for heating shots to fire at ships. Probably the last time a red-hot shot was ever fired was at the battle of New Orleans. Here I may relate a funny story about a Confederate officer who had charge of a red-hot shot battery at Fort Jackson. The science of war was new to the Confederates

Confederates of those days, as well as to the Federals, and the officer could not be expected to know much about firing red-hot shot. His battery consisted of two guns. For two hours he blazed away at the passing fleet, and after the affair was over every shot that had been put into his guns was found in the ditch below the muzzles of the guns. The secret was that the men, in their supreme haste to get rid of the red-hot shot after it had entered the gun, ran the gun out so quickly and with such force that before the captain of the gun could reach the lanyard to fire, the hot shot would roll out at the muzzle, and the result was that nearly every shot he fired was only a blank cartridge.

The Bethlehem Iron Company's exhibit, adjoining that of Japan, was one which deserves particular mention, on account of the striking show from their famous gun and armour works in the Lehigh Valley. Here there was an exact reproduction of this company's 125-ton steam hammer, said to be the largest in the world. The exhibit itself is divided into three sections. Passing to the left, through one of the great legs of the hammer, the first section was entered, and here were two immense steel forgings, the barrel and jacket of a navy 13-inch cannon, which were splendid examples of the hollow forgings Bethlehem turns out from its famous hydraulic presses. In the course was a smooth forged trunnion hoop for securing a 12-inch 50-ton army gun to its carriage. At the front of this section was a navy 12-inch breech-loading rifle, fabricated at the Washington Gun Factory of Bethlehem, fluid pressed, hydraulic forged steel. It weighed 45.2 tons, was 37 feet long, had a muzzle velocity of 2,000 feet a second, and fired an 850-lb. projectile with 425 lb. of powder, with an energy sufficient to perforate $22\frac{1}{2}$ inches of iron. In the second section was a model of a 113-ton ingot of steel for which the armour plates are forged. Directly opposite was a pile of forged steel hoops and three splendid examples of steel armour and a nickel-steel ventilator for the monitor "Puritan" 7 feet in diameter, forged in one piece without welds. The largest was a curved nickel-steel plate, 17 inches thick, one of thirteen required to form the barbette of the battle-ship "Indiana." While its shape displayed the power of the huge bending presses of this company, its exquisite finish showed the marvellous machine facilities possessed. The next was a case-hardened nickel-steel plate, $10\frac{1}{2}$ inches thick, which had been subjected to an attack of the enormous energy of 25,040 foot tons, during which the five 8-inch 250 lb. Holtza armour-piercing shells were completely pulverised, without seriously injuring the plate. The third plate was the first heavy steel plate made in the United States, and was $11\frac{1}{2}$ inches thick. Near this was one of the most remarkable articles of the exhibit—a fluid compressed steel ingot, 15 feet long, 54 inches in diameter, weighing 48.3 tons. From a similar ingot, weighing 65 tons, the shaft of the Ferris wheel in the Midway Plaisance was made. In the third section was a hollow hydraulic forged shaft, 67 feet long, and 20 inches in diameter, forged in one piece. There was also an exquisitely finished shaft, 40 feet long, 27 inches in diameter, weighing 30 tons, which was made for the Old Colony Steamboat Company's "Puritan," and near this was a fine example of a built-up crank for the Pacific Mail Steamship Company.

Intramural Railway.

In the "White City of Great Distances" an indispensable provision was that of transportation from one portion of the grounds to another. Looking at the map of Jackson Park, and noting the distances of some of the main buildings from one another, the question must naturally have arisen as to how the visitor could get about the immense spaces with expedition and convenience. There were no fewer than six methods of transportation in the grounds, three by water and three by land. The gondola is too well known to require further

further reference. The electric launch was one of the features of the water exhibits and was a very graceful and speedy method of conveyance from one building to another. Steam launches carried visitors from the North to the South Lagoon and *vice versa, via* the Lake. Transportation could be effected either by the wheeled chair or by the Sedan chair on *terra firma*; but the last and best mode of conveyance was by the intramural railway, a round trip on which gave an excellent idea of the various buildings and the neighbouring sights in a most comfortable and rapid transit. As an experiment in the realm of electric engineering this interesting mode of transportation deserves a somewhat comprehensive description.

The northern extremity of the line, which made an almost complete circuit of the grounds, only that portion facing the lake being excluded from its detour, was situated at the east end of the Fisheries Building; at this end was located the north loop over that portion of the lagoon. This loop was an excellent device to avoid the trouble and inconvenience of switching, as one train could follow another round the loop and thus take up its position in readiness for the next trip. I may remark here that a similar device was provided at the other end of the line at the south loop, situated to the south-east of the Agricultural Building.

Starting from the north loop the line passed the Fisheries Building and extended to the extreme northern end of the Park, passing through that portion of the grounds where the various State buildings were situated; the line then followed the western boundary of the Park, there being stations in close proximity to the Women's Building, Midway Plaisance, the Grand Court of Honour, and the Horticultural Building. The line crossed the annex of the Transportation Building and the Main Terminal Station of the Exposition, and after passing the west end of Machinery Hall Annex reached the southern loop, west of the Krupp Building. After leaving the northern loop the line served the State Buildings, the Women's Building, Midway Plaisance, the Horticultural Building, Administration Building, Machinery Hall, the Agricultural Building, the "L" Line Terminus, the Ethnological Building, Forestry, the Leather Building, and the Dairy Building, besides several important isolated exhibits. It will thus be seen that the intramural was a very great convenience to those having business or pleasure which called for their presence at points in the grounds which were a considerable distance apart.

The power-house, where were situated the engines and dynamos for generating the current necessary to work the line, was situated at the south-eastern part of the grounds, behind the Forestry Building. The total power produced was about 5,000-horse power, steam being obtained from five double Babcock and Wilcox boilers, thus making ten in all; and five engines performed the duty of driving the dynamos. Oil was used as the fuel. The power plant consisted of five engines and five generators of various sizes and types, ranging from 268 to 2,000-horse power. The smallest generator was of the direct driven type, which was connected with a McIntosh and Seymour engine of the high-speed tandem compound horizontal type, running at 150 revolutions per minute, connected with a Dean condenser. This engine and generator were capable of operating twenty ordinary street cars and yet occupied a total floor space of only 10 x 20 feet. The General Electric Co. were stated to be building six of the large generators for the Brooklyn (N. Y.) City Railway Company.

The switchboard was made of enamelled slate and was a striking feature of the installation. The board was composed of five panels, one for each machine, each panel containing all the instruments necessary for the control of the machine to which it belonged, including triple

triple pole switches, shunt rheostats, ammeters, automatic circuit breakers, lightning arresters, lightning switches, &c. The generators were adjusted to run in perfect harmony so as to divide the load exactly in proportion to their relative capacities—a nice problem, with generators of such varied sizes and types.

The line was raised on wooden trestles to a general height of 25 feet from the ground, and was carried on these by means of light iron girder work. The motors on the leading car were supplied with current by means of an iron block or shoe sliding on a steel rail placed outside the track, which acted as a conductor, the current being returned by the other rails to the wires below. The joints of this conductor were made with an ordinary fish-plate on one side and on the other with a strip of copper.

The curves on the line were rather sharp, those forming the northern and southern loops being 100 feet radius. On either side of the rails were bolted balks of timber, similar to those in use on the elevated lines in New York and Chicago, the object of this arrangement being to prevent the cars from being precipitated to the ground if the wheels were to leave the track. The track was double, and the total length when considered as single track was $6\frac{1}{4}$ miles.

A uniform fare of 10 cents was charged, which seemed rather high to those accustomed to the 5-cent fare general on all the city street railways, but this charge appeared reasonable when the outlay of capital was taken into consideration, as well as the somewhat exorbitant tax levied by the Exposition authorities. Tickets were bought and fares collected in the same way as that in vogue on the above-mentioned lines.

The trains consisted of a motor car and three trailers, the former equipped with four 50-horse power motors. An air-brake system was in use, which was worked by a small motor on the leading car, driving an oscillating cylinder pump. The signal whistles also were worked by the compressed air which operated the brakes.

Fifteen trains of four open carriages, seating 100 passengers to each car, and occupied three-quarters of an hour in the round trip. The first car of each train was provided with four motors, developing 133-horse power each, at 25 miles an hour. The power plant had a capacity of 3,700 kilo-watts. Six thousand passengers could be carried each hour. A part of the mechanism was of especial interest. The track was equipped with a block signal system, and electricity was employed to release the block, setting the signals of safety, and there was a device which threw off the current and set the brakes on the train in case the motor-man ran past a danger signal, and it was stated that a signal out of order acted in the same manner, and so notified the motor-man.

It will not be out of place to mention here that similar automatic block signal systems are in use on the main railway lines of the United States, and are worked either by electric or pneumatic power, the only difference being that the red discs are used to warn the trains of danger in place of the semaphores used in this instance. Of course on steam roads the current does not automatically stop the train as it did in this instance.

The current was carried from the power-station to the trains through a conductor consisting of a T rail, supported on insulating blocks, just outside of the track. Four sliding shoes, two on each side of the car, make the connection with the conductor, the current returning through the wheels to the rail, and thence through the steel girders of the superstructure to the power-station. To make the necessary connections between girders large plates of copper have been riveted to the steel with copper rivets.

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The intramural railway and its power-house formed a portion of the exhibit of the General Electric Company.

There could be no doubt as to the satisfactory nature of this experiment. As regards safety, no accident has occurred in connection with its employment, although vast numbers of passengers have travelled on it, and, as I have said, the curves at the loops on the line were very severe. All the inconveniences and discomforts of steam carriage were avoided. It has been asserted that as a result of this, and similar experiments, that the electric motor will soon supersede the steam locomotive as regards heavy and rapid transit. On this subject an able article from the *Philadelphia Ledger* contains some useful information:—

Edison's first conception of an electric motor for cars was of a locomotive proper, powerful enough to take the place of the engines on a steam road in the hauling of heavy freight or fast passenger trains. As far back as 1879 he had a motor running up and down hill at Menlo Park on a rudely constructed railroad. But the first commercial application of electric motors to the moving of cars took place on street railways, and on the trolley lines the power required is so small that it is applied directly to the wheels of the cars, no locomotive being used. Recently, however, the General Electric Company has constructed a real electric locomotive, now on exhibition at the World's Fair in Chicago. It is a double-ender, a specially constructed machine of a type that may soon take the place of steam locomotives on some of our larger railways for special service. The Baltimore and Ohio Railroad, a pioneer in the construction of steam locomotives, is also to be the pioneer in the use of electric locomotives. That company has built a costly tunnel under the City of Baltimore for its through trains, and immense electric locomotives built for it by the General Electric Company will be used to haul both passenger and freight trains through the tunnel. This will do away with the nuisances arising from coal smoke, dust, and cinders, and the tunnel itself will be made as light as day by 4,000 incandescent lamps, fed from the same central station that supplies power to the locomotive. The latter will be 1,200 horse-power and will consist of three separate trucks coupled together to form one motor. There will be twelve drivers to each locomotive and the weight of them will be from 90 to 100 tons. The power-station now in course of construction is to contain five generators, with a capacity of 700-horse power each at 600 volts—which is little more than the pressure used on the ordinary trolley-line.

There is not much that is experimental about this proposed use of powerful electric locomotives except the question as to the cost of operating, and that is a minor question in the limited use to be made of the motors by the Baltimore and Ohio Railroad. Even though electric power should be more costly than steam power, the advantages to be gained will offset the increased cost. But it is confidently believed that electric locomotives can be operated as cheaply as by steam locomotives. The latter are less efficient than compound stationary engines in a centralized plant, and the economies in the generation of power are expected to offset the losses resulting from double conversion from mechanical to electrical energy, and then from electrical to mechanical energy. These losses are considerable, but have been greatly reduced since Edison made his early experiments by the invention of improved methods of constructing dynamos and motors.

The experiment at Baltimore is being made on such a large scale, and with such liberal expenditure of money in providing the best available plant, that it may be expected to give an almost conclusive answer to the question whether electric locomotives can be economically used on the elevated and suburban railroads now operated by steam locomotives.

President Uhlman, of the Union Elevated Railroad, Brooklyn, is represented to have said that electricity was not practical as a substitute for steam, and that it would cost \$100,000 to make a test of it, but, as a matter of fact, electricity is now successfully used in the intramural (elevated) railroad at the World's Fair in Chicago, and the success of the surface trolley-lines proves conclusively that the system could be used on elevated structures. It cannot make any difference whether the road-bed is on the surface of the street or is on an elevated structure, except that a trolley-line can be more cheaply applied to an elevated structure than to a surface road. The question of operating cost remains. The trolley is the cheapest means of propelling cars of roads that cannot use steam; it remains to be seen whether it is cheaper than steam, or as cheap, and the experiment of the Baltimore and Ohio railroad will help to answer that question.

Under any circumstances, however, the introduction of electric in place of steam locomotives must proceed slowly. Existing roads cannot afford to throw away their motive power to substitute another unless it promises to pay for the sacrifice. An exception may be made in the case of a big corporation having short suburban branch lines. These might be equipped with electric locomotives, and the steam locomotives now in use be transferred to the main line, so that there would be no loss account through the sacrifice of existing motive power. But the elevated railroads of New York could make no use of discarded steam locomotives, and could scarcely sell them. It is not to be expected, therefore, that electric locomotives will rapidly take the place of steam locomotives. At best they will be slowly introduced, and at first for some special service, such as that of moving trains through the long tunnel under the city of Baltimore.

Ferris



THE FERRIS WHEEL—WORLD'S COLUMBIAN EXPOSITION.

Ferris Wheel and Ice Railway.

Whilst on this topic it may be as well to refer to some other pieces of engineering work of interest in connection with the Exposition. I mean the Ferris Wheel and the Ice Railway, both of which were located in the Midway Plaisance, and to the movable sidewalk on the pier at the south-east end of the Fair grounds.

As a mechanical triumph the Ferris Tension Wheel stood out boldly as one of the wonders of the age, and the creation of the brain of Mr. G. W. G. Ferris, of Pittsburg, Pennsylvania. Alone, and for a time unaided by capital, scoffed at by cynics and obstructionists who pronounced the invention a monstrosity at best, which would never turn, Mr. Ferris persevered until he realised the height of his ambition, and astonished all the skilled engineers of the world.

That the Ferris Wheel surpassed the Eiffel Tower of the Paris Exhibition there is no doubt, and it was a more wonderful achievement because it was a venture on unknown grounds, while the Eiffel Tower was constructed on well-known scientific principles. Twenty-five thousand dollars were expended in hard work and calculations in laying the plans of this remarkable invention before a dollar had been put into construction, and the accuracy of the figuring was shown by the perfect safety and success of its operation. The immense structure, consuming in its various parts over 4,000 tons of iron, 2,600 tons of this being in motion, under control of two immense engines, rose above Midway Plaisance 264 feet. The thirty-six coaches were models of comfort, and were daily filled with passengers, who enjoyed the magnificent scenery and the cool exhilarating amusement. These coaches held sixty persons comfortably, giving a combined carrying capacity of 2,160 passengers. The work of erecting such a prodigious piece of machinery as the Ferris Wheel is regarded on all hands as one of the most important feats of engineering ever done in the United States, and one, therefore, that called for unusual skill. It was entrusted to the F. J. M'Cain Company, of Chicago, a firm which has successfully carried through some of the most difficult undertakings in the way of engineering that has ever been achieved in recent years. There was required to put up the wheel about 540,000 feet of timber. The staging was put up 230 feet on each side, and in erecting this towers 90 feet high were put together, lying on the ground and then up-ended, when a derrick was set on top, by means of which the balance of the staging on either side of the wheel was erected. At first the staging was put up 140 feet high, or about the altitude of the axle, when the first half of the wheel was put in place. The balance of the staging was then put up as it became necessary to use it. The iron was raised with four derricks, having 56-foot booms, one on each corner of the staging. After the raising of the towers two small derricks, one on each side of the wheel, were brought into use to raise the staging. Four hoisting-engines were used in the erection of the wheel, and it required twenty 1,000-foot coils of rope on account of the great height to which the enormous mass had to be lifted. The raising of the shaft formed the most difficult part of the operation, as has already been noticed, owing to its enormous weight and the height to which it had to be raised.

While the erection of the Ferris Wheel is certainly a feather in their cap, and an achievement on which they may justly be congratulated, it is but one of many notable feats of engineering which the F. J. M'Cain Company have accomplished both in Chicago as well as in other parts of the country. F. J. M'Cain, the President of the Company, has erected some of the most difficult works of this class yet done on the American continent. He put up all the ironwork for Machinery Hall, a work of immense magnitude and taxing his utmost skill, and he did a similar work for the Spectatorium, where 50-ton loads

loads had to be raised to a height of 135 feet. The immense plates, channels, and angles, which formed the structural work on the wheel, consuming over 1,800 tons, were largely rolled by the American Iron and Steel Works at Pittsburg, Pa, operated by Jones and Laughlins (Limited). Much of the success of this remarkable triumph of mechanical skill was due to the perfection of the steelwork furnished by this firm to the Detroit Bridge Works, where it was carefully prepared for the various parts of the great structure. Mr. Ferris virtually depended on the superiority of the material rolled at these works for the strength and successful operation of his invention.

In conceiving the Ferris Wheel the inventor evidently had in mind the great strength and durability attained in the construction of large bicycle-wheels, and this principle has been carried out on a gigantic scale. These rods held the entire weight of the wheel, and were 85 feet in length by $2\frac{9}{16}$ in diameter, reaching from crown to axle, and were made by the Carbon Steel Company of Pittsburg, Pa. This firm also furnished the lower and upper pins and other parts which contributed to the wheel proper. Cynical doubters said that these rods would vibrate, and could not be made strong enough to suspend and revolve such ponderous weight; but Mr. Ferris had every confidence in the ability of the Carbon Steel Company to furnish the graceful spokes of his wheel, and to their workmanship and skill is due that ease of motion noticed while riding around the wheel. When the inventor consulted skilled engineers and told them that he proposed to hold hundreds of tons weight in the air with rods only $2\frac{9}{16}$ inches diameter they said no firm in the country could make them strong enough for the purpose of keeping the wheel rigid and round. They asserted that it was a question if a hanging wheel consisting of 1,700 tons of steel could be constructed to revolve, and that it was impossible to put such a mass in motion. Mr. Ferris consulted the Carbon Steel Company relative to the spokes capable of suspending this ponderous mass of metal, and they said it could be done—and how well it was done was attested by the daily revolutions in the Midway.

The most interesting feature of the construction was the raising of the main axle on which the wheel revolved. It was, moreover, the most difficult part of the erection, considering the enormous weight of the shaft and the distance it had to be carried from the ground to the top of the towers. Including the hubs, the shaft or axle weighed 70 tons, and the height was 137 feet. It was raised by eight 24-inch blocks, using a 2-inch rope. This was probably the heaviest weight ever raised to such an altitude, and it redounds to the credit of the F. J. M'Cain Co., to which firm this part of the undertaking was entrusted, that the great axle was so successfully placed in position. This remarkable piece of steel was a masterpiece of mechanical skill and art, being the largest piece of steel ever forged. It was turned out by the Bethlehem Iron Company, of South Bethlehem, Pa., and was 33 inches in diameter, 45 feet long, and weighed 56 tons, supported on two towers 137 feet high. Once in position this great axle revolved with ease. Then came the work of hanging the wheel upon it. Beginning at the bottom the heavy castings which formed the outer crown or periphery of the wheel were hung one by one to the rods which carried the weight of the wheel. Slowly the circle was completed, and the last of the sections, each of which weighed 5 tons, was raised to the height of 270 feet to drop into its place. As the last bolt was fastened the critical period in the construction of the wheel as well as the enormous axle was reached. Would it turn, or would the great weight cause a friction impossible to overcome? The powerful engines were started and the gigantic iron monster gracefully moved around this triumph of mechanical skill, not only to the satisfaction of the inventor and the world, but to the Bethlehem Iron Company, who may be justly proud in what may be termed the key to the
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the whole invention. This company, like many other immense iron manufacturers in Pennsylvania, control many specialities, and are among the leading iron manufacturers in the world.

It will be interesting to know where the great outer rim, over 800 feet in length, was made, with its remarkable gear teeth that connected perfectly with the chain running over the sprocket wheels. These two important details, which gave life and motion to the immense wheel, were the work of the Griffin Car Wheel Company, of Detroit, Michigan. Although the castings furnished by this firm formed only a small amount of the vast amount of iron consumed in the construction of the wheel; they were the real factors to the perfection of its mechanism.

The glory of the wheel was added to by electric illumination. The wheel was wired for a total of 2,000 sixteen candle-power incandescent lamps, supplied with a current obtained from two large 400 ampere dynamos furnished by the Western Electric Company. A row of lights was placed around the outer edge of the wheel, and a second row half-way between the outer edge and the axle, the current being taken from the triangular standards by means of large collector rings 5 feet in diameter. The lights were made to project so that when viewed from the midway the appearance was that of vertical bands of light 250 feet in height. The fixtures for carrying the lamps, the means of conveying the current to the moving wheel, and, in short, all the numerous details, were designed and worked out by the Western Electric Company.

Among those who had more or less to do with the construction of the Ferris Wheel, a conspicuous place may be allotted to the Walker Manufacturing Company, of Cleveland, Ohio, whose immense works are on the south-west shore of Lake Erie. Their specialities have hitherto been machine model gears and cable railway machinery, the company having built over twenty complete cable railroad plants. Their share in the construction of the Great Ferris Wheel was the making of the gearing and sprocket wheels, some details of which will be of interest. The first set of drivers had a 14-inch face, and 6-inch pitch keyed to a 16-inch shafting. The second motion, a 6-inch pitch and 27½-inch face, the largest gear in that set being 22½ tons, keyed to an 18-inch shaft. Its pinion or mate weighed 9 tons, and was keyed to a 16-inch shaft. The sprocket wheels were about 11 feet in diameter, with seven teeth or sprockets. The finished width of the sprocket wheel was 7 inches, and was keyed to an 18-inch shaft. The teeth of the sprocket wheels were accurately machined, so as to have a correct pitch measurement to agree with the links that engaged with the rim of the wheel proper.

There were two complete sets of this machine, one on each side of the pair of engines. This double set of gearing insured the propulsion of the wheel without twisting.

The thirty-six cars used to convey passengers around the wheel were perfect in construction and admirably adapted to their peculiar use. They were made by Thomas Clark and Sons, general contractors, 175 and 177, Aberdeen-street, Chicago, who have splendid facilities for all kinds of technical work of this description. These cars were 13 feet in width and 26 feet long, containing forty chairs for passengers, although the carrying capacity for each car was sixty people. They were built of yellow pine, with corrugated iron roof, and in all details of construction were strong and durable. The windows were of ⅜-in. French plate-glass, calculated to resist the strongest wind. There was no great motion in the cars as the wheel revolved, owing to the manner of their suspension on 6½-inch steel trunnion pins which passed through the outer cord.

Barre

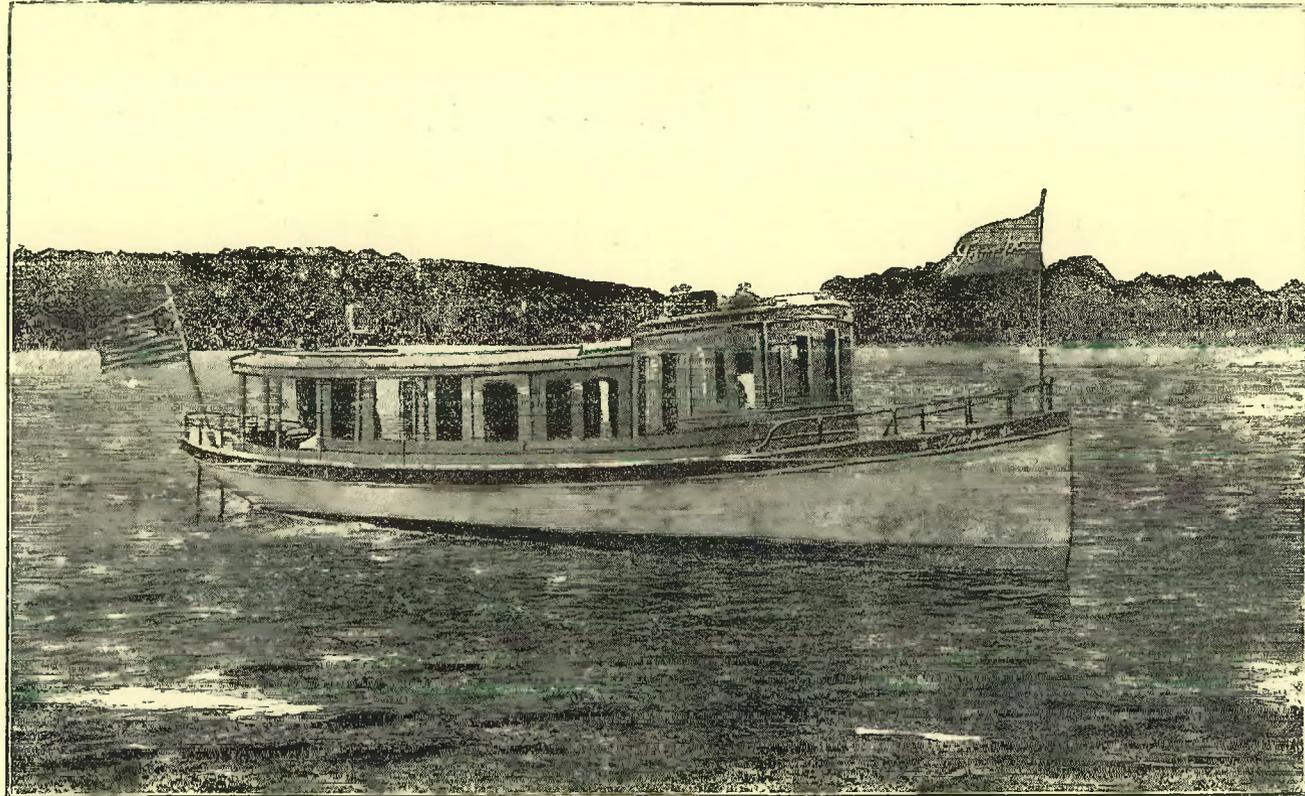
Barre Sliding Railway.

On the extreme southern edge of the Midway Pleasaunce ran what was known as the Barre Sliding Railway. It was a French invention, and was first given a practical demonstration before the public in the Paris Exposition of 1889. This would form an elevated road, the cars having no wheels. The rail was 8 inches wide, the substitute for the wheel being a shoe, which set over the side of the rail, and was practically watertight. Immediately behind each shoe was a pipe connection, in which was water under a pressure of about 150 lb. This water was forced under the shoe, and produced a film which raised the entire train about one-sixteenth of an inch from the rail. Connected with every second car was a turbine motor, which got its water-power from the same source as did the pipe connecting with the shoe. The power was delivered from a main pipe extending the extreme length of the road, and lying under the track in sections of 50 feet; that is, the application power was changed at every interval of that distance. The speed claimed by the inventors was 120 to 160 miles per hour. A speed of about 100 miles an hour has been demonstrated on a track less than one-third of a mile long.

Movable Side-walk.

The Movable Side-walk was a novel and interesting method of transportation, in operation on the pier at the south-east end of the Exposition Grounds. It was 4,300 feet in length, and had some remarkably sharp curvatures. The side-walk moved continuously in one direction, and was divided into two longitudinal sections; one moving at a speed of 2 miles, and the other, on which the seats were placed, at the rate of 4 miles per hour, so that a passenger could step from the stationary platform to the slowly moving one, and then to the faster one, where he seated himself, and was carried as long as he wished to ride. He then stepped off in the same manner, without shock, as the relative motions of the sections were so slightly different that the most timid person had no difficulty in stepping from one platform to another while the motion was taking place. As a protection against accidents, an automatic mechanical device was placed on the main circuit, and at intervals of 30 feet throughout the entire length of sidewalk there were bell circuits and push buttons, by which the entire tram could be almost instantly stopped, the platforms and continuous rails taking the place of a brake, the instant the power was shut off. A novel feature of this side-walk was that it would not require the services of a motor-man or operator. Its seating capacity was 6,000 passengers at one time, at a speed of 6 miles an hour; thus, 36,000 passengers could be carried past a given point in one hour. Its trucks each weighed almost 1,500 lb., and the platforms 1,200 lb. each. There were 340 of these platforms and trucks, making a total weight of 918,000 lb. The motor trucks, of which there were 10, weighed 12,000 lb. each, the total weight being about 519 tons. The General Electric Co. furnished the electrical equipment and had charge of the installation. The electrical equipment consisted of 24 fifteen horse-power railing motors, two of which were placed on each of 12 motor cars. The conducting wire was supported between the lower platforms on the stationary timbers by means of special wire insulators. The collecting device was supported from the underneath side of the overhanging of the slow platform, keeping the entire distribution circuit concealed. The rails were not braided together, as is usually the case with electric roads, and the continuous flexible rail which passed over the top of the wheels of the trucks made a continuous return circuit, the return lines being simply attached to the rails at one point.

Exhibits



NAPHTHA LAUNCH ON LAKE MICHIGAN.

Exhibits of small Steam Launches, Naphtha Launches and Gas Launches.

As is well known, the continent of North America possesses the largest system of inland lakes in the world, together with some of the finest and largest rivers, of which the Mississippi, the "Father of Waters," is the longest and widest river in the world. As a consequence of this there is a constant and ever-increasing demand for small vessels capable of navigating these large rivers and their tributary streams, and of being handled by private parties for their own amusement and recreation. The result of this demand has been that several firms have been formed for the purpose of supplying the demand, which produce annually thousands of these small pleasure-craft, and these launches may be seen daily during the summer months on the harbours of New York in the east and of San Francisco on the west, and cruising about the great system of inland lakes in the north, and on the rivers of the south. Notwithstanding this, it was a surprise to me to see so few exhibits of this class of boats in the Transportation Building of the World's Fair, there being only one exhibit of naphtha launches, one exhibit of steam-launches, one exhibit of oil-vapour launches, and one exhibit of electric launches.

Naphtha Launches.

Although this form of self-propelling boat has been on the market of America for some years, I think that it is comparatively unknown in Australia, and therefore a short description of it will not be out of place in this Report. When these launches were first introduced on the waters of the continent of North America there was an impression that they were mere toys, and would soon be ousted from the field by the older and longer-established steam-launch. This erroneous impression was probably created by the small size of the motor employed to propel them, as compared with the steam-engine and boiler used in steam-launches. Time, however, has shown that for small craft the naphtha motor is more suitable in every way both for pleasure and business launches, as it is entirely automatic, is situated in the stern of the boat, and thus allows far more room for passengers, and produces no smell or smoke.

The only Naphtha Launch exhibited was built by the Gas Engine and Power Co., of New York, who build launches from the 16-foot 1 horse-power boat up to the 40-foot 10 horse-power cruising launch, fitted with all the conveniences and luxuries which can be put in the small space at command. This cabin cruising launch had a length of 40 ft.; beam, 8 ft.; forward deck, 8 ft.; pilot-house, 6 feet 9 inches; saloon, 7 ft.; closets, 1 ft.; toilet-room and galley, 4 feet 9 inches; engineers' space, 1 foot 10 inches; engine compartment, 5 ft.; after-deck, 4 feet 10 inches. The hull was cedar-planked, excepting the garboard strakes, which were of oak; steam-bent oak frame; upper strake and planksheer of oak; white pine decks, which were calked; hull painted white; copper fastenings throughout; extra shoe on keel; brass rudder and skag; and name each side of bow in brass letters. The forward compartment was finished in mahogany, and raised 8 inches above main roof. It was fitted with plate-glass windows to slide down, and had hatches in roof on each side for entrance. There was a brass steering-wheel, and chain gear and bells for signalling engineer. There were damask curtains to the windows; hair-filled, leather-covered cushions; and linoleum or carpet for floor. The saloon was finished in mahogany, and had sliding plate-glass windows on each side. The seats had extension lids to form bunks, and lockers underneath. There were hair-filled, plush-covered cushions made in sections, to be used for seats or bunks, and two plush-covered pillows filled with feathers. In addition, there were damask curtains to the windows, a Wilton carpet, two cabin-lamps with

with shades, bevelled edge, full-length mirror in door between saloon and galley, and two closets in the after end of saloon, fitted with bevel-glass swinging-doors, one with hooks for clothes and the other with shelves, and one folding mahogany table.

As regards the source of power in these launches : Naphtha is vaporised in a copper boiler, or "retort," and is then used expansively in an engine somewhat similar to a steam-engine. Part of the vapour is used in a ring burner to heat the coil. After the vapour is used it is condensed in a copper keel condenser and used over again.

The exhibit made by this Company was a very comprehensive one, and showed specimens of all their launches, in which the finish was admirable and the hulls were solidly constructed.

The prices of these launches were as follows :—

16 feet	...	...	1-horse power	...	...	\$764
18 "			2 "			857
21 "			2 "			1,013
25 "			4 "			1,162
30 "			6 "			1,813
40 "			10 "			5,250

Steam-launches.

A fine exhibit of small steam-launches was made by Thos. Kane & Co., of Chicago. The launches exhibited were fitted with patent oil-burning boilers and engines, and showed very careful and well-finished workmanship. The "Racine" boiler used in these boats is a sectional boiler of the porcupine type, and combines lightness, quick steam-making power, freedom from priming, and absolute safety. It consists of a main central upright column, with welded ends, the upper part of which acts as a dry steam-dome, while at the lower part arms with smaller wrought-iron pipe, welded at the end, are threaded into and radiate from it. These tubes are filled with water, thus preventing them from burning out. It will be seen that there are no riveted seams to cause leakage, and that it is practically impossible to explode it. The utmost carelessness could accomplish would be to open a tube, causing steam to escape as from a safety-valve. An exhaust steam-heater heats the feed-water to nearly boiling-point, thus making a great saving of fuel and deadening the noise of the exhaust.

On the outside of the boiler is a neat jacket of Russia iron. Between the outside and inside jacket is a layer of asbestos, to prevent the radiation of heat. Every boiler is furnished with steam-gauge, water-gauge, hand-pump, safety-valve, heater, automatic water-regulator, atomizer, and trap. Marine boilers are supplied with whistle, three gauge-cocks, fusible plug, and everything necessary to pass Government inspection. These boilers are made of the best quality of charcoal, lap-welded wrought-iron pipe, tested to a hydraulic pressure of 300 lb. to the square inch. It will thus readily be seen what an effective heating surface is obtained, and also the advantages in weight, safety, economy, &c., over the usual tubulous boiler.

There are two different styles of engines used in these launches ; for the smaller sizes, from one to four horse power, a Pierce double pitman engine is made use of. The novelty of this invention consists in the piston-rod being made of much greater length than usual, and instead of being guided by the customary crosshead, is extended downward to a tubular guiding-sleeve, seated in a horizontal crossbar which is cast solid with the frame or trunk of the engine. Motion is communicated from the piston-rod to the crank by the pitman. By means of these forked pitmans strains are avoided by transmitting power from both sides of the pitman rod to the crank, and it is impossible for an inexperienced operator to get the engine out of line when

when taking up wear. For the larger-sized engines the Racine automatic is used, which is a double-crank vertical engine. There are two bearings for the crank-shaft, which are cast solid with the frame and are long and large in diameter. The crosshead slides are also cast solid with the frame. The crank is of steel, and is balanced against one half of connecting rod. The connection rod has brass boxes. The piston is hollow and has snap packing rings, which are turned larger than the diameter of the cylinder, then split and sprung together and turned the same diameter as the cylinder, making a perfect fit at once. They are self-adjusting, tight, yet free in their action. The piston rod and crosshead pin are steel. All working parts are made adjustable to wear.

Up to and including five-horse-power engine and boilers are on one base, above this size on separate bases. Engine and boiler complete include sight-feed lubricator, necessary oil-cups, shaft coupling, brass plunger pump, hand pump (for producing the necessary air pressure when the boiler is cold), exhaust heater, automatic water regulator, steam-gauge, water-gauge, safety-valve, smokestack, oil-burner, and oil-trap.

These boilers may be made into coal or wood burning boilers by removing the cast-iron deflecting plates in the fire-box.

Sizes and draught, &c., of these launches are as follows :—

Length, 19 feet;	draught, 16 inches;	one-horse-power
" 22 "	" 18 "	two "
" 22 "	" 20 "	three "
" 25 "	" 20 "	three "
" 30 "	" 26 "	six "
" 33 "	" 28 "	six "
" 40 "	.....	twelve "
" 50 "	.....	fifteen "

There was in the Transportation Building only one exhibit of launches, propelled by means of gas or the vapour of petroleum; a boat of this class was on exhibition in the water of the north inlet, and prospective purchasers were welcome to take a trial trip in it out into the lake. The engine was similar to a gas-engine, and used the vapour of petroleum or mineral oil, which was carried in a tank in the bow of the boat, and which was exploded above the piston by means of an electric spark from a small battery.

An exhibit was made by a German firm of motors propelled also by means of oil. In the Transportation Building were shown motors or locomotives, and one was shown in actual operation on the tracks near the terminal station.

A launch which was of the same system of propulsion was also exhibited in the lagoon south of the Agricultural Building, where also the naphtha launches were shown in actual operation. This was the Daihmler system, and seemed to be very satisfactory.

Link-Belt Exhibit.

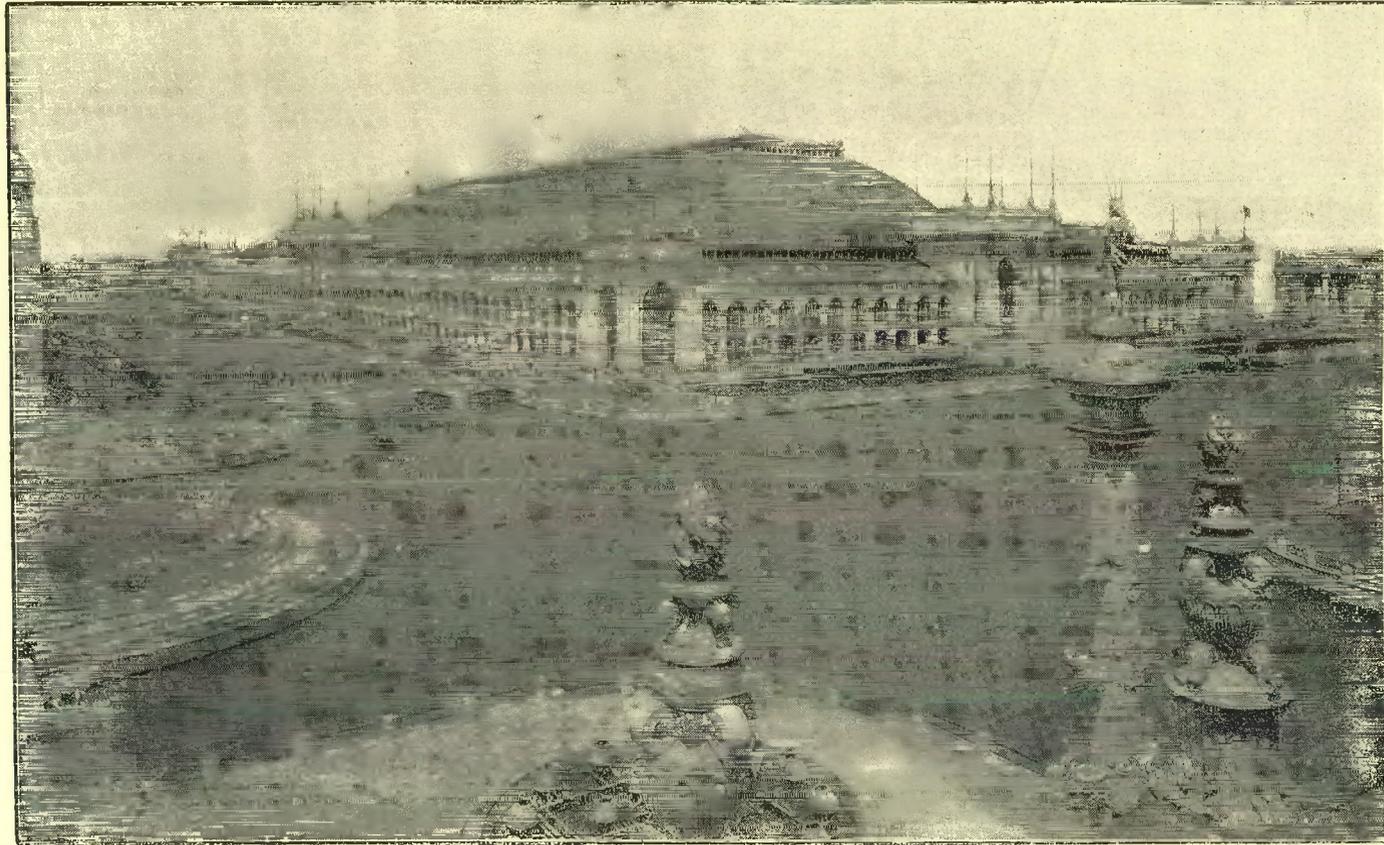
An interesting and novel exhibit was made by the Link-Belt Machinery Company of Chicago in the Transportation Building. The name of the company suggests the business which they do in the use of a detachable chain-belt for the transmission of power, but this primary use of chain belting, extensive as it is, is of minor importance compared with the use of these link-belts as the basis of elevators and conveyors for the saving of time and labour. These carriers, designed for that particular object, after the experience of many years, are used with economy in almost, if not every industry, in handling from floor to floor and point to point any material in bulk, barrels, bales, bundles, or bags. The business is a singular one, and the company almost the only concern in the world successfully engaged in it.

The

The exhibit showed six machines all in operation. The number of these, as well as the height of the four elevators and the length of the two conveyors, was necessarily limited by the space available, but the principle was illustrated, and the different adaptations of the devices to meet varying conditions were readily suggested. The first exhibit was a package and miscellaneous freight carrier, which was practically a travelling platform on an endless chain designed for the purpose. It is used in railroad, steamboat, and private warehouses, breweries, packing and canning warehouses, starch, soap factories, &c. At the rear of the exhibit was a conveyor made of peculiarly curved steel scrapers, attached to chain and running in a steel trough. This conveyor was so arranged as to show its application to locomotive coaling stations, but the type is used for handling coal under all conditions, ashes, earth, grain, stone, or and in fact every loose material. For raising these materials to any height, a continuous bucket elevator was exhibited with a very cleverly designed boot, in which choking is impossible. The buckets were of steel, and overlap, giving clean discharge at head, and plenty of time to fill at foot at slow speed.

The other elevators shown were a package elevator, made of trays freely suspended between two chains, and used in dry goods houses, candy factories, book-binderies, printing establishments, bakeries, starch works, &c., to handle their products from floor to floor. A freight elevator, similar in design, with swinging trays, but with the latter intermeshing with fingers or skids on the floors, so that the elevator will pick up or deliver its load automatically at any floor where the skids are set for the purpose. These elevators are used in warehouses, for heavy freight, cotton bales, and barrels in sugar and oil refineries, &c., and have recently been very successfully applied as a permanent fixture in the hold of steamers for the rapid handling in and out of the cargo. Another elevator was shown for flour and sugar barrels and sacks, with carrying arms, that, when tripped automatically, deliver their load at any desired floor. The capacity of each elevator of the above type is from 600 to 1,200 barrels per hour. All of these machines were driven from a central motor with Manilla rope transmission and automatic tension carriage, a form of drive now being extensively adopted in the United States, and of which the Link-Belt Machinery Company were the pioneers.

The exhibit also included quite a number of component parts and short sections of many elevators and conveyors, as well as a large collection of various styles and sizes of chain. The boxes in which much of the shafting runs are bushed with fibre-graphite, and are never oiled. The company uses this material extensively, and with most excellent results. The whole exhibit was surrounded by a very unique and attractive railing, on which are displayed several hundred views framed in link-belting of the various elevators and conveyors built by this company in operation.



MANUFACTURES AND LIBERAL ARTS BUILDING FROM SOUTH-WEST.

Manufactures Building and Exhibits.

Description of the Building.

THIS building was constructed for a twofold purpose. In it the exhibits representing not only the manufactures, but also a portion of the liberal arts of the world were accommodated. Notwithstanding its immense size, for it was the largest and most important structure in the Exposition—indeed the largest covered area in the world,—it was most symmetrical in its proportions. Despite the fact of its large extent every foot of available space was taken, and it was even asserted by conservative judges that more than double the space could have been assigned to most worthy exhibits, and even then the clamor for more room would not have been wholly satisfied. The immensity of this building alone was intensely wonderful in its grandeur. It was three times larger than the Cathedral of St. Peter's in Rome, and four times larger than the old Roman Coliseum, which seated 80,000 persons. The central hall, which was a single room without a supporting pillar under its roof, had in its floor a fraction less than 11 acres, and the entire building could comfortably seat 300,000 people. There were 7,000,000 feet of lumber in the floor, and it required five car-loads of nails to fasten the 215 car-loads of flooring to the joists. The exterior outline covered an area of nearly 32 acres, and, including the galleries which encircled the interior, afforded in the aggregate 44 acres of exhibiting space. This large structure was covered with an arched roof of steel and glass, affording ample light and ventilation. It measured 1,687 feet x 787 feet; the height of the walls was 66 feet; the height of the four centre pavilions, 122 feet; the height of the four corner pavilions, 97 feet; the height of the roof over the central hall, 237.6 feet; the height of the roof truss, over the central hall, 212.9 feet; the height clear from the floor, 202.9 feet. The span of the truss was 382 feet; the span in the clear was 354 feet. The width of truss at base, 14 feet; at the hip, 32 feet; at the apex, 10 feet. The weight of the truss was 300,000 lb., and with the purlins 400,000 lb. The cost of the building was \$1,700,000. The materials consisted of 17,000,000 feet of lumber; 12,000,000 lb. steel in the trusses of the central hall; 2,000,000 lb. iron in the roof of the nave. There were 11 acres of skylights and forty car-loads of glass in the roof. Within the building a gallery 50 feet wide extended around on all the four sides, and projecting from this were eighty-six smaller galleries, 12 feet wide, from which the visitors could survey the vast array of exhibits and the busy scene below. The galleries were approached on the main floor by thirty great staircases, the flights of which were each 12 feet wide.

“Columbia Avenue” 50 feet wide, extended through the mammoth building longitudinally, and an avenue of like width crossed it at right-angles at the centre. The building was rectangular in form, and the interior was divided into a great central hall, 380 ft. x 1,280 ft., which was surrounded by a nave 107 feet wide. It was in the Corinthian style of architecture, and in point of being severely classic excelled nearly all the other buildings. The long array of columns
and

and arches, which its façades presented, was relieved from monotony by very elaborate ornamentation. In this ornamentation female figures, symbolic of the various arts and sciences, played a conspicuous and very attractive part. The exterior of the building was covered with staff, which was treated to represent marble. There were four great entrances, one in the centre of each façade, which were designed in the manner of triumphal arches, the central archway of each being 40 feet wide and 80 feet high. Surmounting these portals was the great attic-storey, ornamented with sculptured eagles 18 feet high, and on each side above these side arches were great panels with inscriptions, and the spandrels were filled with sculptured figures in bas-relief. At each corner of the main building were pavilions forming arched entrances, which were designed in harmony with the great portals. The building occupied a most conspicuous position on the grounds. It faced the Lake, with only lawns and promenades between. North of it was the United States Government Building, and south the harbour and the injutting lagoons; west of it was the Electrical Building and the lagoon separating it from the Wooded Island. The building was provided with 10,000 electric lights, and the aisles were lighted with ornamental lamp-posts bearing shielded arc lights.

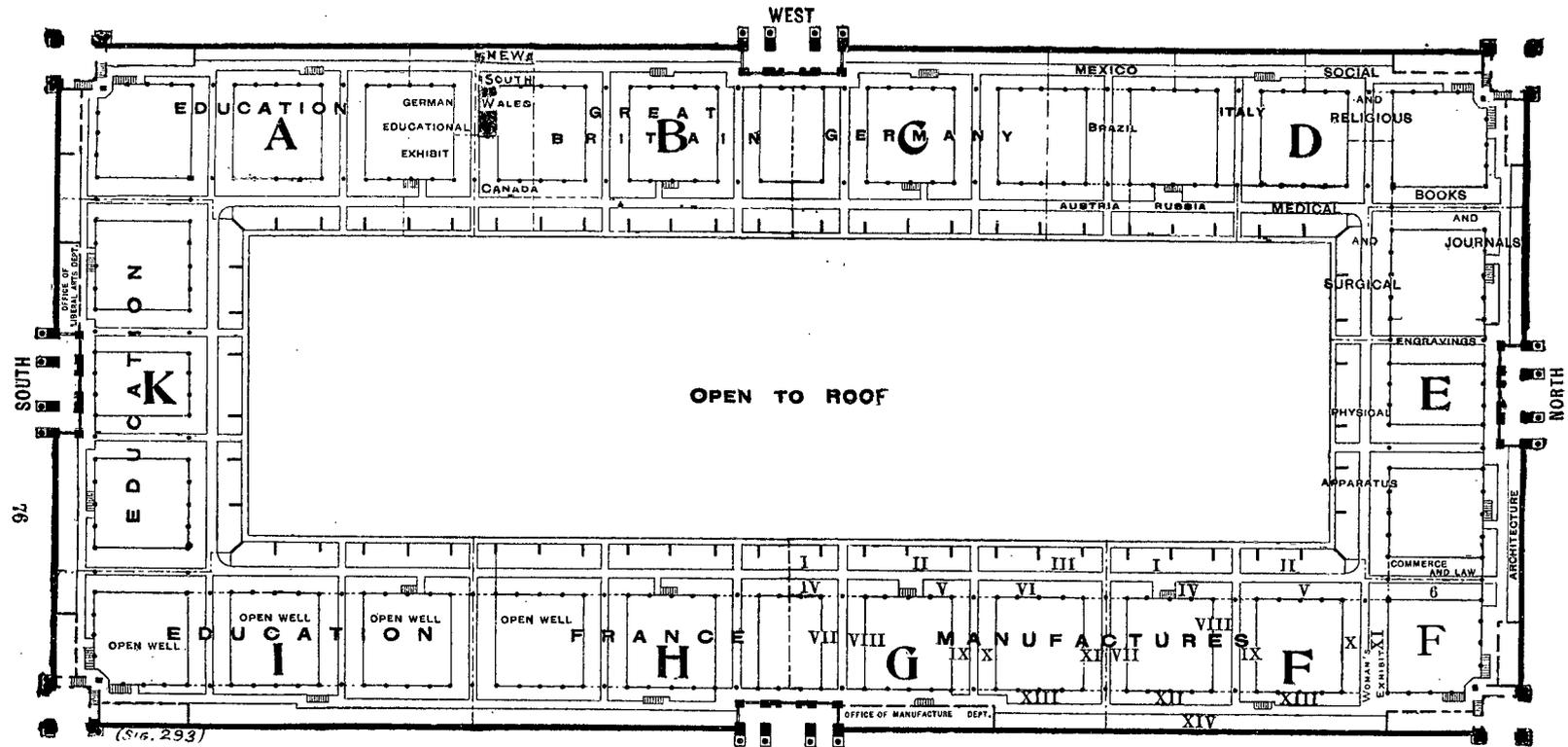
The Roof.

The great roof of this building was erected with a rapidity that is without a parallel for a work of similar importance. The weight of iron was 6,000 tons, and the contracts for the manufacture and erection was signed by the Edgemoor Bridge Works, Wilmington, Delaware, on December 24th, 1891. The term of the contract provided that the roof was to be delivered complete by the 15th August, 1892; so that the contractors had to manufacture the material, to carry it nearly 1,000 miles, and to erect it within a period of less than eight months. On May 24th, 1892, a large amount of the ironwork was on the ground, and by that date the first complete bay of two great ribs, with the complicated longitudinal girders and bracing, were in place. The time of the erection of the first bay was fourteen days, and the rapidity of the work well illustrated how completely elaborate were the plans of the engineers entrusted with the carrying out of the details of the erection. At a later stage, with further experience on the part of the workmen, the time for the erection of a bay was reduced to ten days.

A somewhat unusual procedure was had recourse to in the building of this as well as of the other great structures in Jackson Park; in order to facilitate the progress of the work the whole floor of the building was laid complete beforehand. A firm and level platform was thus obtained to work upon—an advantage that will be appreciated by those who have ever been responsible for the erection of large roofs, especially when founded upon marshy ground. The Columbia Avenue, already referred to, was a remarkable highway, and contained a number of striking features, to some of which, such as the Yerkes Telescope and the elevators which carried visitors to the roof, I shall again return. The front of the Japanese space was built in pure Japanese architectural design with grotesque but elaborate decoration, coats of arms, and figures of animals. The Austrian and the German spaces were fronted by most magnificent displays of art and architecture. The French space had caryatides leaning against each other and supporting the arches overhead and constituting eleven bays, enclosing the whole section. The main door was semi-circular in shape, and the tympanum beautified by ornamental pictures and sustained by Corinthian columns. This door led into the first hall, and from it one could pass into all the various halls and courts, in each of which was a separate characteristic display. Other countries had more or less elaborate frontages, but all represented some characteristic



MANUFACTURES AND LIBERAL ARTS BUILDING FROM NORTH-WEST.



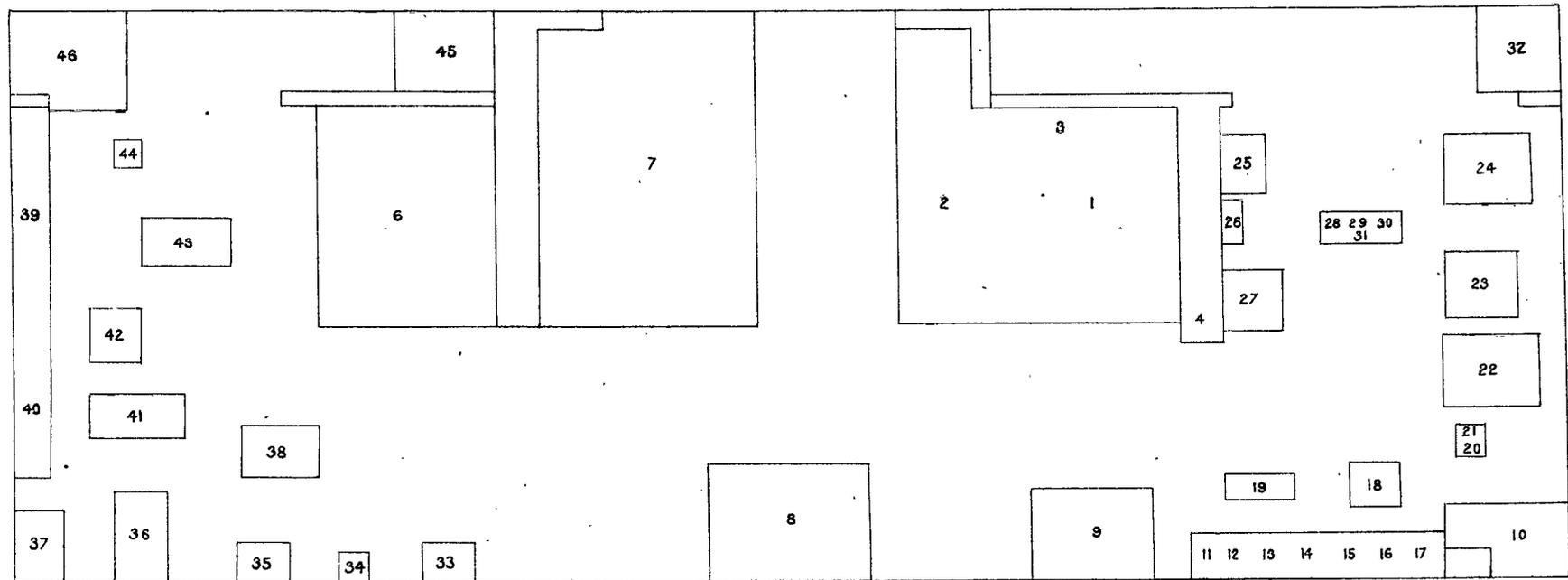
EAST SIDE, Lake Front. WORLD'S COLUMBIAN EXPOSITION.
 Gallery Plan, MANUFACTURES AND LIBERAL ARTS BUILDING.

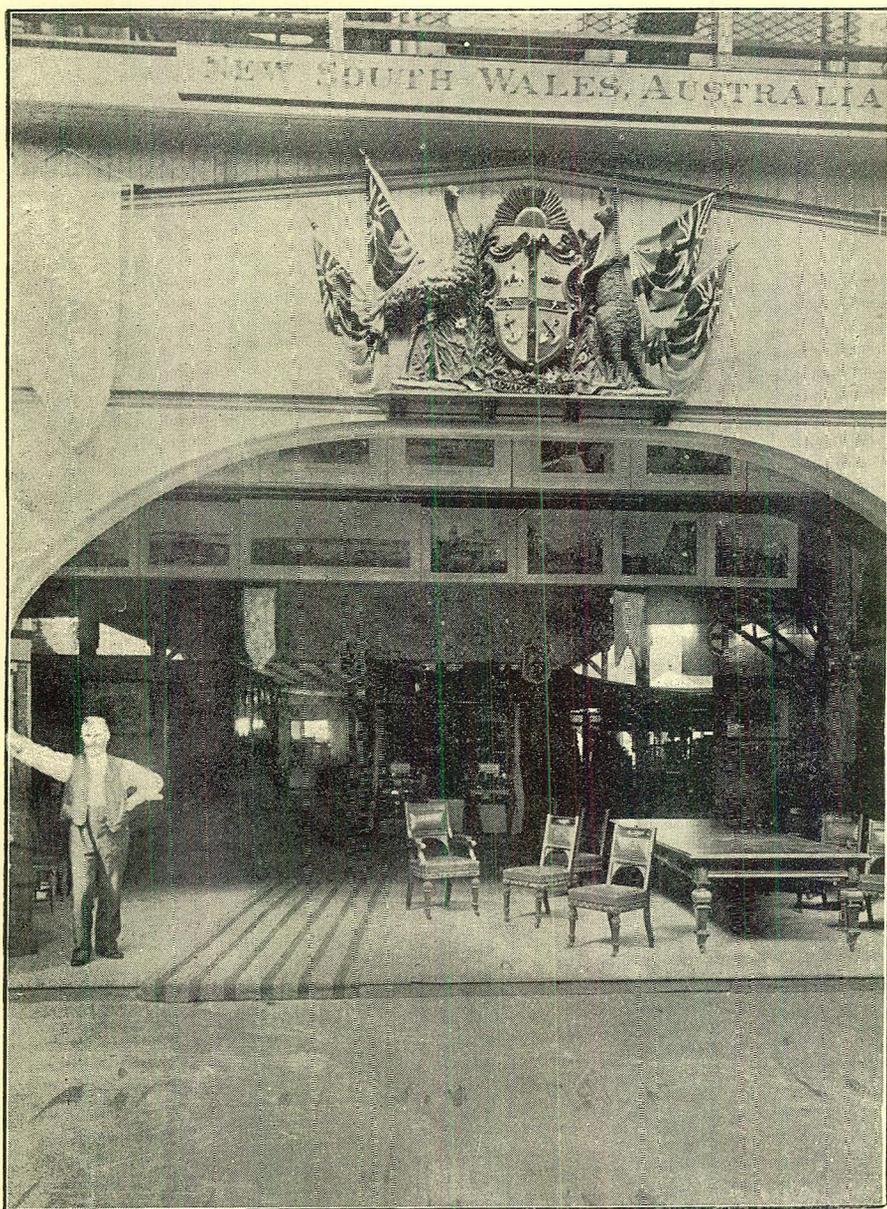
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MANUFACTURES SPACE — NEW SOUTH WALES
GROUND PLAN

W Fitzwilliam Terry,
Superintendent,
June 1893.





SECTION NEW SOUTH WALES COURTS, MANUFACTURES BUILDING,
SHOWING FURNITURE EXHIBITS.



NEW SOUTH WALES COURT, MANUFACTURES BUILDING.

characteristic national architectural feature. The great width of the avenue, the immense height and expanse of the roof overhead, and the moving throngs of visitors, made the avenue one of the first sights of the Exposition.

New South Wales Court.

When in September, 1892, I arrived in Chicago for the purpose of arranging for space for our exhibits in the various buildings, I found that I had come too late to obtain a place in the Columbia Avenue, the main avenue of the building, all the space in this locality having already been definitely and officially granted to various other countries. I then selected a very excellent position, in the next main avenue, having Canada to the east, Great Britain to the north, Persia to the south, and India, Jamaica, and Ceylon to the west. The space was beneath one of the great galleries of the building, and in it were some of the immense steel trusses of the building. The plan that I adopted for the general outline of the court was at once effective and economical. I divided the front into three great arches, thus severing the space apparently into three courts. Over the centre arch was placed the coat of arms of our country sent from Sydney, appropriately coloured, and on each side over the other arches I placed the great photographs of Sydney looking from the east and from the west respectively. The central front was made to advance a few feet from the wings and handsome balustrades adorned each of the spaces at the foot of the arched openings of these wings, while festoons of indigenous and characteristic flowers were painted down the walls. The whole floor space was 5,090 feet, and the wall space about 10,000 feet. Round the internal walls and on the back wall of the avenue at the rear of our space were placed the large photographs of all the New South Wales business houses, mercantile establishments, banks, insurance offices, and several of our streets. In the south space were placed the eucalyptus, and leather exhibits, blacking, soap, boots and shoes, asphalt tiles and similar articles. In the centre court the handsome furniture suites made of colonial timbers sent by the Commission were placed, and in the north space the Government Printer's bookbinding display. The beautiful billiard-table of Australian woods, by Heiron and Smith (so unlike the American billiard-tables), and the fur exhibits were placed in the front of the North Court, while in the back portion of the court were the exhibits of miscellaneous clothing, waterproof manufacture, and the horse-shoe exhibits. The various plumbing and sanitary exhibits were well placed and the hospital beds for which room could not be found in the Women's Building were located here, where they were examined by many interested persons. The watch exhibit of Mr. Benjamin was also kept in this corner for fear of accident, as also were the coins sent by Mr. Hyman. Here also were the exhibits of Mrs. Hetherington Carruthers, also excluded, for want of space, from the Women's Building, and various other exhibits. This court was well decorated, and with its blue walls, its numerous large photographs, and its excellent exhibition, was visited by many persons; in fact it was a thoroughfare between the courts in front and those in the rear.

It would be impossible to give even an outline description of the immense number of exhibits of all kinds from all parts of the world representative of the progress in Manufactures and Liberal Arts collected in this great building, and, consequently, the remarks I shall make in connection with them must be regarded merely as an outline of the chief matters which attracted my attention in the various courts. No mere catalogue would suffice to describe the encyclopedic nature of the exhibits from nearly every country under the sun, and to render anything like an adequate description of some of the exhibits would demand the highest talent of the ablest expert in the several departments.

PORCELAIN

PORCELAIN AND ART.

One of the most thoroughly artistic and beautiful collections of porcelain at the World's Fair was that shown in the British Section. It was composed chiefly of porcelain from the factories of Wedgwood, Copeland, and Minton. As is well known, the English manufacturers now possess the art of reproducing the most lovely of porcelains, Sèvres. As a matter of fact, the "Bleu Turquoise" and the "Rose Dubarry" reproductions are considered by many experts to be more exquisite in their note of colour than the modern specimens coming directly from the Sevres factory. The exhibit showed a splendid massing of fine, useful, and decorative china and was very impressive, inasmuch as it did not comprise the opaque, pie-crust compositions now so much in vogue. The luminous porcelains were almost entirely used as a body embellishment, and all the decorations were by hand, and not printed. A case filled with the celebrated English porcelain *Pâte-sur-Pâte* made a pretty picture, and it is questionable if ceramic manufactures have ever attained a higher artistic point than in the making of this class of porcelain. The process is of Chinese origin, consisting of the application to the surface of the vase of thin layers of liquid white china clay, in which the subject or picture is drawn or executed. The work on the vase is completed when in an unfinished, or, rather, unfired, state, and, as the liquid white clay is absolutely opaque until it has been vitrified by the fire, it requires great experience to foresee the effect which the vitrefaction will have on the different thicknesses of clay. The result is very like cameo work, but the process infinitely more difficult. The cameo artist sees at once the effect he wishes to obtain, while in the *Pâte-sur-Pâte* it is impossible to determine the result until after the firing. The artist of this lovely porcelain was by Solon, of London. In tone the vases were powder blue, metallic green, black, and dark brown, which acted as a satisfactory body-colour for the white embellishments. In form the vases were cylindrical, flat, and in the shape known as Pilgrim. The most beautiful in the collection was one of pure Grecian shape, illustrating "The landing of Cupid's crew." There were also plaques in the same ware which were highly decorative. The scheme of designs for the modern sculptured or cameo glass were those representing female figures in various attitudes, nymphs flying from Cupid's darts, and vanishing apparitions floating heavenward. The reliefs were mostly accentuated. *Jardinières*, both large and small, were distributed about the entrance to the booth, and they were also placed on stately pedestals within, this felicitous arrangement of faience producing the effect of a well-equipped room. There were dainty tables, which held their fragile burdens of tea-sets of milky-white porcelain, embellished with festoons of the poetical laurel, the natural tonality of the leaf being followed. There was a spring-time freshness suggested by this green and white decoration which was refreshing to a degree. Her Royal Highness the Countess of Airlie had allowed a reproduction to be made of a dinner service that has for many years been used in her family. It was a brilliantly coloured transcription which brought memories of flowers found in kitchen gardens, made slightly grotesque by being conventionalised. A cabinet of dark wood contained many objects of clever workmanship. In it were four examples of Henri Deux ware, which is, perhaps, better known as *Faïence D'Orin*; also, umbrella-handles painted with moss-rose buds, urn-shaped turquoise, blue vases exquisitely decorated by well-known artists who have become famous for their painting on porcelain. In the year 1815 Swansea porcelain was highly valued, but it is now almost impossible, except among the old collections of china, to find an old bit of it. None but an expert connoisseur could, however, tell the old from the modern, so accurate were their productions.

The

The Victoria Ware is very popular in England, and the shapes found in this exhibit were very graceful, but the colour was opaquely treated and the gold decorations seemed excessive. Copies of the Sèvres plates used by the Royal Family of England were interesting from the association and as examples of unrivalled skilful workmanship. They were placed in plaque position. The dessert plates used by Her Majesty the Queen at Windsor Castle had a clear white surface to which was added a border of blue embellished with thistles and gold. Balmoral Castle is supplied with the dessert service of thistle decoration, and one on which is a bunch of pink heather tied with blue ribbon. A lovely plate of the Rose Dubarry colour, on which were tied garlands of roses and forget-me-nots, was a reproduction of one used in the Queen's household. It would be difficult to find a colour more pure than the green used in the service of the Prince of Wales' yacht. Over the surface of the green were studded points of gold which intensified its luminousness. The most beautiful of all these royal porcelains was the dessert plate used by the Prince of Wales at Sandringham. It was in tonality white and turquoise blue with the jewelled motive of decoration. The jonquille, powder blue, and Bleu-de-Roi colours manufactured by Messrs. Minton were lovely creations. So many years they worked diligently to obtain paste and colours equal to those of the Sèvres factory, and their industrious efforts have now been crowned with success. Copies of vases after the Sèvres artizans as on their shelves of glass in cabinets were quite as fine and valuable as any specimens of porcelain could be. The pierced bottle-shaped examples in blue and soft cream were exquisite.

The collection of Royal Worcester displayed in the British section was a comprehensive summary. For many years Worcester porcelains, whether soft or hard, have not only been counted amongst the most beautiful of ceramic manufactures, but, in a mercantile sense, the most important of all the English porcelain factories. Each year the blue and white, an imitation of the waukin, is seen less and less frequently, a matter to be regretted, as it was undoubtedly one of the most artistic productions of the Worcester manufactory. Without doubt the most beautiful examples of Worcester were the pierced or lace-work bowls and vases. They were endless in form and colour embellishments, and have been deservedly popular. As is well known, no fine collection of fine bric-a-brac is complete without one. The porcelain is enduring; it never loses its brilliancy of colour, and the glaze remains always uncracked. One of its most charming decorations is the passion-flower on an ivory white ground. The thin or egg-shell china was unsurpassed, both in shape and texture, and the golden-jewelled work made by this factory was equal to any manufactured by the Viennese. They were the first to introduce the ivory-finished porcelain; but their trend was to overdo its circulation, thus making the repetition tiresome, and the desire for the coloured pieces which are luminous, inevitable. The sculptural examples in the collection were excellent, the modelling was good, and the subjects interesting. Among these was a reproduction of the jubilee bust of Her Majesty, with sculptured trophies, emblematic of the Navy, India, the Colonies, and Art and Science. A soft metallic green and old rose pink was a new colour in the motive of decoration. Table china was exquisite in tonality, embellishment, and grace of outline.

There was a moderately large collection of Staffordshire ware. In it were many distinctly pretty specimens, especially examples of the gold and green bronze, combined with the milky-white china.

The Cauldon china, although a thoroughly English production, was exhibited by a Chicago firm. There was much that was novel in the showing, and the exquisite floral designs on its highly-glazed surface looked very like a veritable nosegay. The dessert and entrée plates,

plates, teacups and saucers in the most dainty design, all bearing the new Cauldon mark (the old mark not being used now any longer), were works of art. The body of the plates was white, with slightly scalloped edges and a gilt finish, a wreath of purple pansies on a ground of what is called guinea-hen dot. The cups and saucers had carnations, sweet-peas, and asters apparently thrown over their surface; and this careless and unstudied effect was charming. It was difficult for a number of years to obtain good specimens of Cauldon, but many of these new specimens were unique, and the opaque examples were quite equal to those made by the Royal Worcester factory.

Coalport, a porcelain that has become in the last few years very much in demand in America, is deserving of its popularity. The gold and jewelled work on this porcelain was very superior, and the massing of fine and decorative china was charming. The beauty of the green as well as the soft yellow could not be surpassed. The pink or Rose Dubarry did not appear equal to that produced by other English porcelain artizans. The specimens of plates with pierced borders and hand-painted centres were very lovely. The jewelled bon-bon boxes, table-bells, ink-stands, sedan chair, tea-caddies, wine-jugs, and small vases were exquisitely beautiful. A noticeably attractive vase had, as a main colour, rich dark green. On one side was a portrait medallion of Tennyson; on the other side an ideal portrait of Elaine. The quality of the paste used by the Coalport manufacturers is of the best.

The exhibits from Burslem, of Doulton ware, was contained in one of the few booths in the British section worthy of the Columbia Avenue and the Exposition. The size, the beauty, and the variety of the specimens shown were worthy of this world-famed establishment. The Columbus Vase, 6 feet high, of symbolical design, having two fine pictures painted by M. Labarre, representing on one side Cupids Asleep, and on the other Cupids full of Joy, Gladness, and Inspiration was a fine piece of work. The Diana Vase, 5 feet high, was a triumph of the potter's art, made of the finest china body, the contraction of which from the clay state to the first burning was not less than one-fifth of the total height. In this show there were also the Dante Vase, the Chicago Vase, and the Love Vase, exquisite works of art, with paintings and designs of the highest order by world-famed artists. Portrait plaques and articles of utility of various kinds in this ware, and stamped with the Burslem trade mark, were shown.

The splendid piece of work, the Shakespeare Centre-piece, made of porcelain, 50 inches high, and richly decorated in warm, high-colouring, deserves special mention. Four figures of Schonk, representing History, Poetry, Tragedy, and Comedy, ornamented the corners and supported a vase with eight panels, whereon were painted by Bouillemier Shakespeare's heroines—Juliet, Lady Macbeth, Cleopatra, Desdemona, Portia, Sweet Anne Page, Beatrice, and Cordelia.

French Exhibits.

The French exhibits of ceramics, &c., were shown in the second court of their space in the Manufactures Building, and the best of these was unquestionably that of the Government Sèvres exhibit. Here were shown about 200 large china pieces with reproductions of works by Chapu, Injalbert, and Aube. There were also some low reliefs in glass paste, together with some splendidly fired pieces. The walls of the Government Room, which contained these exhibits, was hung with a plain tapestry warp, with the characteristic "R.F." stamped upon its surface in darker note than that used as the body colour. The showing of Sèvres was interesting, and many examples exhibited the exquisitely delicate workmanship that has been the envy of all producers of fine porcelain throughout the world. The modern

modern specimens of Rose Dubarry were, however, somewhat disappointing. They were wanting in brilliancy of glaze and colour and did not, in any particular, equal the reproductions of the old Sèvres pieces which, as I have already said, are now so skilfully manufactured by English ceramic artizans. The large vases of Bleu Turquoise and Le Bleu de Sèvres were thoroughly artistic in shape and colour. The massing of the vases in the different cabinets was very effective. The shapes were endless and the different colours, placed as they were against a background of soft red, composed a harmonious ensemble. The tall, slender necked vases in tea-leaf colour and jonquille were very lovely. Luminous globe-shaped vases of Mazarin or Marie Louise were mounted about this stately room on pedestals. The colour effect was felicitous, and the examples so arranged could not fail to delight connoisseurs of porcelains. The flammé, lavender, pearl, apple-green, pistache, and the white specimens possessed all the creamy and pearly softness and depth of glaze qualities which were always imitated in great perfection in the *pâte tendre* of the early period.

The largest display of porcelains in the French exhibit was that of soft paste or underglaze. The luminous porcelains were entirely used as a body for embellishments, such surfaces being almost exclusively used by the French for decorative and useful china. The scheme of decoration was bunches and garlands of roses, cupids and butterflies disappearing into fleecy clouds. Many examples were beautifully painted, and were really works of art in respect of this character. Many tall lamps and vases had on their milky white surface portraits of Madame de Pompadour, who was for many years the strenuous patroness of all the plastic arts when they were in their infancy in France. Some of the specimen reproductions, though not valuable in character, were fine, and illustrated the different periods and qualities of the soft paste. French handicraftsmen are especially successful in the production of porcelain bronze and Limoges enamels. The enamelling is worked on copper, and follows very closely the early Byzantine examples. Since the introduction of the higher classes of the faïence and porcelains the Limoges enamels have not been so popular as articles of decoration, but they are often beautifully worked and classic in their proportions.

The exhibit of Delft art ware was attractive. In outline many of the pieces were quite as artistic as anything from the Netherlands. The variety was greater, but the glaze was not as brilliant nor as fine in texture as that of Holland. There were in the collection many lovely examples in blue and white; but the Rouen, which consists of several colours, was decidedly more satisfactory. There were also novelties in Geolithe ware and architectural enamelled terra-cotta. The use of terra-cotta and the artistic modelling of the available plastic material were not, of course, new, but the combining of exquisite colours harmoniously in one model was new, and the result was most pleasing. Examples of Geolithe ware represented piquant French women in costumes decidedly French, and they were the works of the sculptors Decame and Saurageone. Terra-cotta architectural enamels were more classical, and followed friezes by Lucca Della Robbia, and figures by Michael Angelo and Mercié.

German Porcelain.

The ornate gate which forms the entrance way to the booths of Germany constituted an imposing architectural feature. The pagoda-shaped tower in the central portion of the section afforded pedestal-like support for the striking green copper statue of Germania, which is eventually to be placed on the top of the new House of Parliament, in course of erection in Berlin. The central section of the main room is occupied by the Royal porcelains of Berlin. This
factory

factory was, in its infancy, the pet mercantile industry of Frederick the Great; in fact so alive was he to its becoming a staple article of commerce that for many years he did great damage to the parent porcelain establishment (Meissen, near Dresden) of his monarchy. The paste of which it is made is second only to that of Dresden. The blue and white pieces of Berlin were exquisite both in design and shape, the most beautiful example being a plaque 3 feet in diameter. The floral designs on its highly-glazed surface suggested tangled gardens; in many dinner services the nosegays seemed to have been carelessly thrown over the surfaces of the plates, and the unstudied effect was beautiful. The factory moulds in a unit the largest pieces of porcelain ever successfully fired, and models from one mass of clay the vase, and in relief, as a decoration, bunches of intricately wrought flowers. Usually such additions are made by welding. A novelty in Berlin porcelain was a polychromatic enamel in form and colour decidedly oriental. Some examples were encased in a network of fine gilt and silver. The porcelain tiles of Berlin are perhaps as fine as any made by any factory. The great difficulty met with in the enamelling and vitrifying of porcelain tiles is the almost impossibility of preventing crazing. The beautiful tile-painting of the Emperor William the Third, which formed a panel of the side wall of the Royal room, was pronounced by connoisseurs of porcelain to be the finest work of its kind ever accomplished. On the slab, which was a large one, the decoration was effected in shades of soft leaf green. A medallion, illuminated in gold, formed a background for the portrait of the Emperor, which was painted in profile.

The first European manufactory of true porcelains was at Meissen, fifteen miles from Dresden, in the beginning of the fifteenth century; and it is generally acknowledged that the fineness of its quality has never been surpassed. The examples from the Royal Saxon factory of Dresden china in the German section were varied and beautiful. The candelabra and chandeliers were particularly lovely. A superb table of milky white porcelain, with a border of dull pink in a cameo motive, was most unusual. Fixtures arranged for electric lights were moulded into flowers, which were highly coloured. The large vases of bleu-de-roi and jasper, as the main note of colour, with historical and ideal paintings as a decoration, were harmoniously effective. There were also a number of fine reproductions of the original Royal Pinakothek in the museum at Munich. The German green glass was much admired, and there were a number of very attractive specimens shown.

Italy's Ceramics.

Italy's show was chiefly remarkable from an artistic standpoint for the beauty of its Capo-di-monti, Italian faïence, and Venetian glass. There was, however, only a meagre representation of Capo-di-monti, undoubtedly the most beautiful of Italian porcelains. The specimens shown were moulded in high relief and richly coloured.

The parent factory of fine enamelled and decorative crockery is supposed to have been in Italy. The designs as compared with the faïence of France, Belgium, and the Netherlands were not so varied, and there was little disposition shown to bring out new shapes and schemes of decoration. The glaze was less luminous, and the outlining of the subjects less sharp. Faïence, however, from the sunny country of the Mediterranean, has about it a decided charm. It is daintily coloured, and even the heavier wares have a filmy, lacy appearance which is fascinating. There were many specimens of Sicilian blue and a few good pieces of blue and white in the Florentine massing. The inventive ingenuity of the Venetian artisans of the Salviati and Murand factories was exhibited in a wonderful variety of glass productions. These factories use all known transparent colours, and
opaque

opaque single and mixed colours. The surpassing thinness of Venetian glass enables the clever designers and handicraftsmen to make it into extravagant, and sometimes grotesque shapes—at least, frequently they are too grotesque for table uses. The soft and unusual blending of its colour tones was among its chief charms. A glass mosaic picture of Othello formed a section of the side wall in the Salviati booth.

Spain's Section.

The section of Spain in Manufactures Building was contiguous to that of Italy. But its exhibits in ceramics were poor. The few large specimens of earthenware of good glaze, but wanting in precision of outline, were Spain's only ceramics. There were a few examples of Millefiori glass, and a number of pretty specimens of other glass work, but on the whole the exhibits from old Castille were disappointing.

Belgium's Exhibit.

Perhaps the most artistically attractive exhibit of what is known as art earthenware was in the Belgian section. It comprised imitations of Delft, Rouen, St. Armand, Rhodian, Gris, Majolica, Barbotin, and tiles. The Belgian artists and manufacturers have imbibed the progressive brilliancy of the French; the nucleus of their art is French. The architectural pieces and decorative panels shown by the manufactory of Keranies and the arrangement of the booth in which they were shown were very excellent. The room was well equipped; a high mantel of carved oak occupied the central portion of the booth; the fireplace was set in green and yellow majolica tiles. On each side of the mantel was placed a tile wainscoting, which in tonality and finish had all the appearance of a piece of Persian tessellated mosaic. On the wall plaques of rare glaze and design were hung. One followed the Chinese decoration, another the Rouen or many-coloured delft. The blue and white delft has a softer note of colour than the original ware from the Netherlands, and it is less luminous. Some Rhodian ware, which is the copy of the Persian pottery, was excellent, both in colour and glaze. Every piece was fired successfully and every tone and design had a sharpness which was unusual in many-coloured clay compositions. The large bottle-shaped examples of Rhodian were very beautiful. The luminous surface of the Barbaton was excellent. The St. Armand exhibits followed the delft in motive; the white was not so creamy, and raised on its surface was a dainty primrose-shaped flower. In this collection were several lovely examples of Nevers ware, not of the faience order, which in the sixteenth century was usual, but vases and plates in shape and colour of a much higher order than was then manufactured. A film-like tracing of lacework was applied in thin, liquid, white china clay on a surface of dark blue. The opaqueness of the clay made the vitrification in manufacture very difficult, but the work was not unlike cameo. Black delft has never attained great popularity, and outside of its purity of glaze has little to recommend it for decorative purposes. The Gris composition, which had a faint suggestion of Nancy ware, was attractive, especially the examples of animals. The central feature of this harmonious booth was a faience vase of large dimensions, which proved conclusively the skill of the Belgian ceramic artisan.

Russia.

The superb Russian exhibit of the Imperial lapidary works at St. Petersburg, Ekaterinburg, and Barnauhl, consisted of two very remarkable pieces of a rich green jade, one in the form of a Roman vase about 13 inches in diameter and 10 inches high; the other an oblong vessel 15 inches by 8 inches, scroll-like in form, in the style of Louis Quinze. Both dishes were of such thinness and translucency that their colour seemed to be continually changing. They were accompanied by a very striking cup of rhodonite, a cup of milky quartz with transparent

transparent spots, and a small bowl with movable handles, made out of one piece of milky quartz. The central feature of the exhibit consisted of three magnificent cabinets of a hard stone mosaic, which, with the dishes grouped round them, formed a most remarkable representation. The central cabinet and the one to the right showed on their panels richly-coloured tropical scenes. The one had a blue frond of lapis-lezuli, the leaves being of green kalkanski jasper, and the plumage of the tropical birds being formed of various colours of amethyst, lapis-lezuli, and other gems. The other was remarkable in having a white frond and showed a pelican with a fish in its beak, set in a rich bit of forest scenery.

Danish Porcelain.

The exhibit from the Royal Porcelain Manufactory of Copenhagen occupied the centre of the Danish division. This factory, which has existed for 114 years, is famous for its productions of valuable ceramics. The hard paste of which this porcelain is made is of spotless white glaze. The decorations are applied partly under and partly over the glaze, and in either case the independent embellishment showed careful study. The under glaze furnished decidedly the finest specimens. The designs followed the objects of air and water, animals and flora. Among the most beautiful examples were the pieces of rococo style in blue and white, which were luminously beautiful. The simplicity of these porcelains was one of their chief attractions, and the decorations were always complete and executed with skilful understanding. There were various pieces of useful china in the exhibit, the most beautiful being the old blue fluted, with lace borders. A dinner service that was especially lovely had as its decoration bunches of purple and white violets; another which evoked universal admiration in its embellishment was very like Royal Berlin, but in its outlines showed better composition. A noticeable feature of this section was a tile picture, of which the subject was that of "The Daughters of Argir" drinking to their father. The Danes are successful in their manufacture of terra-cotta, and follow in this plastic the sculpture of their own country. "A Captive Mother," by Stephen Sinding, which was exhibited in the Fine Arts Building, had been copied with good effect in this medium. Black terra-cotta is much used by them with pleasing results.

Japanese Ceramics.

Japan exhibited an immense quantity of enamels of all grades, many of a merely commercial standard and others debased by misdirected subservience to French art. The Namihawa vases were notably fine, showing on a delicately coloured field *fleurs-de-lys*, winged dragons, a phoenix, and other decorations. The 8 feet high cloisonné chrysanthemum vases, at the south entrance to the Japanese Court, were among the largest pieces of enamel work ever produced.

Austrian Glass and Ceramics.

Austria exhibited a lavish display of glass artistically treated. Lobmeyer, of Vienna, showed some remarkable examples of intaglio engraved glass, as well as of glass decorated with gold, applied in the high relief in Louis Quinze, rococo, and other forms. The entire Austrian section showed the influence of an exceptionally advanced system of industrial education, under which well equipped art schools are maintained in towns of only 10,000 inhabitants.

American Ceramic Art.

The highest ceramic art in America is found in the Rookwood Pottery. The impulse which inspired its establishment originated from the Japanese display of porcelains at the Centennial Exhibition of 1876.

1876. It is a faience made of the clays found in the Ohio Valley. The embellishments are entirely under-glaze and original in design; the colour grounds are beautiful, especially in the darker notes, and the depth of the lustre is very beautiful and in some respects quite equal to the porcelains of China and Japan. There was little novelty in the shapes, but they were for the most part well-balanced compositions. A most unfortunate feature of this exhibit was the fact that Rockwood Pottery never appears to advantage when massed. There was too great a sameness of colour, and the effect of a number of pieces was dull in the extreme. I was informed that this factory employs one Japanese artist who produces very beautiful work. One of his vases in a brilliant transparent red, with a design of stalks worked in the same shading, was very noticeable. The dragon and birds designed by this Oriental artist were wonderfully attractive; and the "tiger-eye," which is considered the acme of ceramic art, has been successfully made by him in his factory.

TEXTILE INDUSTRIES.

The art of clothing is unquestionably one of the most useful to mankind in the whole domain of useful art. The exhibits of this class were large and important, nearly every country represented having some display more or less characteristic.

The progress of the art of weaving since the advent of the Jacquard machine has been wonderful. The advance from the old hand loom, which was exhibited in operation in the Louisiana State Building, to the lovely fabric woven in Manufactures Building by American and imported looms, was self-evident.

On entering the Austrian section the attention of the visitor was at once arrested by the picture of the Emperor of Austria, a faithful likeness, woven in the factory of Julius Leon, of Vienna. The work of producing the picture occupied nine months, and the number of cards used in the design was 19,984. Three months were required for punching the millions of holes. For this production the maker received, as he well deserved, the expression of the Emperor's entire satisfaction with his work. No artist's pencil could have made more delicate lines and shadings; the loom and the weaver performed the duty well and artistically.

Saxony, in the German section, had a complete exhibit, showing the results of experienced skill and practice. The production of her laces, embroideries, trimmings, and buttons are valued at a large sum annually; and the fine arrangements of the beautiful brocaded silks, velvets, ribbons, pictures (woven), labels, and dress goods of the Cresfeld manufacturers were greatly admired. Great Britain had many excellent exhibits, but Coventry, Nottingham, Manchester, and other great cities were but feebly represented, no doubt on account of the provisions of the M'Kinley Act. Neilson, Shaw, and M'Gregor, of Glasgow, exhibited over 140 different highland clan, and family tartans. Some fine damasks, linens, lawns, sheetings, and woollen goods from Ireland were shown. The Ottoman and Persian Empires and India sent hand-woven rugs and carpets, many of them exquisite in design. The command in the Koran prohibiting its followers from reproducing the images of living things has not been without its advantage; it has served to develop, as was shown in these exhibits, the wonderful beauty of the geometrical designs.

Spain was well represented; rugs, carpets, tapestry, blankets, of bright hues and designs, from Barcelona, were shown, whilst the Institute Industrial de Tarrasa sent articles of fine clothing. It produces yearly 6,500,000 lb. of woollen goods. The Fabrica de San Pedro

Pedro in Mexico exhibited shawls, blankets, and spreads of fine texture. There was a fine assortment of embroidery, damasks, and brocades, the designs of which were superb.

Brazil produces its own cotton, and manufactures cloth enough out of it to supply the entire Republic. The quality of these goods was excellent, and the colouring so rich, not gaudy, that they resembled cloths.

Verviers and Ghent, in Belgium, as is well known, are the chief seats of woollen goods of excellent quality, and both towns had splendid exhibits. Sail cloths and bagging, produced by their manufacturers, were also shown.

In the French courts were some of the most tasteful, and at the same time the most expensive, exhibits of this class.

In the exhibit of tapestries France stood foremost. Her world-renowned gobelins and beauvais tapestries rival in richness of colouring, beauty of execution, and artistic skill and naturalness the finest efforts of ancient or modern painters. These Gobelin and Beauvais tapestries are sometimes called government or national tapestries, on account of the manufactories where they are made being endowed and controlled by the French Government. Besides these national tapestries there were others exhibited by private firms, known as the Aubusson tapestries, thus called after the town where they are manufactured. The artistic genius of France, combined with centuries of patient study, research, industry, and practice, has made French tapestries the wonder, not only of this age but of the past three centuries.

Of the different pieces of gobelin tapestry on exhibition at the World's fair, the most striking were "The God-child of the Fairies," designed by Mayerolle, and "Arts, Science, and Letters in Antiquity," designed by Ehrman. These tapestries were valued at \$100,000 each, and for artistic design, wealth, and beauty of colouring and regularity of finish were the equals, if not the superiors, of any tapestries, ancient or modern. Each of these tapestries took over eight years to complete. Some idea of the patience and skill required may be formed from the fact that it takes a skilled artisan a whole day to do 1 square inch of this tapestry, and the slightest mistake in the colour of the threads or their proper adjustment will destroy months of valuable labour.

The most striking of the Beauvais tapestries were two panels of birds, by Gaudefroy, and two sets of furniture in silk tapestry, designed by Chabal, and consisting of garlands of flowers, one a pink silk ground and the other a moss green. These sets, it was said, were worth their weight in gold.

Nothing but merino wool is ever used in gobelin tapestries, while in the Beauvais they use wool and silk. The managers of the gobelin tapestries consider that the use of wool alone gives a softness of texture which cannot be obtained with silk and wool mixed.

The merino wool used by them is manufactured in France of the finest quality, and is dyed by their own chemists. The discovery of coal tar, or aniline dyes, has enabled them to give 14,000 different tints to the wool, but of these only 600 are actually used, for the reason that many of the 14,000 colours, if used, might change with age, and thereby mar the harmony of colouring so necessary to the artistic beauty of the tapestries. Amidst the Aubusson tapestries, exhibited by ten private French firms, there were many pieces which almost rival the Gobelin and Beauvais tapestries. One of the most attractive of these pieces represent a game of "Blind Man's Buff." It was a garden scene with a happy mixture of children and adults, full of life, light, and merriment. But even this was thrown in the shade by a piece of tapestry representing "Cupid." It was supremely beautiful, and the
flesh

flesh tints of Cupid almost rivalled in softness and delicacy of colouring the natural "satiny" skin of a living infant. This piece of tapestry was valued by Thamot at \$1,000. There were also two sets of furniture exhibited by the same firm upholstered in tapestry, one which tells the story of Don Quixote, and was valued at \$6,000; the other was in the renaissance style, and was sold to Mrs. Baumgarten, of New York, for \$5,000.

Braquenie & Co., of Paris, had on exhibition many beautiful specimens of Aubusson tapestry, amongst others a grand piece representing the "Stairway of the opera-house in Paris," all aglow with light, life, and brilliant lights and moving forms. An interesting item in connection with this piece was that the figures in the tapestry were fac-similes of the firm's own family. This piece was valued at \$7,500. "Spring" and "Autumn," by the same firm, was also worthy of notice. They were valued at \$2,700 each. A remarkable piece of ancient tapestry was exhibited by Croc Père et Fils. It was $3\frac{1}{2}$ yards wide and 2 yards high; it was a mythological subject, very old, and of Brussels manufacture, as was shown by the mark "B V B," this double B V B, with a shield between, being the mark placed on tapestry manufactured in Brussels in the fifteenth century. It was a remarkable piece of work, and the colours in it are apparently as fresh to-day as they were 400 years ago. This firm had also on exhibition two panels of Aubusson tapestry, one representing a "Blonde," the other a "Brunette"; they were charming in design and execution.

There were also many pieces of woven work from the Jacquard looms which rivalled hand-made tapestries in beauty and richness.

There were admirable reproductions of old tapestries, but the most striking piece exhibited by them was a large and beautiful panel, made especially for the World's Columbian Exposition. It represented the discovery of the new world and the union of France and the United States in the cause of liberty. Two female figures—one a white woman draped in the folds of the American flag, the other an Indian maiden—occupied the centre of the panel and represent the past and present of America. To the left of these figures was a tableau representing the "Landing of Columbus," while on the right Lafayette and Washington stood with hands clasped, pledging each other and those around them to the cause of liberty. This tapestry was 15 feet wide and 12 feet high, and took over one year to make. It was a beautiful artistic work, and was valued at \$1,000.

French embroideries, like French tapestries, are the perfection of art in needlework. This was evident from the multitude of rich and rare embroideries scattered with prodigal profusion throughout the French section. I simply mention a few of the most striking of these embroideries. Madame Leroudier, of Lyons, whose reputation for artistic embroidery is known throughout Europe, and who has gained repeated honors at different expositions of decorative art, had twelve panels on exhibition at the fair, valued at \$33,000, which were the reproduction in needlework on coarse silk, three metres high, of twelve compositions from the pencil of Claude Audran, called the "Grotesque Months." Each of the twelve panels had a divinity of Olympus, in all six gods and six goddesses, each in the centre of a temple, pavilion, or tent, and each panel was decorated at the top and bottom with attributes, ornaments, lakes, and flowers suitable to the month and god or goddess represented. This unrivalled work was accomplished by means of the "passe" stitch, and cost the artist eight years of labour.

Turning from these panels one was struck by a magnificent piece of bullion work, "A Trophy of the Renaissance," consisting of a coat of arms intertwined with laurels and resting on a massive shield of

of crimson velvet. In this work there had been twenty-five different stitches used, among others the long, satin, shell, couchin, chain, and outline stitch, French knot velvet. There were several different kinds of bullion introduced into the work, and they were arranged with such artistic skill as to prevent any monotony of colour and give the necessary shading, while cardboard was used underneath the bullion to give the requisite shape to the armour. This shield was made by the working women of the firm of Van Grois and Biriote, of Paris, and took three years to execute.

Another piece worthy of notice was a garland of flowers, done in rococo embroidery—formerly renowned as ribbon work—one of the oldest forms of raised embroidery, and only indulged in by the wealthy, on account of the cost of the material used.

Terra-cotta Manufactures.

The employment of terra cotta is more common and better known than that of any other material used for constructive or decorative purposes. Its use dates from the earliest periods of history; in fact brick was the building and decorative material of antediluvian days. Comparatively speaking, in Australia, we have not attained any great degree of excellence in this manufacture, although we have clays well adapted for the purpose.

The word terra cotta, a name in itself Italian, signifying baked clay, was first applied by Italians more to the purposes of ornamentation than of construction; the base of this material has always, however, been the same. Many lovely examples of antique Egyptian and Roman terra cotta statues, bas-reliefs, metopes and friezes still exist; and the exquisite bas-reliefs of Luca Della Robbia are known to all lovers of the beautiful. A feature of Roman ceramic art, as shown by many exhumed specimens, was its historical friezes. The oldest examples of American baked clay have been found among the relics of the ancient cliff-dwellers of the Pueblos. Many of the vases and jugs possess grace of outline and judgment in the use of colours. Terra cotta has great lasting qualities when made of the proper mixtures of clays and when well fired. It will not vegetate as stone will, often causing decay. It is a porous material, and even when water freezes in its pores, the strength of the composition is so great that it will withstand the natural expansion without injury. In beauty of colour it has a great advantage for decorative uses; almost any colour can be produced by the correct use of chemicals, and they are found to be less apt to change under atmospheric influences. The beauty of all things decorative should grow, and as terra cotta is comparatively cheap it has become an important factor for ornamental uses and the modelling of statues. In terra cotta can be found a scope for freedom with a capability of supplying the demand for decoration in durable material. Aside from the use of terra cotta for the modelling of statues, it forms an essential feature in the construction of buildings. It forms the facings of walls in interiors; it paves floors. Bas-reliefs, capitals, piers, arches, shafts, corbels, chancels, and arcades are comprised of it, and this amenable plastic is found to be more imperishable than granite.

In reviewing the exhibits of terra cotta at the Exposition an American expert states as follows:—

The artisans of France, conspicuous always for their artistic ability and finish of style, sent to the Exposition a number of charming examples in terra cotta or Geolithe ware. The use of this available plastic composition for the modelling of figures, combining in the figures several exquisite colours, harmoniously, was quite a new feature, and the result was most pleasing. French women, in costumes and bonnets decidedly Parisienne, formed an important part of this display of terra cotta in the French section. They were the works of Sculptors Sarrageone and Decame. These statuettes were fascinating, capricious, and daring. The architectural enamelled terra
cotta

cotta shown in the same division was more classical in its selection of subjects. It followed friezes by Luca Della Robbia and figures by Michael Angelo and Mercie. Its colours were strong and its surface luminous; many pieces bore a strong resemblance to the old Roman and Greek specimens of terra cotta. The setting of the booth containing the architectural enamels of France was most pleasing. Columns of malachite-green terra cotta, in grotesque designs, acted as supports for a canopy top which formed an appropriate ceiling to the booth.

The purity and robustness which characterises the work of the Danes was not found wanting in their modelling in terra cotta. Black terra cotta is much used by the Danes, and there was an interesting and comprehensive showing of it in the division allotted to Denmark. One bust was of Dante, an excellent example of the possibilities of this artistic material. "Terpischore," "Young Augustus," "Cupid," and "Psyche," and many other figures by such sculptors as Thorwaldsen, Kroyer, and Bissen have been followed. There was simplicity, grace, and suppleness in all that these artisans of the North undertook. Their work was strong, well executed, and never sensational.

Italy's collection of terra cotta was disappointing. It was natural to look to the Italians for the best work in this medium. There were several very large figures to be seen in this section. One or two grotesque pieces were admirable, but for the most part the figures lacked classical feeling, and there was a striving to follow the French, but the spirit of the figures was lost in the excess of detail.

England's terra cotta at the Fair was excellent, the most noteworthy examples being the works of George Tinworth; his historical and allegorical bas-reliefs, both in the Fine Arts and Liberal Arts Buildings, were exquisite pieces of work. There was also a terra cotta fountain modelled by Mr. Tinworth called "Cheerfulness," but it was hardly equal to his bas-reliefs. The replica of the group "America," by John Bell, which was presented to Chicago, was a skilful example of England's work in terra cotta.

The collections of terra cotta exposed in the German section of the Liberal Arts Building presented few new thoughts. There were, however, a few good pieces of bas-relief work, in colour and effect very like the old examples of Wedgwood china, and these were attractive.

Some of the finest specimens of architectural terra cotta exposed in the Fair were of American manufacture. The fine art terra cotta shown by the artisans of the United States was not equal to that shown by some other countries.

The wonderful perfection and surpassing beauty of tiles, and their limitless appreciation in the embellishment of houses, has become one of the essential liberal arts. American tiles have during the last ten years attained great excellence. Up to that period Americans were apt to turn to those of foreign manufacture for artistic designs and durability. The American tiles are possessed of permanent sheen, and, owing to the thickness of the enamel, they attain unusual brilliancy. The English tile is undoubtedly more durable. It is less in danger of crazing. The enamelling on the English tile is very thin. Consequently, when the tile proper contracts, the enamelling is less in danger of crackling.

The collections of American tiles at the World's Columbian Exposition were not at all what they should be. The most comprehensive showing of them was arranged in a soda-water fountain, thus playing a double part of advertising. The fountain was composed of three appropriate symbolical tile pictures in relief. The motive of the central and largest panel was "Thirst." A street fountain was playing streams of water or soda, high into space; a crowd of eager citizens and their families were represented as hurrying to moisten their parched throats. To the left was a relief representing "Air." Flying apparitions symbolize the sentiment of the picture. The third subject was "Water." The most effective tiles shown in the United States section were those in one tone, which may be found in every possible colour and shade of colour. There was a meagre showing of "terra vitra," which is neither a plain enamel nor "faience." It is a combination of materials producing the impression of age with decided truthfulness.

An interesting display was made in the English tiles. They were arabesque in their general conception. The designs were not original, but there was dignity of thought in the arrangement and setting of the screens that was wholesome and satisfactory.

The most artistic and beautiful collection of tiles at the World's Fair were those exposed by the artisans from the Netherlands. Hung on the wall of their section and resting on easels were examples of tile pictures, beautiful in their enamelling and colour. The joining of the Dutch tiles as they are arranged to simulate a picture was excellently done. In a reproduction of Rembrandt's famous canvas, "The Burgomasters," which was comprised of seventy distinct tiles, could be seen the accuracy of their workmanship. Most of the Holland tiles are in milky white, with designs in cobalt blue, but one or two examples were in soft sepia tones, which transcriptions were after Anton Mauve's sheep pictures. The dull brown so prevalent in this noteworthy artist's colouring makes the use of sepia especially appropriate.

The Belgian artists and manufacturers have imbibed brilliancy and progression from their association with the French, and they have never surpassed the French in any artistic undertaking, except in the making of earthenwares and tiles. The showing of tiles, especially those in yellow and green majolica in the Belgian division, were worthy of sincere praise. The blue and white tiles did not equal the work of the ceramic artisans of Holland; they were less sharp in colour.

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The beautiful and luminous tile painting of Emperor William II, which formed a panel of the side wall of the royal room, in the section occupied by Germany, was pronounced by connoisseurs of porcelain to be the finest work of its kind ever accomplished. The slab was a large one. The decoration was made in shades of leaf-green. The portrait of the emperor was set on a medallion illuminated in gold. The portrait was in profile. These porcelain tiles, which are made in the royal factories in Berlin, surpass in beauty any others in the world.

Cloak-making Industry.

The most important exhibits in this class, as might naturally be expected, were shown by American exhibitors. There was one striking peculiarity which characterised every display of cloak and winter clothing throughout the whole of the building; cloaks and garments fitted for the purposes of the wealthy were exhibited everywhere, but garments of the ordinary kind, adapted to the purposes of the humble or for useful ordinary wear, were conspicuously absent. A very excellent display was made by a New York firm, whose exhibit was one of the finest to be seen. I was informed that an estimate of the value of the stock shown by this firm placed it at about \$250,000 and it was stated that it cost about \$30,000 to exhibit it. The booth had four entrances and each entrance was guarded with rare specimens of the fur-bearing animal world. Within were white bears, grizzlies, cinnamon and black bears; red, white, blue, and grey foxes; lions, tigers, panthers, buffaloes, elk, deer, wolves, leopards, antelopes, Rocky Mountain sheep and goats, prairie dogs, wild cats, &c., and the whole of these representations were overlooked by a splendid specimen of a black bear standing upon a globe and holding a torch after the style of the Liberty Statue on Bedloe's Island. The 20-foot pillar upon which this exhibit rested was wrapped in layers of red, white, and blue fox skins. This firm exhibited, among other garments, the following: a mantle and muff of imperial crown sable tails, which required nearly two thousand animals for its construction and was valued at \$18,000. Near it was a sable skin mantle marked at a value of \$13,500. Cases of wraps, capes, and jackets were placed around the sides of the booth made of skins of nearly every fur-bearing animal and the marked prices ranged from \$65 upwards. In the display of a Cincinnati firm there was a remarkable garment, the price of which was marked at \$2,000. It was a handsome 56-inch mantle of Halifax mink, with sable-tail trimmings. It was stated by the representative of this firm that mink would be the future fashionable fur, and it was probable that capes and mantles would be worn in preference to jackets on account of the sleeves now worn on dresses in America. Speaking of the price of seal furs it was explained that, on account of the scarcity of seals, the prices had advanced about 250 per cent. during the past three years. A beautiful mantle, lined with ermine, the outside being of cream cloth embroidered in handiwork of silk and gold floss, was marked at \$1,500.

A firm of St. Petersburg exhibited the most costly furs and garments of every description, together with seal-skins, boots, shoes, and slippers. Skins of nearly every Russian animal made into garments were arranged in somewhat cramped space, and the total value of the exhibit was placed at the enormous figure of \$300,000.

The most costly garment that was shown here was a circular of Alaska seal, lined all through with sable, attached to which was a Kamschatka 12-inch collar, marked at \$3,500. A lined circular of sable legs, with 15-inch sable collar, was marked at \$1,100. At the time when these were manufactured the workmen and women received wages ranging from \$30 a month upward, according to the statement of a representative of this firm.

The United States Government gave the contract for obtaining seals from Alaska for twenty years to the firm of Liebes & Co. This firm forwards all the sealskins to London, from whence they are exported

exported to America and all over the world. The reason sealskins are sent to London is that the London dye is better and darker than that of any other country.

The most interesting and educational feature of the seal industry was shown in the booth of Treadwell & Co., a firm which not only manufactures cloaks, capes, and wraps of all descriptions but actually cures, dresses, and prepares the skin in a very excellent manner. I found, however, this firm is also compelled to go to London to purchase the skins of animals killed in America. They buy them in what is called salt pickle. The entire process could be seen in operation at their booth. Their factory is at Albany, N.Y., and they are the only firm in America who use their own dye and guarantee that it will not fade or crack for twenty years. This firm has dressed sealskins for sixty-one years and their dye is said to be so perfect that after ten or twelve years' wear they can match any part of a garment without detection.

French Silks.

The French exhibit showed the excellency of their silks to perfection. The designs were as elegant as they were rich and their colouring was excellent. The "Sun on the Ocean," woven by Bardon and Ritton, of Lyons, was a work of art in delicacy and in colouring, and rivalled painted marine pictures. The "Falls of Niagara," woven by J. Bachelard, Lyons, was another masterpiece, and the prayer-book, woven by Henry, of the same city, equalled the work of the best printing press.

In the Committee-room of the Women's Building the most celebrated tapestry of Bayeux was represented by a life-size photograph sent by the city of Bayeux, and a large number of specimens of its special work. In the gallery above the French space in the Manufactures Building was the silk exhibit from Lyons. Here were beautiful velvet portières specially made for the Columbian Exposition, which bore the arms of France and the United States, the cost of each being upwards of \$1,000.

American Textile Industry.

The textile industry has made wonderful progress in America during the past few years. The silks of Paterson, N.J., are said to rival those of Lyons, and a woven landscape of the Columbian World's Fair, with the American eagle, by Johnson, Cowdin, & Co., of Paterson, was a true work of art. Twenty thousand cards were required to produce this banneret, and the artist, aided by an assistant, worked six months at the design. Much credit is due to the Crompton, the Knowles, the Shaum and Ulinger looms for the progress made in textile fabrics. They have cheapened and at the same time have increased the production. The improvements in spinning, knitting, and other machines have so reduced the cost of fabrics that the price of the richest and best are gradually being brought within the purchasing power of the masses of America.

Exhibits of Lace.

Lace was shown in all its loveliness in the courts of various countries, but perhaps those of Belgium were the most elaborate. They consisted of Mecklin, round point, Venetian, guipure, duchesse, point appliqué, point de Bruges, Valenciennes, Venetian point, and the beautiful lace called dentelles Louis Quinze. Italy not only had a large exhibit of lace but also had a comprehensive exhibit of ancient embroideries, while Spain furnished only a moderate quantity of its beautiful work in laces. In the French court there was a lace cradle valued at over \$30,000, and the laces were real works of art made entirely by woman's deft fingers.

Screens

Screens for Home Decoration.

The most thoroughly beautiful and artistic modern screen at the Exposition was shown in the French section. It had five leaves, each leaf representing one of the five senses. Its frame was inflorescent in design, and carved out of wood. Each panel was in itself a lovely picture, executed by the hand of a skilled artist named Rochegrosse.

In the same section were several unusually handsome screens set with Beavais tapestries. Each one had a different motive of embellishment. The subjects were interesting, and the extreme nicety with which this tapestry was made, and the multiplicity of the shading and colours employed in its weaving combined to make a pretty picture. Screens following the Louis XIV, Louis XV, and Louis XVI periods, made by the French, either covered with rich brocaded stuffs or made of satinwood, hand-painted, were excellent examples of clever and artistic workmanship.

The most comprehensive and largest collection of screens at the Fair was sent from Japan. The most brilliant sample shown by these people from the extreme east was of large dimensions; its embellishment was applied in gold thread to satin of the same tonality. At the base was a rippling stream, above was a bamboo fence, the bamboo, a favourite device of the Japanese, which is typical of the mildness and gentleness of nature. Above the fence were masses of the royal flower, the chrysanthemum; also the blossoms of the peony tree. Another lovely example displayed demoniac figures in russet browns embroidered in old gold satin. Japanese lacquering has never been surpassed, and a most beautiful specimen of it was found in an oblong-square screen. Its body colour was of lustrous black; on it was a tracery of flowers in metallic green. It was bordered by a relief design in a Grecian motive, set in a frame of rich dark bronze. The simple and delicate leaves of the maple tree, turned red by the early frosts of autumn, is always laden with poetry and imagination for the Japanese, and it is one of their most exquisite and artistic designs. So much does this simple emblem convey to them that they work and paint it as if inspired to do so. A more lovely screen it would be difficult to find, than one illuminated by branches of maple leaves on dull brown satin, which was shown by these artisans in the Liberal Arts Building. The bronze screens encased in frames of pierced wood were massively effective. They are cast in one solid piece, and are intended to be used as permanent fixtures in halls and dining-rooms. Another screen of soft grey was ornamented with graceful sprays of white wisteria and thistles. A flight of sparrows formed its frieze decoration. The feathering of the birds and the down of the thistles, in this composition, stood out with marvellous truthfulness. [The dragon to the Japanese is significant of wisdom, and it is always depicted with five claws. This device was embroidered on soft pink satin which formed the leaves of a screen. A border of incut velvet outlined the satin and acted as a mat for the laquer frame, which was its outlining.

FURNITURE.

In suites of furniture and completely furnished apartments containing selected furniture and various objects of adornment, Germany, undoubtedly, took the lead. Some of the furnished rooms in the space of this country were magnificent to an extreme degree. Several of the royal rooms shown having exquisite fittings and furniture. There was a sixteenth century that was very interesting. The walls were hung with rich red damask, the wood used was oak handsomely carved and inlaid. The ceiling was a framework of gold in which were set paintings in oil. Adjoining this historically decorated room were the sitting-room and dining-room of King Ludwig. The
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sitting-room was in bleu-de-roi. Velvet massively embroidered with gold bullion lined the apartment; the furniture was covered with velours and embossed satin; candle fixtures, inflorescent in design, formed a conspicuous feature. The entire furnishing of this royal room were the original ones used by King Ludwig. The dining-room was faced with a dull brown textile, and the furniture was illuminated carved leather. I may here state that the examples of hand-cut leather in furniture in many exhibits were remarkably fine. In the Italian section there was a reproduction of a bedroom occupied by the present Queen of Italy, lined with soft leaf-green leather, giving an excellent idea of the finish and clever embossing of the Italian manufacturers. Aside from this exhibit and that of carved furniture of pine, rose, and walnut woods, there was but little decorative furniture in this Court.

French.

One of the sections of the French space was called Furniture-Hall, and was designed and decorated by Hermany. It contained some of the most expensive articles of furniture shown, one cabinet, for example, being valued at \$5,000, and lots of small pieces of furniture in tapestry, mahogany, or bronze, ranging in price from \$1,000 to \$5,000. Two cabinet antiques were the gifts of Napoleon I to the King of Naples. One was of rich dark mahogany, richly decorated by raised designs of fire gilt. The top of this piece of furniture was finished by a clock of intricate composition. The other old piece was also in mahogany. The door of this cabinet was composed of rare Sèvres plaques of the imperial era. Its table shelf was supported by porcelain columns of bleu-de-roi. The modern pieces were excellent, both in their concrete lines and their style of decoration. One of unusual attractions had the organic lines of a sedan chair. It was made of satinwood painted by hand in gold. On the gold background three pictures had been painted. One presents a piquantly-attractive woman seated on a garden bench, gowned in a costume essentially French. She is listening intently to music from a violoncello, the performer being a gaily-dressed cavalier. The green and bronze gilt cabinets in "Vernis Martin," a style of decoration named after a famous carriage-painter and inventor of colourless varnish, were unquestionably beautiful pieces of furniture, and one additional evidence that all that is French in household furniture never fails to fascinate Americans.

British.

In the British section two or three very excellent billiard-tables were shown. The most striking feature in the British section was the reproduction of Hampton and Sons (the great English manufacturers) of the historic banqueting-hall of Hatfield House, the seat of the Cecil family, and the house of the Marquis of Salisbury.

German Carved Ivory Work.

Near the silver work in the German Court was a large and most beautiful collection of carved ivory work, in which the very minutest pieces were executed with extraordinary skill, each example or detail being worked out in the most perfect manner. Beautiful miniatures painted on ivory were also an important artistic feature of this part of Germany's exhibit. In this court were also placed the trophies won by German Emperors and Generals and other distinguished men. There was in the collection of gifts those made to Kaiser Frederic, Kaiser William, Von Moltke, William I, William II, and Bismarck; letter portfolios in carved leather, embellished with the crown and seal of Germany in jewels and enamels, choice specimens of the goldsmith's art; elaborate loving-cups, and scenes of warfare worked art in relief on silver tankards; sceptres inlaid with valuable stones, books with covers of gold, and other articles.

articles. Another interesting historical souvenir was an inkstand in fire-gilt which was ordered by Ludwig at a cost of \$5,000. There were also several exquisite specimens of lapis-lazuli.

Wood-carving.

In wood-carving there were many beautiful representations, both in the manufactures and in the liberal arts sections.

The display of Italy was rich in design and splendid in execution. Figures grotesque and figures natural, figures large and small, mantel-pieces and mirror frames, cabinets and decorative panels, chairs and writing-desks were exhibited in profusion. Italian renaissance is the ideal style of the decorator and carver, taking as it does the most common of every day articles and clothing them with a new beauty and richness found in no other style. Birds, flowers, fruit, figures, cut with a degree of freedom and perfection found nowhere else, were exhibited. A renaissance panel exhibited by Antonio Zenetti was worthy of close study. Having about 6 in. relief, the whole panel had that grace and finish, those flowing lines and that softness of cut, peculiar to Italian renaissance. There were a large number of other works of art of equal if not superior workmanship by the same artist. Another artist displayed a double figure, Margaret and Mephistopheles, cut from one block of wood, which displayed considerable originality. One little figure for an electric light holder was wonderfully light and airy. A carved frame of laurel leaves, by Vincenzo Cadorin, with flowers, drapery, and figures, well balanced, was very graceful. The woods mostly used were rose, pine, and walnut.

The land of the poetical edelweiss (Switzerland) exhibited a great profusion of small carved wooden objects. The carving of the Swiss is wanting in impressionism and follows nature too closely as a general rule. There were, however, in the examples of carving found in this section many examples exhibiting boldness and relief and delicacy of touch. Many of the large articles shown seemed to suggest the idea that under all their apparent ornateness they somewhere or other concealed within the ambush of their embellishments a possible cuckoo clock which might at any moment send forth some unnatural sound.

The glass mosaics exhibited by Russia were of surpassing beauty, and in view of the fact that this industry has only attained excellence within Russia within the last twenty years the beauty of the exhibits both in material and design were surprising. A magnificent mosaic picture of Christ occupied a prominent position in this section, and it would be difficult to find a finer example of tessellation. The mosaic enamels and enamelling on silver was very lovely. In this court malachite and lapis-lazuli, converted into tables, mantels, vases, and jewellery, were well worthy of examination, and made a notable feature.

In the German exhibit the renaissance style of carving was heavier and not so soft in outline as the Italian, though suitable to the furniture it embellished. There was plenty of evidence, however, of the excellence of German carving. The statuettes by Fischer, of Munich, were very good. In the Baden section of the German exhibit some clean-cut coloured wood panels were shown which were sharply cut though of low relief. It is in the rococo style, however, that the Germans seem to excel. The examples shown were excellent in design and good in workmanship. Though called by some artists and architects a bastard style, the rococo is to the carver a style full of possibilities—deep cutting, free lines, and rich effect. In ecclesiastical carving there were some excellent exhibits.

France exhibited little carving apart from her exhibits of furniture. The most noteworthy exhibit was a Louis XIV, in walnut, by Forest of Paris. It was of good workmanship, the panel in the centre
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of the mantelpiece representing peace. The lions, ridden by children, were followed by a maiden bearing fruits of peace in the shape of products of the field.

The carving in the British exhibit was massive and heavy, lacking the softness of the Italian in their renaissance; but, as an exception, the Gothic, as displayed in the choir front exhibited by Hems of Exeter, was very good, being soft and effective, without any superfluity of detail.

Austria had one example worth mentioning. In the salon of the Princess of Metternich there was a beautiful example of a room fitted up in the style of Louis XV, some of the furniture, however, being in the Empire style. It was rich in carving, the screen, mantel, overmantel, and piano being well executed.

Belgium had one good exhibit, showing the figure of a woman cowering before the storm, in which the pose was graceful and the drapery flowing.

Russia showed a large wall cabinet in walnut, equal, in finish of work, to that of any other country. The centre panel and the figures on the pilasters were worthy of close study. It was in low relief, soft and effective.

Entering the Danish section from the central aisle of the building there was a copy of the statue of Hans Christian Andersen, modelled by the greatest of Danish sculptors, Thorwaldsen. At the rear of this lovely example of plastic art was a room, or rather a section of one, containing the furniture that had been used by the great story-teller. The decorations were simple and the furniture quaintly attractive; every article in it was rich in interest. Nationality played small part when looking in this room, for Hans Andersen appeals directly to the hearts of the people of the universe; all nations love him. He has kept the spirits of his readers young, for he takes them often to that indescribably fairy land which was his chief abiding place. On a writing-desk lay his tall broad-brimmed hat. His works were placed in a bookcase, which occupied the corner of the room. A screen stood near it which could not fail to interest any child. It was composed of heads and figures cut from newspapers or periodicals. These were pasted on the frame of the screen, and many of the groups represented interesting historical stories.

CHEMICAL AND PHARMACEUTICAL PRODUCTS.

These were largely exhibited, chiefly by American and German houses. In consequence of the want of space on the ground-floor of Manufactures Building these exhibits were shown in the southern portion of the western gallery. The drugs and other pharmaceutical preparations were beautifully got up in the various booths, reminding one rather of confectioners' establishments than of the old-fashioned chemists' shops. Both the homeopathic and the allopathic sides of medicinal remedies were exhibited, and, as far as appearance went, it would be difficult to say which was the more tempting in its nicely-arranged and pretty remedies for "all the ills to which flesh is heir." They were rivalled by the extensive array of attractive exhibits of flavouring extracts, essences, and the like, chiefly shown by American exhibitors. Of course these preparations are quite a contrast to those in vogue some years ago as far as get up and the facility of administration are concerned; but the faculty in Australia is perfectly familiar with these innovations, both as presented by the British and American pharmaceutical firms. The Mercy Exhibit was contained in a separate building, erected for the purpose of exhibiting the innumerable forms of chemical and pharmaceutical products made by this firm.

BOOKBINDING,

BOOKBINDING.

This class of exhibit, as might easily be imagined, was scattered over the whole of the great building, each country preferring to keep its exhibit in the place in its own court considered best for its display.

The machinery employed in the manufacture of blank books and edition binding was somewhat incomplete, and contained very few of the newer inventions in this industry, although many of the old-fashioned machines had numerous small improvements and new details. Two paper-ruling machines, one an American invention and the other an American product, were worthy of remark. Both these paper-ruling machines referred to discard the old-fashioned brass pen, and used instead a brass disc. These discs were of various thickness of line, and the ordinary double and treble lines were cast in one piece. Each disc had a round hole in the centre into which was fitted a metal rod, and the discs were separated or spaced by other and smaller discs of zinc, these latter having, of course, a hole in the centre corresponding to the brass discs and fitting the same metal rod. The lines could be spaced any distance from the thirtieth part of an inch to the whole length of the rod. The ink was fed to the discs by means of a rubber roller which contained its supply from a piece of flannel which was laid loosely on one of its ends and fed with a brush in the old-fashioned way, the other end of the flannel conducting the superfluous ink into a metal trough. Over feeding was thus rendered difficult. The same principle, so far as brass discs are concerned, was adopted by both the American and German machines. Here, however, the likeness ceased, the departure being largely in favour of the German invention. They were both self-feeders, the German attachment being a marvel of neatness and simplicity. They both ruled two sides of the paper in one operation, and it was stated that the German machine could turn out 4,000 sheets of paper ruled on both sides in one hour with the attendance of only one person. There were no statements as to the amount per hour turned out by the American machine. Placed side by side, and the merits and demerits of each machine closely compared, the German machine undoubtedly appeared the better one. It took less than half the floor space of its rival, was stronger, neater, and better made, and many of the more important operations were performed more quickly and more accurately.

Of bookbinding itself the principal exhibits shown came from France, America, New South Wales, and Canada. Undoubtedly the French exhibits were produced in the best style, and that of New South Wales was next to that of France in good taste and excellence of work, while the American and Canadian showing was poor.

Printed books were very extensively shown. Germany, England, France, America, Bohemia, Italy, New South Wales, Denmark, Norway, and Sweden all contributed plenteously, and thus a good opportunity for comparison of the different national styles and skill was provided. Of edition work, Germany had a large exhibit, America was next in size, and France next, the other countries having but a small show. The workmanship of each nation in edition work seemed to be very much on a par. Germany had some fine samples of multi-coloured printing on cloth, a form not shown by any other country; in fact this is quite a recent invention, and appears not as yet to have come into use elsewhere.

Of fine hand-tooled leather binding there was a splendid exhibit, especially from Germany, which had a large and masterly show of all kinds. There was a superb case of these exhibits from London, which worthily represented the very best English binding. New York also had some splendid examples. There was a grand collection from Paris, whilst other countries sent specimens of skilled work of very
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excellent character. The whole collection was so rich and varied that it is somewhat difficult to make a selection of the best specimens. Among the books sent by the German Government bindery was one in white vellum, illuminated in the Grolier style, which was simply magnificent; another in brown morocco, in Harlein style, bound for and belonging to the late Emperor William, was conspicuous by its beauty, and had the initials of the Emperor and the crown of gold on the side. There was also a jewel-casket covered with white morocco, finely finished and illuminated by Herm, Graf, and Son, of Altenburg, and the price of this beautiful specimen of the bookbinder's art was \$750. Two books from the case of C. F. Bonaventure, of New York, deserved especial notice. One was a book in brown crushed levant, finished in the French style, with an inside double and dentelle border; the other was a red morocco book of Florentine style, illuminated green, and the inside doublet of blue morocco.

England's only exhibit of art binding was from the hands of the world-renowned Zachnsdorf, of London. Among other works the case contained a "Tennyson," in blue morocco, choicely finished in Derome style. There was also a beautiful specimen of renaissance work in dark green crushed levant. The *piece de resistance* in the English case was Zachnsdorf's "Art of Bookbinding," in crushed brown levant, illuminated in olive green; with bold and graceful floral design in gold, and panelled on the back was choice foliage.

France was represented by Leon Gruel, of Paris. Among the specimens I may mention a quarto in brown morocco, in Maioli style, a beautiful piece of work. There was also a book in Grolier style in brown morocco. This example of choice binding cost for a reproduction of this kind about 5,500 francs. A quarto in red morocco, style of Louis XIV, was also a gem. The standard Scandinavian countries had a remarkable exhibit of inlaid calf work, wholly of Gothic designs, a style of book decoration which appears to be quite fashionable in those countries. In this kind of finishing the design is cut out of the original calf binding and a piece of calf of the same shape but different colour is inserted in its place. So finely was this work done that no gold or other lines were needed to hide the junction of the differently coloured leathers.

SILVER-WORK AND JEWELLERY.

The most striking exhibit in the American section was the pavilion of Tiffany, the jeweller, and Gorham, the silversmith, both of New York. It occupied a corner at the central portion of the Columbia Avenue, while France, Germany, and Great Britain occupied the other three corners. From the central front of the pavilion a tall fluted shaft sprung up, with a plain but noble base and a grand Doric capitol, surmounted by a globe, upon which was poised, at an elevation of a hundred feet, a golden eagle, America's symbolical bird. On the front of the base was the simple inscription: "Exhibit of the United States of America." At either side of the main entrance, in the corner, were groups of columns, bearing aloft single tall shafts, terminating in globes. Arches, surmounted with carved and sculptured pediments, and a roof with low, flattened domes, made up the rest of this palatial edifice, which cost \$100,000 for its construction. The display in the pavilion represented a value of \$2,000,000, and was truly regal, comprising gold and silver wares, precious stones, rings, bracelets, chains, watches, clocks of elaborate character, and, in short, everything rare and valuable in the jewellers' and silversmiths' lines. There was also an extremely valuable and lovely collection of American pearls.

A unique example of American work was an incense-burner representing a rattlesnake strangling a duck. The scales of the snake were made from opal matrix; the rattles and head were set with
American

American pearls; the eyes were of luminous emeralds. The feathering of the duck was represented in coloured enamels. The incense escaped from the mouth of the duck. The magnolia vase, made by an American manufacturer, will always be remembered as a gorgeous piece of work shown at the World's Fair. It had little real decorative beauty. The form of this vase was suggested by a piece of pottery found among the relics of the ancient cliff-dwellers of the Pueblos. The eight handles around the neck were ornamented with Toltec symbols. The decorations were composed of American flora. Opal matrices formed the base of the vase. From the base sprung a lattice-work of cactus-leaves in high relief. About the cactus-leaves was a frieze of magnolias enamelled in natural size and colours of this chaste blossom of the mid-south. The magnolia vase was a doubly interesting production; it represented the American workmanship of to-day, and was a sequel of the earliest-known American pottery.

An erroneous idea has fixed itself in the minds of foreigners, and even of the American people, that silverware of the United States is machine-work. It is true that the smaller table articles are made from dies, but the larger pieces are entirely made by hand. The design is worked in from the back, and finished from the front.

England, the home of silverware, exhibited only a few small cases of antique design, which were reinforced by a combined exhibit of the Manufacturing Goldsmiths and Silversmiths Company, containing among other things a Columbian shield, on which were represented various scenes illustrative of the discovery of America, a piece of work more painstaking than artistic.

The silverware shown in the German division interested a vast number of visitors. This display of silver was deserving of all homage paid it, for it was a lovely collection. It was, with few exceptions, modern, made in Germany, and the exhibiting firm had its principal warehouse in Paris. In weight these compositions in silver were much lighter than the articles made in other countries, and hence they were less in price. The work was entirely that of the hand, even in the smaller table-furnishings. In design the modelling was Rococo and Empire. No new or original motives were followed. A strangely-fashioned wine-cooler was shown. It represented a ship of State in the Sixteenth Century. Parts of the rigging had been washed with gold, producing a charmingly realistic effect. Quaint betrothal-cups were a most artistic feature of this booth. A large plaque of oxidized silver occupied a prominent position; it was a copy in silver of a picture in the Louvre. The subject was the meeting of Louis XIV and Marie Therèse. It was indeed difficult to say enough in commendation of the German silverware, both useful and decorative. The display was very large, and the toy-pieces, such as bonbon-boxes, coaches, musical instruments, and tables were exquisite. The minute examples of work in gold were executed with rare skill, each object or detail of it reaching great perfection.

The artisans of France, conspicuous always for their creativeness and brilliancy, sent to the World's Fair many beautiful examples of silverware. The compositions were all modern, and many of them were essentially French. A coffee-service, in Louis XVI designs, was modelled by the French artist, Cheret; another showed a frieze composed of children. The modelling of the figures was exquisite, and was the work of the factories of Carrier-Belleuse. An unusually attractive tea-service had for its decoration chrysanthemums applied in relief on a hammered surface. Renaissance and arabesque designs have been wrought with great skill by these silversmiths. An entirely new coffee-service was in the form of a gourd, an extremely pretty design.

The virility of the Russian was observed in much of their silver, especially in the modelling of small silver figures, which, like their

their bronzes, were individually characteristic of the country. Every detail of these figures was worked out with technical understanding. The models of men were teeming with life. The Russian section contains only small articles of silverware, but the variety was endless in shape and design. The enamelling in colours equalled, if it did not surpass, any shown at the Fair. Red and blue enamels applied to the larger pieces were remarkable illustrations of the goldsmith's art. The transparent enamels were also very lovely.

Norway's contributions in silver were very like those of Russia. Their transparent enamels on silver were charming, and in many respects equal to the incrustations accomplished by the artisans of the land of the Czar. The display of old cups, tankards, head and dress ornaments in old silver from the Scandinavian country was comprehensive.

There is about the work of the Danes a purity and robustness that is refreshing. They are satisfied to tell the legends of their own country. Interwoven in their work, in silver, is found a motive that is distinctly northern. The National Museum at Copenhagen contains many valuable specimens of gold and silver, and the modern artisans copy the antique in every instance. The most noticeable example of work shown in the Danish section is a silver shield with scenes in the life of King Valdemar, the conqueror. The centre is descriptive of the great battle of Ehlsland (called volmer colours). According to the legend the colours fell down from heaven, bringing victory to the Danes. The top medallion discloses Queen Dagmar disembarking at Ribe and being received by the king and his attendants. One side shows the queen on her deathbed; the other side pictures King Valdemar and his son imprisoned. The remaining medallion represents the Justice Court of Jutland. Surrounding the centre picture are allegorical figures. There is also a large assortment of table services shown in the renaissance designs.

The most thoroughly artistic and dainty collection of silverware exposed in Jackson Park was the work of the Japanese. For so many years the people of the Orient have kept all the valuable pieces of silver and "shippo" ware made by them in their own country. The process of making this silver "shippo" is most interesting. The metal is smelted to the degree of malleability, then hammered into the shape. After being shaped the surface is smoothly polished with grindstones, removing all irregularities. The shaping and polishing are done by hand, then rubbed with a stone-cleaning powder, and finally washed in pure water. The sketches for the designs are made directly on the surface in a black Japanese ink. After the design is sketched, gold or silver wire is pasted to the sketch, each line being outlined. Two kinds of wire are used, flat and square. The paste hardens in the firing. The enamel is then applied between the spaces formed by the wire. The first transparent application of the enamel acts as a body colour. The colouring is most difficult, and requires great patience. There are about 350 shades of pigments used in the making of "shippo" ware. The enamel has to be applied to the depth of meeting. The wire and each application requires a separate firing. The third firing is always necessary in the finer examples. After the firing the article is polished with various grindstones, then with red oxide, and afterwards with soft wood. The brilliancy of the surface never changes under climatic influences. A most curious specimen of silver "shippo" was shown, of which the subject was a life-sized duck, the feathering of which was excellent. The Japanese are also very successful in inlaid work. A beautiful bit of silver had a frieze decoration of flowers, which were constructed by the inlaying of coloured metals. A regal piece of silver was a ship. The prow of the boat was fashioned like an eagle, symbolical of strength.

East

East India's showing of silver was most interesting. There were several different patterns. They were all crude, but extremely pretty. The Cutch work was usually a design of birds flying in grasses. The patterns were hammered in from the back, and finished from the front by the use of chisel-like instruments. The Lucknow patterns disclose jungles; the Madras, elephants; the Cashmere, the lotus leaf and flower. The larger silver bowls were especially decorative.

MANUFACTURE OF PAPER FROM WOOD-PULP.

In the German Official Building, elsewhere described, was a large exhibit illustrative of the chemical mode of preparing wood-pulp for the manufacture of paper, and in the Forestry Building several specimens of the pulp were shown. The illustrations of this modern mode of manufacturing paper were, however, a disappointment, and it was with difficulty that I was able to collect satisfactory information on the subject. For the following particulars I am indebted to the labours of Mr. Terry, Superintendent of the Liberal Arts Court, who obtained the information from reliable sources:—

Two distinct kinds of wood-pulp are used in the manufacture of paper—(1) mechanical wood-pulp, (2) chemical wood-pulp. The former is pulp produced from the log by mechanical means entirely. In the case of the latter the wood is cut into suitable sizes and treated with chemicals which dissolve the gums and resins, leaving a nearly pure cellulose.

The chemical pulps are further divided into varieties named after the solvent used. The two principal of these are called "sulphite" and "soda" pulps or fibres, each filling a separate place in the manufacture of paper.

For the manufacture of mechanical pulp or ground wood-pulp, or simply wood-pulp as it is usually called (the chemical pulps are generally called fibres), the principal woods used in the United States are spruce (*Pinus sylvestris*) and poplar; other woods used are basswood, balsam, horse-chestnut, and birch.

Three distinct operations are recognised:—

- 1st. Preparation of wood.
- 2nd. Grinding.
- 3rd. Screening and bundling.

Preparation of Wood.—The logs, averaging 6 feet in diameter, are usually conveyed to the upper storey of the mill; there sawn into sticks about 15 inches long. The bark is removed on a machine called a "barker." The sticks are then split into halves or quarters. The dark streaks and big knots, if any, are removed by a man with a hatchet, after which the sticks descend by gravity to the grinding-room.

Grinding.—The grinders consist of a grindstone resting in a complicated frame and rotating on a horizontal axis. Against the periphery of the stone the sticks are forced by hydraulic pressure, and are held in positions parallel to the axis of the stone. This latter is about 15 in. across the face and 36 in. in diameter. Streams of water are kept constantly playing on the stone, keeping it cool, and washing away the pulp. In this manner the pulp is made, being simply a product of the action of the revolving stone against the wood.

Screening and Bundling.—The pulp is then pumped into the machine-room, where it is screened, all the good pulp and water passing through slots cut in brass plates; the slots are usually about $\frac{1}{16}$ to $\frac{1}{8}$ inches wide. After this the pulp is run over a wet machine—a machine similar to a cylinder paper machine, but having no dryers. The pulp now contains about 33 per cent. of water, and is folded into bundles and tied into packages of 100 lb. each. The time occupied from the logs going into the mill to the pulp being tied up in bundles is not many minutes.

The mills in the United States are run night and day for the sake of economy, and from inquiries I made on the subject I doubt if a mill could be made to pay working in the day-time only.

Spruce-pulp brings about \$20 (about £4 3s.) per ton of 1800 lb. pulp and 200 lb. water at the mill. The price in December last was much higher than that owing to scarcity of water in the mill districts. Spruce costs from \$5.50 to \$8 per cord, according to locality. Poplar is cheaper, ranging from \$2.50 to \$5, but does not give so much pulp per cord as spruce.

The different processes used for making *Sulphite and Soda Fibres* have such essential differences that a statement of the processes and machinery would fill a large volume. There appears to be little doubt that the process which would be the best to adopt for the first attempt at making *Chemical Fibre* in New South Wales would be that of a quick-cooking sulphite plant, turning out about 4 tons daily. This could be erected in the States for \$50,000. Such a plant would not return profit in itself in America, but might be run to profit in connection with a paper-mill. One sulphite mill in the States cost over \$500,000, and turns out 35 tons at what would be a good profit if the market there were a little larger. The

The raw materials for the production of 1 ton of sulphite would be about as follows:—

2 cords (256 cubic feet) spruce wood.
300 lb. second quality sulphur.
100 lb. limestone (containing at least 90% sodium or magnesium).
1,000 lb. coal.

The mill to which reference has been made employs about 120 hands and runs night and day. A 4-ton mill would employ at least twenty men. The cost of labour per ton in a well appointed mill is from \$9 to \$12.

Sulphide unbleached brings about \$58.00 per ton at the mill for first quality. Its largest fields are in the manufacture of newspaper and wrapping paper, and it is quite rapidly driving out the use of jute fibre for wrapping paper.

Appended is an estimate of the cost of a 20-ton mechanical wood-pulp mill.

ESTIMATE OF COST OF MACHINERY FOR 20-TON MECHANICAL WOOD-PULP MILL.

8 grinders	...	...	...	...	...	...	...	...	\$8,000.00
1 steam feed cut-off saw	...	...	...	...	...	...	...	...	700.00
1 log-jack and table	...	...	...	...	...	...	...	...	700.00
4 barkers	...	...	...	...	...	...	...	...	800.00
1 splitter	...	...	...	...	...	...	...	...	200.00
4 wet machines	...	...	...	...	...	...	...	...	3,000.00
4 screens	...	...	...	...	...	...	...	...	2,500.00
2 water pumps	}	...	...	...	...	...	...	...	500.00
2 stock "									
Piping	...	...	...	...	...	...	...	...	1,000.00
1 blower	...	...	...	...	...	...	...	...	250.00
Shafting, pulleys, &c., say	...	...	...	...	...	...	...	...	3,500.00
8 turbines, gearing and harness for say 10 ft. head	...	...	...	...	...	...	...	...	16,000.00
1 boiler and heater	...	...	...	...	...	...	...	...	1,500.00
									\$38,650.00

The turbines should furnish 200 h.-p. to do the above work.

The above mill would furnish employment to thirty to forty men. Cost of labour per ton \$3.60. A strong 2-storey wooden building 100 x 50 ft., would furnish plenty of room for operating.

As I have stated, the German exhibits of wood pulp and the processes employed, as shown in the German Official Building, were, perhaps, the most important at the Exposition. In Germany the manufacture of paper pulp, or as it is distinctively called wood cellulose, has assumed great importance during the last decade. The Mitocherlich system is a simple one, consisting in the action of an aqueous solution of bisulphites upon suitable kinds of wood at comparatively low temperatures. These bisulphites possess the power of chemically combining with the incrusting materials, which surround and bind together the individual fibres of the wood, forming soluble compounds, which are readily separated from the cellulose by washing with water. The particular solvent used in this process is bisulphite of lime. It is maintained by the manufacturer working this system that the pulp produced by it is stronger than that resulting from other methods. The species of wood employed almost universally for the production of cellulose—as the pulp is distinctively called in Germany, belong to the Coniferæ (*Pinus abies*, *Pinus sylvestris*, and *Pinus picea*), and the supply of them from Northern Europe and America is almost unlimited. The cellulose which each of these kinds of the Coniferæ yield is much alike in character, and the fibres are distinguished by comparatively great length and strength. The wood cut into logs with the bark removed and knots bored out is sawn into short lengths, and afterwards sliced across the grain of the wood. The boiling process is then carried on with regulated temperature, and afterwards the work is carried on in the digester, peculiar to this process. The steaming of the wood occupies about twenty hours as a general rule, and whilst the period of preliminary heating is about ten hours that of the actual boiling is forty hours. As a matter of fact the various secondary processes, such as filling, emptying, examining the interior of the digester occupy a considerable period, and the whole process of digesting takes up a period of about 100 hours. This is a long time, but as a set-off it is said that the excellence of the product is beyond question. As soon as the liquor is run off from the digester the cellulose is washed out with water into large tanks, placed immediately

immediately beneath the digester, when it is further washed till free from waste lye. It is then conveyed to a machine, by the aid of which it is smashed up and purified, and finally is made into thick sheets, dried and perforated (to meet the requirements of most custom authorities) on a paper machine, so as to be ready for export.

As a matter of comparison with the above figures, the following information, furnished by Mr. James Beveridge, analytical and technical chemist of Gravesend, at present in charge of a pulp-mill in Sweden, will be found of practical value.

Cost of manufacturing 1 ton of White Paper on Thames. Average of 6 months' work, 1891.

	Quantities of Raw Materials per ton paper.	Cost of 1 ton of Paper.			Remarks.
		£	s.	d.	
Pine wood	3,257 loads.	4	4	4	Pine (white) logs, imported from Sweden.
Sulphate and soda wood pulp.	t. c. qr. lb. 0 0 0 22½	0	2	2½	Chemical wood pulp by soda process.
Mechanical wood pulp ...	0 0 3 4½	0	4	2½	Simply ground wood.
Sulphite wood pulp ...	0 1 0 16½	0	13	0	Chemical sulphite process pulp (wood).
Loadings	0 1 1 19½	0	4	9	China clays.
Wrappers	0 0 2 19¾	0	7	0½	Brown paper.
Cord	0 0 0 6	0	1	6½	
Brimstone	0 3 0 5¾	0	14	10	Sicilian best thirds, brimstone.
Magnesite	0 4 2 12¾	0	8	1¾	Magnesia stone (carbonate) from Greece.
Liquor, w. and tear, materials	.....	0	0	3½	
Coke	0 0 2 15½	0	0	7½	Ordinary gas coke.
Bleach	0 2 3 27½	1	0	10½	Bleaching powder.
Mis. chemicals	.....	0	1	1½	
Starch	0 0 1 4¾	0	5	3½	Of good quality.
Soda ash	0 0 1 9¾	0	1	5	
Resin	0 0 2 6½	0	2	9¾	
Alum	0 2 1 0½	0	9	0½	
Beater oils ... ..	.....	0	0	3	Seal oil.
Gelatine (glue)	0 0 1 4½	0	1	9¾	
Colours ... ..	.....	0	2	1¾	Ultramarine and aniline colours.
Coals	4 12 3 23½	3	9	2¾	
Lighting (by gas) ... ..	.....	0	5	1	
Lubricating ... ..	.....	0	2	0½	
Belting ... ..	.....	0	1	6¾	
Pulp, w. and t., materials	.....	0	7	1¾	} Wear and tear in pulp department of mill.
Pulp, w. and t., wages	.....	0	4	1½	
Paper, w. and t., materials	.....	0	5	3½	} Wear and tear in paper department of mill.
Paper, w. and t., wages	.....	0	6	1¾	
General w. and t., materials	.....	0	6	8	
Wires and dandies ... ..	.....	0	1	7¾	
Felts ... ..	.....	0	5	6¾	Stout woollen cloths of different textures and thickness.
Manufacturing, wages, pulp...	.....	1	6	6½	
Manufacturing, wages, paper..	.....	2	6	2¼	
Manufacturing, wages, liquor	.....	0	1	10¾	<i>i.e.</i> , acid used for pulping wood.
Paper account ... ..	.....	0	0	8	
Paper carriage ... ..	.....	0	12	8¾	Carr. from N'fleet to London, &c.
General charges ... ..	.....	0	5	8¾	At mill only.
Bisulp. of soda, liq., materials	.....	0	0	1½	
		£	19	13 11¼	
Less wrappers made ... ..	.....	0	4	10½	
		£	19	9 1	

The net cost of making a ton of paper during previous half-year, £18 15s. 0½d.

NOTES.—A load of pinewood logs is 50 cubic feet solid measurement.

A standard is 216 cubic feet of piled logs, and contains 162 cubic feet solid measure, or 3·24 loads.

Sulphate, soda and sulphite wood pulp is chemically prepared fibre. Prices of these *c.i.f.*, Thames, ranges from £9 to £11 10s. (14/2/92).

The coals used per ton paper is high. This is owing to the fact that our two main engines (700 i.h.p.) are not compound type, and consume 3½ lb. coal per i.h.-power per hour. If an engine of compound type was used, 2½ lb. of coal would only be consumed per i.h.-power, which would mean a saving of from 15 to 20 cwt. of coal per ton finished paper. Other paper-mills consume 3 to 3¼ tons coal per ton paper.

Wall-

Wall-papers.

In wall-papers the United States exhibit were undoubtedly the best. The pavilion of the National Wall-paper Company contained a collective exhibit of the principal productions of five of the prominent manufacturers of the National Association, the general idea being to illustrate, in a condensed form, the various grades of the highest class of productions in every branch of this important art. The pavilion itself, a very beautiful structure of the renaissance order, designed especially by Paul Groeber, of New York, attracted the attention of the visitor by the simple grace of its lines and the charming distribution of its enrichments in "Lincrusta Walton," the whole being finished in ivory and gold. There was a series of rooms opening from a central apartment which was two stories high with a sloping riste to the ceiling proper. The first storey contained samples of H. Bartholomae and Company's machine and hand-made papers, a new departure being marked in the fact that in both grades silk hangings to match either class of manufacture were also exhibited. They had also a new process of surface relief, which gave a very refined effect owing to the extreme delicacy with which the outlines, gilded outlines, were treated. The scheme of this room, both in detail of treatment and the pressed paper panels above cabinets, was strictly of the empire order. The side walls of the second storey proper were treated with an empire wall-paper decoration embracing pilaster and capitals, frieze, top and bottom borders, and panel hangings with centre medallion, admitting of extension or contraction as the prospective wall surface of any apartment might require. The decorations of the sloping wall pediments above were carried out with panel mouldings, medallions, &c., and the flat of the ceiling completed with a diapered pattern framed in with a rich laurel ornament. The colour throughout the lower part of the wall was in soft tones of old rose, leading up to a warm cream as the background of the ceiling, with cameo effects of old rose, presenting the most complete and artistic wall decoration. F. Beck and Company, of New York, were represented in the north-east apartment. This room was replete with every character of high-class wall decorative hangings. One case contained a choice selection of satin-surface pressed papers, embracing examples of the Italian and French schools of design, while the excellent manner in which these goods were displayed, together with the artistic grouping of the colours, lent further value to a most interesting exhibition feature of their productions. Directly facing was a very clever collection of their leather wall-papers, embracing lacquered metal, ivory and canvas faced metalised finished hangings. The remaining case contained examples of hand-printed chints, damask and tapestry papers, supplemented by a decided novelty in their printed burlap and jaan jean damasks. The balance of their noteworthy exhibit was composed of a choice collection of "Lincrusta Walton," which is solely manufactured by this firm. This selection completely illustrated the uses this valuable substance can be applied to, and this was further enhanced by the admirable manner in which each example was finished, showing effects in leather, repousse metal, faience glazes, and representations of carved wood; the ceiling of this room was divided into panels with ivory beams, the intermediate space being hung with "Lincrusta Walton," laid in with gold leaf and lacquered with azure, the high lights being wiped off. The walls were also hung in the same material, simply treated in flat colour of a soft salmon tone; the relief detail in the empire style applied to the woodwork was also of lincrusta, the same being finished in ivory. The wide frieze display of Robert Graves and Company, of New York, was very handsome. Notable among them was an exquisite naturalesque rendering of the wisteria vine, also of the lilac, together with a very pretty festoon of wild roses with cupids, additional grace being lent to this composition by the scattered blossoms thrown here and there. They also showed a choice selection of pressed papers for parlour decoration, while

all

all were marked by great refinement of colour. The cameo effects were remarkably beautiful. Another case exemplified this firm's achievements in raised flock painting, a process hitherto almost entirely monopolised by English manufacturers. The sharpness of the detail in each of the examples, and the extremely characteristic drawing of the lion and the crown, and of the familiar old thistle of Scotland, were especially to be commended. The ceiling of this room was hung with one of their pressed papers, the woodwork finished in ivory and gold, the general effect being highly assisted by hand-painted draperies, the subject being the wisteria vine. The north apartment contained the exhibit of Warren, Fuller, & Co., of New York, the successful competitors at the Paris Exposition of 1889, where they earned the distinction of the silver medal. This very interesting exhibit contained examples of this firm's most noted productions, several being covered by letters patent; among the most noteworthy was a Columbian design by G. de Louvres. The collection embraced flock, pressed and leather papers. Messrs. Nevins and Haviland, of New York, occupied the remaining south end of the pavilion; their principal exhibit was a very forcible illustration of the immense improvements made in machine-printing in the two large cases, the majority of the patterns being of that grade. Nothing more chaste or more beautiful could be found than their representation of satin damask, both design and colour left nothing to be desired. Their hand prints were also of equal moment, the blended tapestry hanging above the cases being particularly fine. The exhibit also contained a very excellent specimen of coloured "flock upon flock," and the first striking off of their allegorical wall decoration, especially designed for this occasion by Walter Crane, the printing of which was an achievement of which the wall-paper industry might be proud. The skill in patching up some forty-eight colours with only half that number of blocks and producing such a finely balanced effect was worthy of the highest praise.

Next to this exhibit England displayed the finest collection of wall-papers shown, and decorations shown were represented by four different firms, all having a very creditable display, the most noteworthy being that of Jeffry & Co., of London. They availed themselves of the space allotted to them by the erection of four sides of a room, with chimney breasts, overhanging coves, doors, and ceilings. Both interior and exterior were decorated, each space being separately treated and complete in itself, thus enabling them to show quite a variety of very handsome designs and colourings. On each side of one of the entrances to the enclosed room space was the trio decoration designed by Walter Crane in which he made use of the ever pleasing pilasters. It was a composition of three panels, inclosing child figures representing the arts—music, painting, and poetry. The treatment of the pilaster itself was pleasing in colour, while the field was treated in subdued tones of yellow flock, enriched with gilding. The frieze of singing birds perched upon the frame of a half-suggested lyre acted as a chorus to the figures and formed a variation in a lighter scheme of the main lines of the paper. They also showed some very fine examples of antique leathers, flocks, hand-prints, varnished and oil finished papers, together with samples of papers used in Victoria House, which was handsomely decorated with antique leather papers, of splendid design and rich colouring.

Strange to say, although France manufactures some very fine papers and decorations, she was unrepresented by any firm making a display of these goods. Germany had a very fine exhibit. Austria was represented by one firm, which showed an example of a new leather imitation wall hanging or tapestry, and christened it "Skytogen," which had the appearance of real leather, the surface coating being of leather pulp, made as a very durable and waterproof wall covering. The exhibit of Japan contained a number of fine examples of leather wall-paper, in the manufacture of which they excel.

TILES

TILES AND TILE-MAKING.

The art of tile-making was lost for upwards of 2,000 years, but was rediscovered some 300 years ago; and to judge from the specimens, ancient and modern, exhibited at the Fair, the more recent productions are far in advance of the ancient. Examples of tiles taken from the Pompeian ruins showed irregularity of size, colour, and hardness, difficulties which apparently they were unable to overcome. The art of to-day has improved to such an extent that innumerable change of colour, as well as varying sizes to blend and fit perfectly, are produced by all the best makers. The exhibits themselves were not so numerous as might have been anticipated, but what was wanting in quantity was more than made up in quality. The show of Great Britain was small. The exhibit of A. Hereford was very good; in fact the tile mantel exhibited by him was a splendid specimen of the art. A Jackfield firm showed in their space a structure of faience, which formed a receptacle for fine exhibits. The height of the structure was about 20 feet. It was in the form of a colonnade supporting an entablature in a style which was classical, and leaned somewhat to the renaissance. Each of the shafts of the column contained one painted and three modelled panels; the lunettes and spandrels were hand-painted in an underglaze. Within the floor space there was a division made by central screens and side wings, which allowed sufficient floor to be seen to indicate the pavement of the different sections. One part represented the chancel of a church, the other showed the lining of a palatial bath-room, and in the other compartment was exhibited matters of public and domestic architecture. In the ecclesiastical department the principal object of interest was an altar piece—"Our Lord in Glory;"—in it very fine mosaic was introduced, and symbolical representations in variously coloured and beautifully figured tiles formed the panels. Below the pictorial part of the reredos was a dado 3 feet high in under-glaze painting in green and brown, having above and below a border of gold; the whole work was a most interesting representation of artistic work.

In the German exhibit the display of encaustic, mosaic, and ceramics exceed that of all other countries, both in quantity and quality. The German vitreous inlaid tile is undoubtedly the best description of this tile made.

The French exhibits included some splendid mosaic tile-work busts. A statue of Cleopatra, made expressly for the Exposition, illustrated what can be done in mosaic colour-shading; the rich robes and surroundings gave a first-class opportunity for colour effects. Two other busts, made for the Madeleine Church in Paris, were very good specimens of the art, as were also two copies from the Louvres, representing Le Poussin and Rubens.

Amongst American representations there was a magnificent representation shown in the north-west corner of Manufactures Building, which was stated to be the finest sample of tile ever shown in America. It was employed in the construction of a soda-water fountain of very large size.

LEATHER EXHIBIT.

Among the very interesting exhibits at the World's Fair, as might naturally be expected, leather held a very prominent place. A separate building was erected for the special exhibit of this article and its applications just north of the Forestry Building. But many countries preferred to show their exhibits of leather work in their special sections in Manufactures Building. There was not much waxed leather to be seen at the Fair, although it is believed by many leather manufacturers and carriers that no leather equals waxed for durability

durability and serviceable wear. The exhibits of waxed leather from the Western States of America were very excellent. The most recent methods of making leather were exhibited. And all the various processes done by machinery, such as whitening, graining, blacking, and pasting, all of which processes except whitening can be done by machinery better than by the old way. The only countries exhibiting belting were the United States, Austria, and Japan, and New South Wales, but the American belting was unquestionably the best. It consisted of examples of single, double, and three ply and was all oak-tanned. In Machinery Hall the largest belt in the world was shown. It was 203 ft. long, 8 ft. 6 in. wide, and weighed 5,176 lb.; 569 hides were used in its construction, and it was three ply and waterproof. The next largest belt was shown in the Leather and Shoe Trades Building. It was 144 inches wide and 200 feet long. The sole leather of Pennsylvania, California, and Ohio was very good. That of France, Germany, and Japan was less firm and solid than the American. Patent and enamel leather as used for fancy shoes, saddles, harness, and military belts was shown by various countries. This leather is manufactured from tanned calf-skin, ox and horse hide. One American firm had a very fine display of enamel and shoe leather in imitation of oak and other woods, in the shape of a splendid pavilion made of leather, 50 feet long and 20 feet wide. The roof was supported by eighteen square pillars which were completely covered with enamelled leather, and the work was so finely done that at first glance the visitor imagined that it was wood and not a leather covering. In morocco and dongolo leathers, and small grains—kid and fancy goods—France and Germany had splendid displays. The exhibit of harness leather was very fine, and consisted of a very excellent show from America, France, Germany, Russia, Austria, and Japan. Like belting, harness leather is made from clear selected hides of uniform substance. Labour-saving machinery recently invented saves much heavy work, especially in the scouring and setting out. Amongst the leather exhibits there was one great curiosity. It was the hide of an elephant, which weighed when green 800 lb. and when tanned 500 lb. It was 20 ft. long, 16 ft. wide, 3 in. thick, and required two years for tanning. In the same exhibit were several walrus hides. This kind of leather is used for polishing purposes.

Among machines used for currying, the American Union Splitting Machine took a foremost place. It has a fixed knife, and is the oldest machine known. A later and more perfect machine is the Belt or Band Knife Splitting Machine, the knife of which is an endless band of steel, which revolves with the edge of the knife close to the side of the rollers through which the leather passes. The lower roller is made of rings, each ring capable of springing so as to allow the unequal parts of the hide to pass through.

In the gallery of the Leather Building there was a boot and shoe factory at work showing all the various machines employed in the trade. No machine has yet been invented for cutting all the different parts of a shoe, the difficulty consisting chiefly in providing for the adaptation of the quantity and quality of the leather to its appropriate place. This work is done by hand, except in the case of the cutting of the soles, which can be done in the rough by a machine designed for the purpose. In this factory, in actual operation for the inspection and edification of the visitor, were sewing-machines for joining the various parts of the shoe—machines for making complete button-holes; others for sewing on buttons, lasters, rough rounding and channeling—that is, for cutting a furrow in the bottom of the sole to lay the thread in; sewing the sole to the upper; leather splitting machines for both upper and sole leather; levellers, edgers, scarfing, burnishers, treeing machines, and others. All these machines have, to a great extent or less degree, supplanted hand labour.

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The Stanley Manufacturing Company exhibited an improved M'Kay sewing machine which could turn out, with the aid of skilled labour, from 600 to 1,000 shoes per day of ten hours, doing the work of from twenty to thirty men sewing by hand. The style of stitching done by this machine was not at all similar to hand-work, being a wide departure from the usual forms of hand-work and other forms of stitching, and establishing an altogether new principle called the chain stitch. This machine had all the latest improved appliances, and stood in remarkable contrast to the original machine in use in 1864.

The Goodyear Company exhibited among other machines one for sewing the welt to the insole, the process being known as the inseam. After this the outsole is put on and stitched through both welt and insole, practically as done by hand but supplanting hand labour in the ratio of about one to thirty in favour of the machine. This machine showed wonderful ingenuity on the part of the inventor, inasmuch as the work performed was almost an exact reproduction of hand-work. In Section A there was a consolidated hand-method lasting machine. The operator dropped the last into the upper placed in the machine. By applying his knee to a lever the machine was put in operation, then a steel arm and hand with a quick motion grasped the upper leather and drew it to the right or left or straight out as the operator willed, and drove the tacks at the same time. While watching this machine work the visitor was forcibly reminded of the flexions of the human hand and arm. The relative value of this machine as against hand-work was as forty to one hundred in favour of the machine.

In strong contrast to the last-mentioned machine was the Copeland Laster, of entirely different design, construction, and method of working. The operator placed the shoe in the machine and by moving the lever drew a pair of straps around the shoe; this held part of the upper in proper place on the last; then, by bringing another lever into play, other straps were drawn against the shoe; then by pulling on a lever at the right and one at the left the upper was gathered at the heel and toe. Now taking a machine tack-driver, that had been filled automatically while he was working, the operator rapidly drove in the few tacks necessary; and the lasting was done in much less time than the process can be recorded. While all classes of work can be done by this machine it is said to be specially adapted to the finer kinds.

The Globe Buffer Company exhibited the Globe button-hole machine. This was an extremely interesting machine, which cut the hole in its proper place and sewed and barred it at the square end of the hole; that is, it put an extra stitch across the outer end of the hole. This is the only button-hole machine which does this, the others requiring what is known as the boring machine to perform this particular operation. An expert by hand will button-hole from one to one and a half cases, of from sixty to seventy-two pairs in a case, per day of ten hours, while this machine will button-hole thirty or more cases in the same time, and do it a great deal better. The Morley-Bennet Sewing-machine Company exhibited a machine for sewing on buttons. The little machine had a hopper at top, into which the buttons were put. It fed itself, did its own spacing for the buttons, sewed them on at the rate of 225 per minute, the operator only being required to hold the shoes and to take them away, the machine doing the rest. As compared with hand labour the ratio is fifty to one in favour of the machine. The "sewing" or leather splitting machines, of which there were many, could not be said to supplant hand labour, as it would be impossible to do this work by hand. The same is true as to the "lap-scarfing" machine. The work of these machines is to taper leather at the edge so that it may be folded over without being thicker at the edge than at other parts. A shoe in
process

process of making, from the hide to packing in the case, passes through about sixty working men's and women's hands, and those sixty, with the help of machinery, do the work of about 800 men and women working by hand alone.

Exhibits of Safes.

In no other country in the world are burglars so skilful at their trade, or so bold in carrying out their plans to a successful conclusion. In America burglars have been known on several occasions to drag a man from his bed, and hustle him, perhaps for a distance of a mile or more, along the streets of a city to a bank, and there to have forced him at the muzzle of a revolver to open the safe and to hand over the cash to the marauders. No safe can be called actually and really fire and burglar proof which has any opening through the solid front door, Whether the opening referred to be for the dial plate or for the handle which shoots the bolts, it is still the weak point in the safe as has been seen many times, for by means of this opening, no matter how small or how closed up it may be, it is there just the same, and is the point on which the skilled workman brings his powers to bear.

The latest invention in the way of burglar-proof safes contains within the door, which has a plate-glass front on the interior, a time-lock which is so set as to open twelve hours after the safe has been closed. The door has no opening on the outside. The bolts close with a snap, and it is impossible to open the door till twelve hours have elapsed. Within the outer door there is another operated with an ordinary dial combination and handle within the outer door. Thus it will be seen that a fire-proof is not necessarily burglar-proof, nor is a burglar-proof safe necessarily fire-proof.

Musical Instruments.

Musical instruments, as might be expected, were largely represented. Not to speak of the immense variety of pianos, organs, and other instruments exhibited by the leading German and American makers, who undoubtedly took the lead in this department, there were in several of the official and State buildings some magnificent instruments showing the latest improvements. The large organ in Festival Hall was an instrument of great sweetness and power. In many of the courts, especially of foreign countries, the national musical instruments were shown, and formed a very interesting display.

Horology.

The leading American manufactures of watches, clocks, and other instruments for measuring time were well represented, and in their booths, which were very handsome structures, the various processes of the business were all shown in actual work. The Waltham Watch Company had a large number of artisans daily employed in their court, and crowds of people continually surrounded the glass walls watching the procedure. Independently of the numerous representations of horology exhibited by the leading foreign and American makers, the great clock in the centre of the building deserved special mention. The clock tower was 120 feet high, which stood on a base 40 feet high. Fronting each of the four grand avenues were four portals 16 feet wide and 28 feet in height, and on each side of these were panels with inscriptions relating the story of Columbus. On the frieze at the top of the first story were shown the shields and escutcheons of each of the forty-four States of the Union. The second storey, which contained spacious reception-rooms, was 12 feet high, and extending around it was a balcony 10 feet wide. The mechanism was placed above this, occupying a room 20 feet square. The clock itself had a face 7 feet in diameter,

diameter, and on it was shown the hours, minutes, seconds, and the day of the month. Above the chamber containing the mechanism was a chime of nine bells. The dome was surmounted at a height of 120 feet by a globe 16 feet in diameter.

Gates at front of German Section.

The trio of hand-forged gates forming almost the entire front of the German section were a prominent feature in the Manufactures Building, and attracted the attention of every one who passed along the great Columbia Avenue on account of their originality, their massiveness, and their beauty. One hundred and fifty men worked for six months with hammer and chisel, all other tools and instruments being excluded, to complete this splendid monument of German workmanship. The central gate, the largest of the three, was 40 feet high and 21 feet wide; the two smaller gates were each 30 feet high and 15 feet wide, while the three combined measured, together with the connecting gratings, 150 feet in length. The total weight of this masterpiece of smithing was 33 tons. Although the big gate alone weighed 15 tons, its portals could easily be moved, so neatly adjusted was the work, and so finely hung was it in its steel bearings. The cost of this work of art, for such it was, was stated to be \$50,000. The design was in the rococo style, chaste and beautiful. This style appears to be best suited for this style of work, and in the present instance it gave the whole a semblance of lightness, airiness, and boldness which was truly artistic and beautiful. The garlands and festoons, slender vines with flowers and leaves, tiny shoots and spendrils, sprouting out boldly on top, appeared so light and so full of life that it was difficult to believe that they had been shaped with hammers and chisels in toilsome work. The designs for these gates were different from each other. Every flower, every leaf, every twig of the ornamentation, except a little black paint to prevent the rusting, appeared as hammer and chisel left it on the anvil or in the vise. A close inspection of the bunches of grapes gracefully hanging on the vines, and of the roses and daisies here and there strewn in, revealed the mark of the hammer and chisel. Not a file touched the work, and this was what gave it its natural and unaffected look, while at the same time it attested its genuineness as a pure piece of hand forging. This artistic smithing, illustrated by these big gates, is a resurrection of the chaste and very artistic style of this class of work as it was many centuries ago, fostered and nursed by the art-loving Catholic priests and monks of Southern Germany and the Tyrol, then German, and for which the Germans of the Middle Ages were then famous. The Thirty years war, 250 years ago, which transformed Germany, during its long duration, from one of the most prosperous to one of the most poverty-stricken countries in Europe, buried this particular branch of artizanship, and it has only recently—since the Franco-German war—again revived.

Whilst on this subject I may refer to that prominent work in hand-hammered copper, Professor Begas' Germania group, which towered high above the German section in the Manufactures Building. It was the work of the famous coppersmith Heinrich Seitz, of Munich, a member of a family which has existed for generations. This was a beautiful piece of work intended, as soon as the Exhibition was over, for erection upon the new building for the German Reichstag, now nearing completion in Berlin.

Yerkes' Telescope.

At the north end of the great Columbian Avenue was the 40-inch Yerkes' Telescope, made by Warner and Swasey, of Cleveland, Ohio, a firm which also had a large collection of telescopes for colleges and private observatories exhibited in the north gallery of the building.

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The Yerkes' Telescope is the largest refracting telescope in the world, and was the gift of Mr. Charles T. Yerkes to the University of Chicago. Through the kindness of Mr. Yerkes I have been provided with the following particulars in regard to this interesting astronomical instrument:—The column and head were of cast-iron, and rose to a height of 43 feet, and weighed 50 tons; the polar axis was of steel, was 15 inches in diameter, $13\frac{1}{2}$ feet long, and weighed $3\frac{1}{2}$ tons. The declination axis, also of steel, was 12 inches in diameter, $11\frac{1}{2}$ feet long, and weighed $1\frac{1}{2}$ tons. The tube was of steel, 64 feet long, and 52 inches in diameter at the centre, tapering towards the end, and weighed 6 tons; the driving clock weighed $1\frac{1}{2}$ tons, and was located in the upper section of the column. It was wound automatically by an electric motor, and was controlled by a double conical pendulum. It was geared to the main driving-wheel, 8 feet in diameter, which, when clamped to the polar axis, revolved it, together with the tube and all its accessories, weighing in all 20 tons, in exact sidereal time. All quick motions, slow motions, and clamps, both in declination and right ascension, were operated by hand, and also by electric motors controlled by a switch-board placed within easy reach of the astronomer. The assistant astronomer likewise has full control of all motions from the balcony which surrounds the head, and which, together with clock, is reached by the spiral staircase. The total weight of the telescope is 75 tons.

This great telescope was incomplete as it stood in the building. It lacked the lenses, which were in course of manufacture by Alvin Clark and Sons, of Boston, when the 40-inch lens, the greatest ever made, is perfected, which will occupy several months. The telescope will finally be placed on an observatory at Lake Geneva, Illinois, and then the University of Chicago will possess a greater instrument than the Ross or the Lick Telescope.

The cost of this gift of Mr. Yerkes was about \$60,000. An observatory is being constructed for it at Geneva Lake, and a special feature of this building will be a movable circular floor, 80 to 90 feet in diameter, which can be raised or lowered by the operator of the telescope by the pressure of an electric button. This will do away with cumbersome galleries and stairs, and will be one of the most novel features in the equipment of the telescope.



ELECTRICITY BUILDING.

Electricity Building and Exhibits.

IN the building devoted to electricity and its applications New South Wales was allotted a space of 1,000 square feet in the gallery. I made application for this space on the occasion of my first visit to Chicago, because when I left Sydney in June, 1892, it was clearly understood that certain exhibits belonging to this department would be forwarded. When I found ten months later that no exhibits in this class had been provided I resigned the space. On the whole I was not displeased at this result, inasmuch as I am sure under any circumstances we could have provided no exhibits in any way comparable with the magnificent displays of other countries, more especially of America, where electricity is yoked to the uses of man in a thousand forms. Although New South Wales had no exhibit in the Electricity Building I consider it desirable to make some reference to the most remarkably complete representation of electric science and its practical applications that, up to this time, the world has ever seen.

It has been rightfully said that never in the world's history has there been such a display of the comparatively new force of electricity as was shown at Jackson Park. The only previous Exposition at which electrical force was realised to any extent was in Paris in 1889. There it occupied a comparatively small space in a building devoted to other purposes. The improvements, the development, and the new uses to which the science has adapted itself have so expanded that one of the most important buildings at the World's Fair was given over entirely to an exhibition of electrical science and its myriad forms of application. It was not at all surprising that this grand building should have been erected for the exhibition of the powers and the results of the working of this "mysterious and subtle form of energy" in the United States of America; for in every town, whether old or recent, in the east as well as in the far west, the electric light from arc and incandescent lamp is everywhere seen; electric power transmitted from the nearest waterfall drives the mills set up to saw the wood and dress the stone for the buildings of the future and as yet undeveloped city; and in the older towns, in the private residence as well as in the public street and park, in the factory and warehouse, the electric light is everywhere employed.

The wonderful strides made in the field of electrical appliances during the past few years were represented in miniature in the display made at the Exposition. The commercial and economic applications of electricity and exhaustive tests of the efficiency of the same in comparison with other and older methods of accomplishment. In addition to these practical features, object lessons of interest and instruction, showing the development of the science from its formative or initiatory stage to the present time, were presented. The accomplishment of this object took the form of an historical exhibit, embodying models, drawings, and crude machinery made and used by the pioneers of the science.

The Building.

The Electrical Building was 345 feet wide and 700 feet long, the major axis running north and south. The south front was on the great quadrangle, or court of honour; the north front faced the lagoon; the east front was opposite the Manufactures Building; and the west faced the Mines Building. The general scheme of the plan was based
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on a longitudinal nave 115 feet wide and 114 feet high, crossed in the middle by a transept of the same width and height. The nave and transept had a pitched roof, with a range of skylights at the bottom of the pier and clerestory windows. The rest of the building was covered with a flat roof, averaging 62 feet in height and provided with skylights. The second story was composed of a series of galleries, connected across the nave by two bridges, with access by four grand staircases. The area of the galleries in the second story was 118,546 square feet, or 2.7 acres. The exterior walls of this building were composed of a continuous Corinthian order of pilasters, 3 feet 6 inches wide and 42 feet high, supporting a full entablature, and resting upon a stylobate 8 feet 6 inches. The total height of the walls from the grade outside was 68 feet 6 inches. At each of the four corners of the building there was a pavilion, above which rose a light open spire or tower 169 feet high. Intermediated between these corner pavilions and the central pavilions, on the east and west sides, there was a subordinate pavilion bearing a low square dome upon an open lantern. The building had an open portico extending along the whole length of the south facade, the lower or Ionic order forming an open screen in front of it. The various subordinate pavilions were treated with windows and balconies. The details of the exterior orders were richly decorated, and the pediment, freizes, panels, and spandrils, had received a decoration of figures in relief with architectural motifs, the general tendency of which was to illustrate the purposes of the building. The appearance of the exterior was that of marble, but the walls of the hemi-cycle and of the various porticos and loggia were highly enriched with colour, the pilasters in these places being decorated with scagliola, and the capitals with metallic effects in bronze.

The electric exhibits in the building of greatest interest were those of America, Great Britain, Germany, and France.

The Department of Electricity differed in one supreme particular from every other department of the World's Fair. The rapidity of electrical development finds no parallel in any other range of discovery. To the electrician ten years is a century, and even in one year all his pet theories may vanish under the light of some new discovery. Further the science of electrical development has advanced just far enough to teach electricians that they are merely on the threshold of unbounded worlds of knowledge. The World's Fair Department of Electricity, marvellous as it was when compared with the electrical knowledge of ten or twelve years ago, may prove to be crude and insignificant before the close of the present century.

Dr. Elisha Gray, Chairman of the Electrical Congress, in his eloquent opening speech at the Electrical Congress, referring to this subject, said:—

The rapid strides that have been made in electrical science and electrical invention in the last twenty-five years have marked a new era in our civilisation, and this age may well be denominated the electrical age. Who knows what the next quarter of a century will bring to us through the medium of electricity? To some people it seems as if the limit were nearly reached, but who knows? The grand results that have thus far been attained were not accomplished by any one nation or individual. We as Americans are proud of our native land—the land of Franklin, Morse, and Henry—but we are also proud of our fatherland, and we believe that the fatherland is just a little proud of us, although we neither of us say this too often or too loud. The fatherland of America is all the civilised world outside of its own borders.

And the venerable Baron Helmholtz, still more lucidly, perhaps, expressed in one of his addresses the remarkable contrast between electrical knowledge of some years ago and the present time, when he said:—

I have been occupied by electricity, that is true, and perhaps age has this privilege, that it is honoured more than youth even if the merits should be doubtful. Now I think at present I am the most aged man of the present electricians.

The beginning of my career was when the phenomena of electricity were most delicate experiments which were performed by some physicists in their laboratory. We
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can move at present great machines of the greatest power, and at the time when I began to study electricity we could not move a little magnetic needle suspended on a silken thread, the finest which we could find. We balanced two such needles with opposite poles to get any token of an electric current. The most delicate token or index of the electric current was the galvanised frog. He could do nothing more than make an oscillation, a contraction. We could not move the slightest apparatus, but we showed that there were feeble currents, and we had no constant electro-motive force. We were obliged to work with the simple elements of copper and zinc, without sulphate of copper, elements which altered every moment, which had in the first instance a great electro-motive force, then went down and down and down so that after some instances there was nearly no force at all, only traces of the former force.

Now all this is altered. In the beginning of my career, when we did not know anything of the great discoveries of Faraday, of the use of currents which have developed into currents which can drive the mightiest engines. I may say that the present generation, if I include myself in the present generation (laughter); has seen a greater development of science than any generation before us. The history of the world and the history of science has grown rapidly during our lifetime, and it is a great pleasure for us old men to see now what electricity has reached in its new stages, and to admire the newest developments which are collected on this festival occasion here in your great Exhibition. I thank you. (Applause.)

The scope of the electrical department was, broadly speaking, twofold in character. One great division of the department was an illustration of the commercial and economical uses of electricity. In this division were embraced all the machinery and devices which enter into the practical application of electricity in every-day use. It exhibited the latest inventions for creating the three great economic commodities—light, heat, and power. The exhibitors in this division were all corporations or firms, and many of them vigorous rivals.

The second division of the electrical exhibit related to the development of electrical science. It embraced its progress from the earlier and crude inventions to the latest marvels. The historical feature was illustrated by priceless relics of the early inventors, models, drawings, and maps, and every other connecting link between past and present development. The scientist was able to make critical analysis of the claims of inventors by actual experiments. Within the walls of the Electricity Building the greatest electricians of the world gathered for mutual enlightenment and counsel. Special demonstrations and experiments, which only the initiated understood, were made for the benefit of the learned few. The practical exhibit claimed the crowds, and as many of the spectacular electrical features were presented out of doors this department was doubtless the more popular.

From the nature of the electrical exhibit it was found dispersed in all parts of the grounds. The Electricity Building itself held only a fraction of the real exhibit. The machinery and devices for electric lighting and the motive power in all parts of the grounds were also competitive exhibits.

Classification of Exhibits.

The classification of the exhibits was comprehensive, embracing apparatus illustrating the laws; the myriad phenomena of electricity and magnetism; electric telegraph signals and cables; dynamical electricity, batteries, machines for the generation of electricity; appliances for the measurement of the force; for the transmission and storage; motors; telephones, phonographs, telautographs, kinetographs; plants for furnishing heat, power, and light; appliances for use in surgical and dental work, and in therapeutics; appliances to relieve pain, and others which destroy life; appliances for use in chemistry, metalling, and kindred sciences.

Electric Lighting of the Buildings.

The electric lighting of the buildings and grounds was a demonstration both of power and beauty in arc and incandescent features. About 8,000 arc lamps of 2,000-candle power, and about
130,000

130,000 incandescent lamps of 16-candle power, offered in themselves an object lesson in latter day lighting methods. But these were merely multiples of the ordinary standard powers. Greater extremes were shown, from the powerful arc light of 8,000-candle power to the delicate incandescent lamp of $\frac{1}{16}$ -candle power, which gleams like a tiny fire-fly.

Official returns gave the following statement of the number of arc lights employed for the illumination of the grounds and buildings:—Arc lamps in Manufactures Building, 1,200; in Agricultural Building and annex, 500; in Transportation Building proper, 350; in Horticultural Building, 250; in Mines and Mining Building, 200; in Machinery Hall, 250; in Fisheries, 50; in Illinois State Building, 77; total arc lights in main buildings, 2,877.

This estimate does not take into consideration any lights on the grounds, or any of the lights used by individual exhibitors, nor does it include any of the incandescent illumination. The chief electrical engineer, who has furnished important information on this subject, stated that the contract with the Westinghouse Electric and Manufacturing Company for incandescent lighting called for the furnishing of dynamos, feeder, and convertor capacity for 83,410 lamps of 16-candle power, and 6,212 lamps of 19-candle power, or a total of 89,622 lamps; and inside wiring, or wiring to lamps, for 50,410 lamps of 16-candle power, and 6,212 lamps of 10-candle power, or a total of 55,622 lamps.

It was stated that the estimated distribution of this lighting, as furnished by the same authority, was as follows:—

Fine Arts Building and annexes	...	...	...	...	...	16,242
Woman's Building	...	...	...	...	...	3,000
Administration Building	...	...	...	...	...	5,000
Music Hall, Peristyle, and Casino	...	...	...	...	...	4,368
Total in buildings to be lighted wholly with incandescent light						28,610
						28,610
Horticultural...	...	...	...	...	...	800
Transportation	...	...	...	...	...	2,500
Mines and Mining	...	...	...	...	...	3,000
Machinery and annex	...	...	...	...	...	1,000
Agriculture	...	...	...	...	...	4,000
Manufactures	...	...	...	...	...	10,000
Fisheries	...	...	...	...	...	500
Total for use in main exhibit buildings						21,800
						21,800
Decorative lights in flower-beds and about grand basin...	...	...	...	...	...	6,212
Total lights to be wired						56,622

Additional capacity of dynamos, primaries, and converters for—

Service Building	...	...	...	...	...	Lights. 1,500
United States Government Building	...	...	...	...	...	5,000
Buildings of States and Foreign Governments, and buildings on Midway Plaisance	...	...	...	...	...	26,500
Total						33,000

The distribution of these incandescent lights according to their application is as follows:—

(1) For use inside buildings lighted wholly with incandescent light...	...	...	...	...	...	Lights. 25,918
(2) Decorative lights on exterior of buildings	...	...	...	...	...	5,442
(3) Decorative lights on ground	...	...	...	...	...	6,212
(4) Lights in main Exposition buildings for offices, &c., and for use of concessionaires and exhibitors	...	...	...	...	...	19,050
Total						56,622

To supply these there was a subway system or main trunk line in the grounds of 76,000 feet of duct, and in the whole duct system there were over 225,000 feet of duct. The main subway contained about

about 25 miles of feeders, and the ducts carried over 40 miles of duplex cable. Departing from these details for a moment it may be stated that it was found necessary to adopt such a system as this for the accommodation, health, and comfort of an estimated number of 750,000 visitors, and 100,000 exhibitors and their employees. The piping necessary for this purpose, and so employed, would maintain the sanitary condition of a city of half a million inhabitants.

It was no wonder that the fire authorities and the insurance companies stood aghast when this stupendous and highly dangerous enemy to their interest was being placed in position. That there have been so few accidents from the application of this dangerous force proves fully that the scientific minds who have mastered it in all its details thoroughly understood their business. The electric plant at the World's Fair might be divided into three sections, controlled by three different companies. One company had the illumination of the grounds and buildings; another company supplied light for the Electricity Building, and also the power for the electric launches; and the third company illuminated the Great Terminal Railroad Station.

In the Palace of Mechanic Arts, as we have said elsewhere, was found the principal source of the supply of the electric light. In this building the visitor could enter into a subway or tunnel and walk upright in a lighted passage which was nearly square and not arched. This subway was brilliantly lighted by electricity; he could walk through it to the Electricity Building or to the Mines and Mining Building; if he should pass under the bridge west of the Manufactures Building he could see how the wires were fastened under it, and following the labyrinth he would again descend into the earth on the other side and enter another subway like the one he had left. This second subway ran along the entire west line of the Manufactures Building 1,700 feet, and the distance from the bridge to the west line was 300 feet. The subway continued under the north portico of the Manufactures Building, then crossed the bridge to the north in the same manner as it crossed the former bridge, then passed again underground and ran over to Fisheries and Government Buildings where it stopped. The entire way was lighted with sixteen-candle power 100-volt incandescent lamps, placed in series across a section of the 500-volt power circuit wires that were attached by glass insulators to the ceiling. The subway was double, and each section were similar in size and appearance, being 6 ft. 6 in. square, built of 2-inch tarred planking spiked to 3 x 8 inch timbers set 12 inches apart, and made fire-proof by a 1-inch coating of cement held in position by expanded metal laths. The capacity was far in excess, the visitor was told, of any possible demand, and 240 large wires were supported on glass insulators in both main sections. While provision was made for supporting, in addition, telephone and fire-alarm (service) cables containing innumerable cables. Connections with this subway and its branches were made with the main buildings through trap-doors, and along the line by 1,500 man-holes. In addition connecting with it directly and indirectly were nearly 93 miles of 6-inch "pump-logs" placed in trenches. These accommodated telephone and telegraph lines for fire-alarm purposes.

For the electric power circuits in this subway, conductors with a capacity of 200,000 feet of wire, were laid. For fire-alarm and police signal service 350,000; for the telephone circuits, cables for main distributors, the equivalent of 750,000 feet of metallic circuit was furnished; for branch conductors 100,000 feet of wire and insulation, each wire being separately braided and the two twisted together; for the arc-light circuits 264 miles of copper conductor, and for the incandescent circuit several hundred miles of Grimshaw wires; and of smaller Grimshaw wires several million feet were used in the buildings, while half a million feet of larger size were used for main feeder.

Coming

Coming now to the solar centre of the Fair the origin of all the lights along the roadways on the Wooded Island, and on the domes and pinnacles and walls of the principal buildings it will be found that 7 acres out of the total of the 26 acres of floor-space on the floor of the palace of Mechanic Arts were devoted to the great power plant, the source of all the light and illumination we have referred to. It was an immense engine belted to two equally immense dynamos driving direct two 10,000-light Westinghouse alternators from one main 30-foot driving pulley. The plant consisted of two 72-inch belts, one over the other, which transmitted the power to the 9-foot pulleys of the dynamos. Although this engine was not so conspicuous as to dwarf the surrounding machines, it was in reality capable of developing 2,500 horse-power, while, as is well known, the great engine at the Philadelphia Centennial, which I have seen in use at the workshops of the Pullman Palace Car Company at Pullman, was rated at only 15,000-horse-power. In adjoining sections of the building were ten 10,000-light alternating machines driven by ten 1,000-horse-power engines, while two 4,000-light alternators and the necessary exciters were driven by engines of less capacity. The twelve 10,000-light machines were all of the same pattern and furnished a current of 2,000 volts potential. The total capacity of these fourteen Westinghouse machines aggregated 158,000 sixteen-candle power lamps, the equivalent of 25,000 horse-power in steam was generated in the boiler plant which adjoined the power-plant building.

Arc Lights.

The arc lights, which were 1,550 in number and placed 65 to 75 feet apart in the central portions of the grounds. The entrances to the Art Gallery were lighted by these arc lights. The dome of the Administration Building was lighted by the incandescent system. All the lights everywhere in the grounds were so arranged as to enrich the points of beauty and provide as far as possible symmetrical decoration. Around the main entrances of the principal buildings, and in the grounds on ornamental posts, were placed one, two, and three arc lamps as well as clusters of lights, and in some cases there were brackets supporting incandescent lamps of high candle power in coloured-glass lanterns. Each of the posts referred to abutted on a man-hole, from which the leading wires passed up through a curved, vitrified pipe into the mast and thence to the lamp connections, each alternate lamp being on the same circuit. Over 10 per cent. of these lamps were on the patrol circuit, which was lighted from the setting to the rising of the sun. In the vicinity of the main buildings the lights were placed at an equal distance therefrom of 40 feet uniformly spaced on one side of the pathway. Single lamps lighted all bridge approaches, and a 3-light cluster was placed in the centre of each. In the above enumeration it must be clearly understood that the lighting of exhibits is not taken into consideration, nor those lights required in the operation of Machinery Hall in so far as power-plant was concerned. In other words it does not take into consideration the lights provided for by special contract; not those in the annex of the Transportation Building, Forestry Building, or in the pumping-plant in Festival Hall. These latter were furnished by private firms with dynamos specially installed for the purpose. In the glass dome of Horticultural Building a special lighting effect was secured by the suspension from the trusses of fifty arc lamps in circular rows, having ten in the upper row and twenty in the lower two rows.

Decorative Lighting.

The decorative lighting was limited to the outlining of the main lines about the Grand Basin. In the first place the shoreline of the basin was outlined by a row of lights; then the border of the flower-beds

beds was outlined in light; then the main cornice line of the buildings, extending completely around the Grand Basin at a uniform height of 60 feet, was marled by a row of lights; and, lastly, the Administration Building was outlined with lights, each horizontal line of the architecture, the ribs of the great dome, and above all the corona was shown in dotted lines of light. The glorious spectacle presented by this wonderful series of lights on every evening during the currency of the Exposition was magnificent in the extreme. The effects of light on the water and on the buildings, which appeared like great white marble palaces, was of an indescribably beautiful character. Besides the decorative lighting just described, the use of incandescent light on exteriors was mainly confined to the lighting of the Wooded Island and the use of lights here and there to produce a soft glow in colonnades and loggias. In carrying out the system of lighting, the two most difficult problems had reference to the lighting of the Art Galleries with their 2 miles of reflecting screens, and the lighting of the dome of the Administration Building. The lighting of the dome of the Administration Building in particular was very unique and effective. On the floor of the dome, which was octagonal in shape, there stood in the eight angles eight great spreading candelabra of special and beautiful design, each bearing fifty 16-candle power lamps. High up, at the spring of the interior dome, was a gallery running clear round the entire dome as has been described elsewhere. This gallery had a metal railing upon which stood fifty-six 7-light standards, forming a grand corona of light 120 feet in diameter. Far up, above and through the opening in the false dome, were seen the beautiful painting upon the ceiling of the outer dome, as it was illuminated by a circle of arc lights which were themselves hidden from view between the two domes. I may instance another effective piece of lighting in the Fisheries Building. The large circular pavilion on the east side, as I have stated elsewhere, was used as an aquarium. Around it were arranged continuous concentric rows of great tanks. The sides of these tanks were of clear glass and were continued to the ceiling by stained glass screens, so that the observer walked in a covered corridor whose sides were of glass and through which could be seen the representatives of the finny tribes disporting themselves in their native element. At night no lights were visible, but the tanks were lighted by hundreds of incandescent lamps placed under screens above the tanks, so that the light did not strike the eye, but was diffused throughout the water, lighting it up as effectively as in the daylight.

The Terminal Station, Festive Hall, and Wooded Island were lighted by a separate machine, located in the German exhibit space in Machinery Hall.

In lighting the interior of the mammoth Manufactures Building the plan adopted was to provide five circular electroliers or coronas, four of which were 60 feet in diameter, and the centre one 75 feet, built of angle iron and suspended from the arches. The lamps were about 140 feet above the floor, and from 40 to 70 feet below the roof. These electroliers were suspended by means of a steel shaft securely bolted to a bridge passing across the centre of the circle, bridge and circle having a footpath nearly 3 feet in width, guarded by a suitable railing, along which the lamp trimmer travelled when carboning the lamps, the trimmer ascending one of the big arches to the supporting shaft and then descending by means of a ladder attached to the latter. To the four smaller electroliers 75 arc lamps each were suspended, and to the large centre piece 110 arc lamps, the lamps being hung in pairs and sustained by cords passing over insulated pulleys, each lamp balancing the weight of its mate. The large electrolier in the middle of the hall was suspended directly above the clock tower. It was 12 tons in weight.

Flash-

Flash-lights.

Next to the display of fireworks on the night of the Fourth of July, the vast multitude present within the Exposition Grounds viewed with greatest interest the working of the search-lights on the battleship "Illinois" and on the roof of the Manufactures Building, where four of these lights were placed at each corner of the roof. Notably was this the case when the balloon went up. It was perfectly invisible until the search-lights caught it in the heavens and held it in their glare. At one time there were three search-lights aimed at the balloon, and they held it in the clouds like a ball of fire. One search-light was from the battleship, one from the Manufactures Building, and a third from the whaleback steamer on Lake Michigan. The effect of these streams of light aiming at a focal point and concentrating their glare on a small and definite object was very pretty and aroused much enthusiasm.

Other Electric Light Exhibits.

As a brilliant example of the purely ornamental application of electricity I might refer to the great electric fountains in the Court of Honor, on each side of the MacMonnie Fountain, as described elsewhere.

Perhaps one of the most incongruous uses of the electric light was to be observed in the Midway Plaisance. It was one of the oddest things in the world to go into the Dahomey village for example and see over the door of each little bark hut an electric lamp. In like manner the Samoan and Javanese thatched huts, lighted with electricity, were as great an antithesis of barbarism and civilisation as could be observed anywhere.

In the disposition of space in the Electricity Building the main floor was devoted to the heavier exhibits, such as commercial apparatus for furnishing light, heat, or power. The galleries contained the ladder or wire exhibits and all the lighter scientific apparatus, and this latter portion was a centre of historical interest, containing as it did a large number of models of all kinds and other precious relics.

In this exhibit were many interesting things, and among them were shown models representing the exact sizes of copper conductors necessary to light up 8,640 sixteen-candle power incandescent lamps by the tree system of distribution, and also by Edison's celebrated feeder system. The comparison was largely in favour of the latter.

The General Electric Company of London and Manchester made a very nice display of electrical apparatus and supplies.

The British Government Postal Telegraph Department made a very complete historical exhibit of old and new telegraph instruments. Here was also shown a sample of a telegraph post pierced by the woodpecker, which, as is well known, mistakes the humming of the wind through the wires for the noise caused by the insects which are its favourite food.

On entering the building the first important exhibit was that of the Bell Telephone Company, in which was a complete central station. Models of the telephone from its inception to its present condition were exhibited. In this section there was also a modern theatorium in which visitors were enabled to hear orchestras performing in New York or Boston.

At the entrance to the south door of the building was a colossal statue of Benjamin Franklin in his well-known attitude of drawing lightning from the clouds, and on the wall, over the arched entrance, was the inscription—"QUI FULMEN CÆLIS ERIPUIT ATQUE SCEPTUM TYRANNIS."

General

General Electric Company's Exhibits.

In the large and magnificent exhibit of the General Electric Company was shown a case containing specimens of the various vegetable fibrous growths experimented upon by Mr. Edison in his search for the substance best calculated for an incandescent lamp filament. This search involved trips to all parts of the world, cost the investigator \$200,000, and resulted in the selection of a Japanese bamboo, which is now cultivated on special plantations.

In the centre of this very large exhibit was a direct connected engine and dynamo and was the only one left of six similar generators originally constructed for the Old Pearl-street Station of the Edison Electric Light Company of New York. It was erected in 1882 and has been in service ever since. There are now only six other generators like this one in existence, which are in operation at the Edison Station, Milan, Italy.

A generator similar to this one was exhibited at the Paris Electrical Exposition in 1881, where it excited the astonishment of the savants on account of its size, novelty, and boldness of design.

Although in the light of recent development this machine may be considered of small capacity, still it was several years before direct connected generators were reintroduced.

This machine averaged a service of five hours per day for over ten years, was in excellent working condition when dismantled to be exhibited. It was estimated that this machine must have made nearly 300,000,000 revolutions, which would have rolled the armature eighteen times around the world.

There was a machine exhibited similar in size and detail of construction to those installed for the lighting of our Houses of Parliament some time since. This old machine was the first Edison dynamo built, being one of the fifteen which were used at Menlo Park for the first exhibition in public of electric incandescent lighting ever made. It was built early in 1880, and has been run constantly ever since for ten years at Menlo Park, and afterwards at the Edison Lamp Works, Harrison, New Jersey. It was taken from its duty in the Pump Room to be sent to the World's Fair. While on exhibition it was run as a motor.

The General Electric Company had a large display of all the specialties of the science. There was a room specially provided in this place with lighting arrangements of a decorative kind, arranged so as to change the amount of light carried by the various meters, the object being not only to show but also to test their accuracy. Professor Thomson, the electrician of the company, showed specimens of all the specialties of alternating supplies and devices.

By far the largest and most striking exhibit in the building was that made by the General Electric Company in its space in the centre of the main floor. The central piece of this display, and the one which perhaps attracted the most attention from the layman, was the great Edison tower of light, a tall shaft extending almost to the roof, with a colonnade about its base, the whole studded with miniature incandescent lamps arranged in geometrical figures, and in red, orange, and purple colours. These were wired on various circuits, each connected with a separate key on a keyboard, so that a variety of combinations both of shapes and of colours were thrown into action by the simple pressure of the proper keys. This tower was illuminated every evening in the week, and Tuesdays, Thursdays, and Saturdays, between 1 and 8 p.m. The changes were rung to the tune of waltz music, which added to the charm of the display.

The

The tower was surmounted by a huge model of the Edison lamp. This was made of small prisms of glass, 40,000 in number, carefully wired to an iron framework within. This bulb was 10 feet high, and it required the services of eight men for five weeks to wire the prisms together. The total number of lamps on the Edison tower approached 5,000, and the aggregate candle-power was equivalent to that emitted by 20,000 sperm candles. From a scientific point of view the tower had no interest whatever, nor was it artistic or original in design, but as a spectacular achievement it was an undoubted success, if judged by the throngs that viewed it.

Few are aware of the extent to which the incandescent light has come into use. Only by a knowledge of the variety of shapes and sizes in which it is made can a comprehension of the variety of its uses be attained. Just north of the tower of light the General Electric Company made an exhibit of all the different sizes, shapes, styles, and types of lamps made. In this 2,500 commercial lamps were shown, no two of which were alike. In addition to the completed ones, lamps in all stages of manufacture were shown, thus constituting this display an educational one of a very high order. It was the most complete exhibit of incandescent lamps the world has ever seen.

To the west of the tower-light was what was termed the power transmission and mining exhibit of the company. While this will prove less interesting to the average visitor than many other displays, to the student and electrician it was one of the most attractive, for here was shown some of the transformations of energy which have rendered the applicability of the electric current, so far as is known, almost universal.

To follow these transformations one must go first to Machinery Hall, as I have already stated. There the combustion of the oil under the boilers chemical energy converted the water into steam. This in the steam-engine was converted into mechanical energy, which as such drives the great dynamo electric machines by which it is converted into electrical energy, and thence transmitted by wire to the Electricity Building for use in all of the numerous ways in which energy is utilised for man's comfort. Follow a single one of these circuits, and see what it does. In the centre of this space stood a large mine pump capable of raising 500 gallons per minute to a height of 650 feet. This was connected by gears to an electric motor, to which the wires followed lead. The electrical energy in the wires was transformed into mechanical energy in the motor, and that through the agency of the pump was changed into water-power. The pump delivered water under 650 feet pressure to a Pelton water-wheel, which brought it back to the mechanical form, and through its shaft drove the armature of another electric generator of peculiar construction. The current generated by this machine was not of uniform direction, as was that which was transmitted from Machinery Hall, but it changed its direction between thirty and forty times a second.

This was what is termed an alternating current, and was introduced at this stage to show still other methods of transformation not possible with currents of continuous flow. In this particular machine there was generated not only one of these alternating currents but three, whose impulses did not coincide, but succeeded each other at regular intervals, so that after the third current had given its maximum impulse in a given direction it was followed at the proper interval by a maximum impulse in the first circuit, and so on.

This was called a three-phase generator, and from it extend three circuits—one for each of the separate currents—these three circuits being accommodated by three wires. The three-phased alternating currents next went to what are termed step-up transformers, by which the nature of the current was changed. By this means

means the current corresponding to a large stream of water falling through a small distance was changed to one corresponding to a small stream of water falling through a great height. This change of character is desirable where energy is to be transmitted great distances, for thereby the cost of transmission is enormously decreased.

But these "high-tension" currents, as they are called, which are best suited to economical transmission, are not so well suited for utilisation, so they must be transformed down again for use to their original character, resembling the larger stream of water flowing more slowly or through a lesser height. This was done by a "step-down" transformer, which is the reverse in principle and construction to the "step-up" transformer before referred to. The "step-down" transformers were placed in the space devoted to the mining machinery, and the current issuing from them was used to illuminate incandescent lamps, arc lamps, and what are termed three-phase motors.

The latter were employed, some of them to operate mining machinery, and others to run direct current generators, thus returning after many transformations to the form of current by which the energy was originally transmitted from Machinery Hall to Electricity Building.

This object lesson of the conservation of energy and its transformation is one of the most interesting in the whole domain of physical science, and, while for many years it has been known to be theoretically possible, has only within a comparatively few years been practically attainable. It may be said to be the crowning triumph of electricity, for it is through the development of electricity alone that the completion of the great cycle has been rendered possible, and we have been able to verify in practice what even as a theory was astounding.

Westinghouse Electric Company.

Second only to the General Electric Company's exhibit in point of extent, but not inferior to it in either popular or scientific interest, was that of the Westinghouse Manufacturing and Electric Company, whose space was scattered somewhat over smaller areas. This company also showed the principle of the transformation of energy through all of its commercial and possible forms, and displayed on a considerably larger scale how the current from a single alternating circuit may be utilised for all things for which power is now employed. The system adopted was that of Tesla, whose wonderful discoveries in other directions in the electrical field have startled the world.

As a spectacular display of the popular kind this company had constructed a great sign on the south wall of the building in which a bust of Columbus, the name of the company, and the dates 1492 and 1892 are outlined in incandescent lamps in red, white, and blue. There were in this sign 2,085 lamps in all, each of a nominal sixteen-candle power, making an aggregate illumination equivalent to 33,360 sperm candles.

Under the south-east gallery this company made two displays, which, when in operation, always attracted crowds. Few of those who witnessed these performances understood their portent, however, but though of extreme scientific interest they appeal also to the untutored eye. These were the Tesla experiments with high potentials and the experiments or demonstrations with what is known as the Tesla ring. The latter consists of a large ring, about 3 feet in diameter, made of a coil of soft iron wire. Upon this again are wound four coils of insulated copper wire arranged in pairs, each pair being connected with a separate electrical circuit carrying currents alternating in direction, the impulses or changes of direction of the two currents alternating with each other in point of time. The action of these two currents upon the ring itself and the space surrounding it is such as

to

to produce what electricians term a rotary magnetic field, which is somewhat similar in its effects upon magnetic bodies to what would be produced by the poles of a huge permanent magnet if the latter were very rapidly revolved around its axis. The effect is more striking, however, from the fact that the apparatus itself is quite stationary. Whatever it is that is moving is invisible, but that something is in motion is rendered evident by the movement of metallic objects brought within the influence of the ring. A copper egg, the size of an ostrich egg, was immediately set spinning on its end if placed in the centre of the ring. This has been denominated Columbus' egg, probably because it stands on end. A bunch of keys was at once given life, and took up a slowly rotary motion under the same conditions, and metal discs were revolved on their axis when brought in proximity to the coils.

This property of such a ring to cause metallic objects, especially of iron, to take up a rotary motion was the joint discovery of Nikola Tesla, in the United States, and of Prof. Ferrari, of Italy, and forms a most prominent mile-stone in the development of electrical application to the arts. Here it was displayed as a simple toy, but it is the basis of one of the most important inventions in electricity, that is, the polyphase electric motor, which is now assuming commercial importance.

The high potential experiments referred to were conducted in a pavilion erected for the purpose, which was darkened by closing the doors to render the effects more brilliant. In these a current somewhat akin to lightning was caused to jump and spread out around the edges of large plates of glass interposed in their direct path, and their appearance is both vicious and startling. The force of these discharges was many times greater than is sufficient to instantly kill a man, and in fact is so great that if a hundred men in line, each clasping his neighbour by the hand, were to receive one of these shocks they would all be as effectually and instantaneously killed as if struck by one of Jove's thunderbolts. Other experiments of more technical interest were also performed.

The Telephone Pavilion at the south end of the building was one of the most absorbing from an educational standpoint. The telephone itself is probably the most remarkable of the world's inventions, but familiarity with it has caused the public to cease to wonder at its performance. There are comparatively few people, however, who know how the telephone service of large cities is accomplished. Here was displayed in full view a complete central exchange, with the movements explained by the attendants who were there for the purpose.

Within the temple, suspended from the ceiling, was a telephone receiver fitted with intensifying cones connected by wires with Chicago. At the other end on special occasions concerts were given whose notes might be distinctly heard by all those assembled in the building at the Fair. Upon either side of the main hall-way of the temple, suspended from hooks on the wall, were a number of small telephones connected with transmitters in the German Village in the Midway Plaisance, and through these in the afternoons and evenings one could hear the music of the bands stationed at the distant point.

The long-distance telephone was also shown in operation and the public were invited to test its capabilities by speaking and listening over a line connecting Chicago and New York. No charge was made for this service and the experiment was enjoyed by thousands every afternoon.

If one was historically inclined he would be greatly interested in the historical collection of telephone transmitters and receivers which was also shown in this building. Here were to be found all that

that remains of Bell's telephone of 1875, the first electric telephone that ever transmitted speech, and models of each successive improvement from that date to this.

Last but not least was Prof. Bell's radiophone, by which one was enabled to speak and hear over a ray of light. The receiver of this instrument was at the north front of the pavilion, and consisted of a parabolic reflector into the focus of which was inserted the bulbed end of a short piece of glass tubing, while to the other was attached an ordinary hearing tube, such as is used on phonographs. In the bulbed end of this glass tube, which was placed in the exact focus of the mirror, was placed a little burnt cork, and this was all that was required, except sensitive ears, to interpret the message borne on the light ray. The transmitting instrument was in the gallery, 90 feet away, and was equally simple, consisting of an arc lamp as a source of light and a lens to direct its rays in parallel lines upon a small glass mirror, which reflects them down to the receiving parabolic mirror just described. The reflecting mirror was exceedingly thin and acted as a diaphragm against the back of which the words were spoken. The vibration of this mirror varied the intensity of the reflected rays received by the cork, and the varying energy thus received was converted by the cork into sound waves, which were conveyed to the ear by the hearing tubes. This experiment was not adapted to promiscuous presentation, but was shown to the favoured few whose credentials showed that they would appreciate it.

Western Electric Company's Exhibit.

Closely allied to the Telephone Company is the Western Electric Company, the authorised manufacturer of all the telephones in this country. A part of its display also ably supplemented that of the Bell Company, as its telephone apparatus, including switchboards, was the most complete ever got together. Every piece of apparatus was shown, both complete and in its various parts, and these different types were arranged in chronological order. As an educational exhibit this part of the display was superb. The popular taste was also catered to, by the beautiful scenic theatre which this company fitted up. Nor will any one forget, who has visited the Electricity Building, the great lightning tower in the centre of the company's display, with its zones of light chasing each other from the floor to the ceiling and then spreading out in four directions in mimic lightning flashes, only to disappear in the revolving globes and pendants at the ends. This unique display was composed of 2,632 incandescent lamps of sixteen candles each, or 42,112 candles in all. The Egyptian Temple, with its classic figures of the inhabitants of Cheops engaged in electrical vocations, and its illumination by concealed lamps, was the most beautiful thing, from an artistic standpoint, in Electricity Building, and reflected the greatest credit upon Messrs. Patterson and Tucker, of the Western Electric Company, who were responsible for its design and construction.

Arrangement of Exhibits.

In the building, as far as possible, specialities were grouped; all the wire exhibitors were placed together, the carbon manufacturers were in one place, testing instruments were in another, and so on.

Mammoth generators, such as are constantly used in street railway service, were numerous. Three of the largest were of 450-horse-power, 300-horse-power, and 150-horse-power respectively.

Another display of considerable proportions was that of insulated lighted lighting systems for hotels and large business houses. The most modern type of direct connected compound engines and dynamos were shown.

Foreign

Foreign Countries.

Amongst these Germany, France, England, and Russia had the best exhibits although other countries were also represented.

France occupied two blocks of the building in the centre and one in the west and another in the north-west portion of the building, besides displays in the north-west bay. In the exhibit of this country there was a most conspicuous display of the latest forms of arc-lights as used in light-house service, one of them being of 200,000-candle power.

Germany had a very large display. In her space were shown three of the most perfect search-lights ever made. One of them, the largest ever constructed, with a 7-ft. 6-in. projector. This light, placed at a sufficient altitude, it was stated, would furnish ample illumination for a lawn-party or ball, 70 miles distant. As a matter of fact, a smaller light, by the same makers, exhibited at the Frankfort Exhibition, performed this identical feat for a German nobleman, at a distance of 45 miles. The firm of Siemens and Halske, of Berlin, exhibited a dynamo of 1,000-horse-power, one of the largest ever constructed, and with it furnished lighting and motive power for the German portions of the Exposition. Altogether this part of the German exhibit was represented by thirty firms in the electro-technical field and forty-three in mechanics, optics, &c., and Berlin, Nuremberg, Cologne, Frankfort, and Hamburg were the cities most strongly represented.

German Post-office Exhibit.

Germany had a complete post-office exhibit, containing a history of the service and exhibiting the application of the telegraph and telephone to the scheme.

In the gallery of the Electricity Building this exhibit illustrated fully by means of models and apparatus the mail and telegraph system. It was in charge of the Secretary of the Director-General of the branch of the German Government Service. The graphic descriptions provided explained all the arrangements for the conveyance of letters, &c., by messengers who were the forerunners of the organised public post. In addition there was an interesting collection of models of post-offices, postal-cars, distributing waggons, and three splendid specimens of German letter-boxes, as well as a number of other particulars connected with the postal system. The pneumatic tube system, first introduced by Dr. Von Stephan, Postmaster-General of the German Empire, was illustrated in a practical manner by means of a miniature plant. The pumps for compressed air were worked by hand power. In this section of the museum were also to be seen a collection of German postage stamps, dating from 1867 to 1892, such as would make the heart of any stamp collector leap for joy. Postal and railroad maps of the German Empire gave the following statistics in regard to the number of post-offices in that country and the increase, namely:—

In 1872 there were	...	...	...	...	7,334 offices.
In 1892 there were	...	...	...	...	27,864 offices.
Increase	...	...	...	...	20,530 or 279 %

The same map showed that Germany had one post-office to every 1,774 inhabitants. The telegraph system as part of the postal service was also demonstrated in a striking manner by numerous telegraph apparatus, from the old-fashioned "Step-by-Step" system with receiver also by apparatus with continuous current, and those which have to be charged. Then the Morse system was shown with improvements, two circuits demonstrating the present system. This section also included the Gans-Weber apparatus, originally introduced at the laboratory

laboratory at Gottingen, also Steinheil apparatus. While the standard Morse machine is in use in Germany the Sounder is spreading intelligence through America. Telegraphy was first introduced into Germany in 1846.

An extensive and thorough display was that of the telephone system of the postal service. Duplex switchboards, with keys for 6,000 subscribers, and the manipulation in connection therewith, was demonstrated by the officials of the court. The first telephones introduced into Germany in 1881 were shown, and, as a contrast; those in use at the present time. In 1883 Germany had 5,510 telephones, and in 1892, 79,908. The long-distance telephone extends to about 500 miles, from Berlin to Königsberg, and also from Breslau to Hamburg. The price for a three minutes conversation on this route is one mark, or 25 cents, or 1s. The switchboards contain sand dials of three minutes run, by means of which the operators regulate the length and price of conversation. Altogether the postal museum was instructive, and arranged in a manner characteristic of German thoroughness; and it was a very interesting object lesson on this subject to compare this exhibit with that of a similar character in the United States Government Building.

Comparison of the Exhibits.

In the opinion of Chief Barrett, the exhibits in the Electricity Building proved that America, which, as might be expected, had the largest exhibit, took the lead in the general application of electricity; that foreign countries excelled in workmanship; that the artists from Germany and France showed exquisite workmanship—what they do by hand the Americans do by machinery, and of course the work is inferior. America led in the extent of the exhibit, Germany came second, France third, and England last of the countries making a large exhibit.

The Telautograph.

In the west gallery the Gray National Telautograph Company made an exhibit of the latest, and one might almost say greatest, electrical marvel. Professor Elisha Gray has been known to the world for many years for his improvements in telegraphy, but his latest invention, the Telautograph, or long-distance writing-machine, quite eclipsed his previous efforts. More or less has been heard of this device for the last few years, but it has only recently been perfected for commercial uses. It consisted of two instruments, a transmitter and receiver, each provided with a roll of paper of convenient size for writing. Both instruments together were about half the size of an ordinary typewriter. In writing at the transmitter an ordinary pencil was used, near the point of which two small cords were fastened at right angles to each other. These connected with the instrument, and, following the movements of the pencil, regulated the current impulses, which then guided the receiving pen at the distant station. The paper was shifted forward by a little lever, giving an electric impulse, which moved in like manner the paper in the receiver at the other end of the line. The receiving pen was a capillary gas-tube, supplied with ink and placed at the junction of two aluminium arms. The electrical impulses conducted over the wires moved the pen of the receiver simultaneously and in the same direction as the pencil of the sender, and an ink tracing was left which was an exact reproduction in every dot and flourish of the original writing or drawing. The exhibit was arranged like a central station, and any two subscribers could be placed in communication through it in the same way as they now are through the telephone. One wrote what he wished and kept or destroyed what he had written, the other received and retained this communication in the handwriting of the sender,

sender, and that was the complete yet sole record of the transaction. Accuracy and secrecy were secured, the wires could not be tapped or the message overheard; no operator was necessary, and any kind of figures, from shorthand to Chinese characters, might be sent with equal ease. As one sat writing at one table it seemed almost uncanny to observe at an adjacent table a pen with no guiding hand producing at the same instant his own familiar writing. This invention is in many points much superior to either the telephone or the telegraph, and it is quite sure to encroach considerably on their domain, as one advantage of its invention negotiations might be conducted between parties in widely separated places, and contracts signed and exchanged without their coming together, or minute instructions be given to bankers or brokers without any room for misunderstanding or dispute.

Cooking by Electricity.

In the north gallery another recent and clever application of electricity was shown in regard to its use in cooking. Electrical ovens, models of convenience and neatness, were exhibited. They were made of wood, lined with asbestos to prevent the radiation of heat, and were lighted inside by an incandescent lamp. The temperature of the oven was indicated by a thermometer, and a large mica-lighted door showed the progress of the cooking within. Wires offering resistance to the passage of the electric current, and thus producing the heat, were arranged in the oven, and switches placed at different points allowed the application of the heat wherever desired. If a turkey was roasting more rapidly on one side than on the other, instead of taking it out and turning it about, a second switch was closed and the temperature was raised as required. All sorts of utensils were provided with attachments through which a current could be passed; coffee was boiled and steaks were grilled by electricity; there were flat-irons having small silk-covered copper wires fastened at the back, so that a high and equable temperature could be maintained at the bottom, while the top, made of a non-heat-conducting substance, remained quite cool. In fact this apparatus seemed so to alter ordinary and well-known conditions that the kitchen became almost a parlour and cooking was converted into a pastime. In this display there were also register stoves by means of which rooms could be electrically heated.

Other Exhibits.

In the south gallery there were exhibits showing the mode of hatching chickens in electrical incubators, and it was stated that the records of other processes or even that of the maternal hen were completely broken by this plan. Wires were led through compartments, where by means of switches and thermostats an absolutely uniform temperature was maintained throughout the period of incubation. I was informed that the time was lowered from twenty-one to nineteen days, and that almost every egg produced a lusty chick.

Another contrivance was an electric cloth-cutting machine which was intended for use in large clothing manufacturers' shops and was reported to save one-half of the labour while giving better results than those obtained by any other method. It performed its work with the greatest ease and precision, and the cost for motive power was said to be less than \$5 per month. Another novelty was an electric boot-black; one sat in a comfortable chair and put a nickel in the slot when immediately one brush cleaned the boots and the other gave them a radiant polish.

In one of the cases the advance of telegraphy was shown by contrasting a Morse receiver of 1893 with the original Morse of 1837. Near this exhibit was an interesting testimony to Cyrus Field's labours; it was the grapnel with which the broken cable of 1865 was successfully recovered.

By

By another electrical machine the speed and course of a ship were indicated. This instrument was connected with the compass as not to interfere with its movements, and at the same time to show a continuous chart for each fifteen minutes of the distance traversed and any variation that might have taken place in its course.

Submarine Telegraphy.

In submarine telegraphy the Commercial Cable Company made a very instructive and interesting display. After the several failures of 1857, 1858, and 1865 of the attempt to connect Europe and America by cable, success was achieved in 1866. Since that year electrical communication has remained unbroken between the eastern and western hemispheres, and submarine telegraphs have multiplied, until now the different lines of the globe have an aggregate length of 139,600 miles. The Atlantic Ocean alone is at present spanned by ten cables in more or less continuous use. The Commercial Company's system is composed of two main cables from Cape Canso in North-eastern Nova Scotia to Waterville on the south-west coast of Ireland. From the latter port the cable is laid to Bristol with aerial land-lines to the chief cities of England, Wales, and Scotland, and another to Havre, with an underground line to Paris. At the American end a double cove cable runs from Cape Canso to Rockport, Mass., with aerial lines to Boston and New York, and a second cable running direct from Cape Canso to New York. The efficacy of this last line was well demonstrated during the blizzard of 1888, when it was the only one open from New York to the outer world, and messages to Boston and other places were transmitted by way of London. The total number of cables operated by this company is 6,935 nautical miles. In the exhibit here the whole process of transmitting messages between Europe and America was shown. An artificial cable, with all the properties of the real Atlantic cable, was employed. Signals were sent through it and received by recording instruments of the same shape, and the same time was occupied in sending from the one side of the pavilion to the other, as from one side to the other of the Atlantic.

Boilers used for the production of Power.

The advancement in electrical engineering in America, as shown by the exhibits at the Fair, has been very great within the last few years. In the matter of the production of power for electric lighting, Americans are using almost exclusively high pressure water-tube sectional boilers; a large number of these boilers were on exhibition at the Fair, the companies represented being the Heinie, Babcock and Wilcox, Sterling Boiler Co., Root Boiler Co., and others of like character. The feature of these particular boilers was the fact that instead of using the large diameter or shell the boiler was made up of a number of pipes put together in sections, these smaller diameters or pipes being capable of carrying a higher pressure, and owing to the fact that in bursting only one tube at a time would be destroyed, the damage would not be very great—hence the name, Sectional Water-tube Boilers. Where large steam plants were in operation, instead of using the old-fashioned chimney to provide sufficient draught, Americans used what are called "Economisers," which consist of a series of tubes, placed in what would ordinarily be called the smoke flue, and passing through these tubes to the boilers, the feed-water; this process heats the feed-water to a degree representing approximately 10 lb. of steam; the draught was produced by mechanical means, a large exhaustor and engine being employed, whereby the draught could be increased or diminished so as to accommodate itself to the varieties of coal and conditions of service. Feed-water heaters were also employed with beneficial results. The more economical stations carry a boiler-pressure of 125 lb. of steam per square inch, that is at least in compound-condensing and triple-expansion

expansion engines of various types, some of the more prominent being the upright engine, connected direct to a dynamo. The principal feature of these engines consisted in the fact that the steam was handled by a single valve, admitting to the high and low pressure cylinders an equal volume of steam under all conditions of load, which is a decided advantage, and the only practical means of applying compound engines to electric light service, as the variation of load in stations increases and diminishes according to the number of lights used by the customers. The Westinghouse Current Company had an exhibition of six 1,000-horse-power engines and a number of smaller ones upon this principle, the total capacity of which was 7,800-horse-power. The dynamos principally used for central station lighting were made on the alternating principle; this principle admits of carrying a higher voltage, thereby reducing the diameters of the wires necessary to carry a given current, as compared with the old direct current system. The losses in transmission are decidedly less. The average voltage carried for medium sized cities is 1,000; this voltage is reduced at the consumer's residence or place of business by means of a transformer to a current of 50 or 100 volts, suitable for ordinary lamp service.

Long Distance Transmission.

An interesting exhibit at the Fair was an illustration of how electric current can be transmitted over long distances for lighting or power. The Westinghouse Electric and Manufacturing Company have a dynamo supposed to derive its power from a water-wheel situated in the mountain country, and generating a current of 2,000 volts. This wire is supposed to be 28 miles in length. Where a current is transformed through a suitable dynamo or transformer to a current of such voltage as to be commercially practical, this apparatus probably solves one of the necessities of the times, and it points to the time when the immense power of Niagara Falls will probably be used for commercial services within a radius of 500 miles from Buffalo. Power electric light, both arc and incandescent, is derived from this machinery; the arc lights in use have a wide flat carbon, and will burn for one week without renewal. The incandescent lights used on this system (which is the same as that which lights the Exposition grounds and buildings) are what is known as the new Westinghouse stopper lamp, which consists of the ordinary globe, into which is a common stopper, such as would be seen in a druggist's bottle, and through it passes two small iron wires; to the ends of these wires is attached the films, and instead of the vacuum in use in the old style lamps being employed, a gas is employed, which adds to the life of the lamp. The price of this new style of lamp has been reduced to 17½ cents, as compared with 50 cents for the old style apparatus. The armature of the dynamo is sectional in form—that is, instead of being wound in two or three coils, there are a number of coils wedged into its outer diameter by means of a wooden wedge; the object of this is, in case the dynamo should burn out only one section would be injured; the operator in charge would only have to drive the wedge out, and replace the coil with another.

Nikola Tesla's Experiments.

About a year ago, in order to demonstrate the harmless character of the electric fluid when properly regulated, Nikola Tesla deliberately put himself in contact with a current having a strength of 250,000 volts. Since that time this remarkable performance has been repeated several times with satisfactory results. This gentleman worked for some considerable time with Edison and afterwards with the Westinghouse Company, a company that still uses his inventions and machines. He invented the rotatory magnet for transmitting electric power to great distances. The principle of the rotatory magnet, of which he is the discoverer, is to be employed in the electric plant now being established

established at Niagara Falls, and which is expected will be sufficient to transmit electric power to factories and other establishments as far distant from the source of supply as Chicago and other cities. I was informed that he is now working with a machine by which he expects to revolutionise the present methods of producing the electric light, and which, if successful, will produce a better light at a cost greatly less than that at present paid. One of his presentations at the Electricity Building exhibited his progress with the new apparatus. In a dark room, with an apparatus supplying alternating electric currents of 800,000 voltage, he produced atmospheric vibrations showing a light equal to mid dawn. Explaining this demonstration, Mr. Tesla said:—

With these alternating currents of 800,000 voltage I cause the air particles to vibrate 400,000 times a second. Now, if I can increase the atmospheric vibrations, say 1,000,000 or 10,000,000,000 times, I can produce sunlight in this room. Of course I can increase the vibrations by increasing the voltage, and there is no trouble about increasing the voltage. I can make the voltage 8,000,000 as easily as 800,000. But I am not yet ready to handle 8,000,000 volts of electricity. Currents of such strength would kill everybody in the room. I expect, however, to learn how to control a larger voltage. When I have increased the atmospheric vibrations, perhaps a thousand times, the phenomenon will no longer be electricity. It will be light. I regard the words light, heat, and electricity as being interchangeable terms. Sunlight is a more remarkable phenomenon than electricity. Sunlight does not harm anyone, unless he is exposed for a long time to a fierce glare. A man can stand for a brief interval without harm near a red-hot stove. I am satisfied that sunlight can be made from electricity without doing harm to anybody, and I expect to discover how it is done.

He further said:—

We are going to use electricity for almost everything. We are going to know all about it, and, above all, we are going to know how to control it. Even now it is the safest motive power we employ. If the steam-boiler in a large factory bursts it is likely to kill a score—perhaps a hundred people. A horse running away with a carriage full of people may kill all of them. Electricity rarely kills more than one man at a time. A live wire in this room might kill one man, but hardly two men. Electricity is like a rattlesnake. It strikes its victims one at a time. But it will not long be possible for it to kill anybody. We are going to harness it and make it absolutely safe. As a motive power it will be safer than engines or horses, because it will never get out of harness. Just as soon as we learn how to harness it so as to secure perfect safety—and I think that time is not far distant—electricity will take the place of fire and steam, and will be the only agent employed to light and heat and move the entire world.

When I stand before an audience and receive into my body a charge of electricity of 250,000 voltage power I do it to show how harmless this agent can be made with proper handling. I am enabled to accomplish this feat by the use of alternating currents, and any able-bodied man, not unusually sensitive to electric force, can perform the same feat, if he will use the same machine that I do. I have simply learned how to put the harness on that amount of electricity. But 2,000 volts from any other machine would kill me as quickly as it killed Kemmler at Sing Sing. I have devoted my life to electrical research, and my only ambition is to discover how this wonderful power may be harnessed and made to do the work of man safely and satisfactorily.

Electricity as applied to Mining.

In the Mining and Electrical Buildings some novel and interesting displays are made of the late devices and equipments for the mining and hauling of coal and ore. Some of the largest mines in the United States are now entirely handled and manipulated by electrical inventions in the hands of comparatively few employees. A visit to these two buildings left no question on the doubter's mind. Here was displayed every conceivable device that is of utility in mining. Electricity lighted the shafts, drove the drillings, worked the pumps, did the hoisting, drew the loads, and furnished the supply of fresh air. Every wheel that turned did so as a result of the application of the electric current. In these two buildings were seen all these instruments. In the Mining Building many of them may be seen in operation.

From an able article on this subject I extract the following instructive remarks:—

The adaptability of electric power for various purposes in connection with mining operations is now a well accepted fact, and although its application for such purposes is already extensive it is probably only the beginning of a much greater use. It is roughly estimated that over 300 companies in the United States engaged in mining now employ
electricity

electricity in their operations. In underground workings the chance of accident resulting from loss of life and destruction of property is at the best great. Humanity and economy both demand that any means that will secure greater safety should be eagerly grasped. Electricity tried under the arduous mining service has been shown to be perfectly efficient, safe, and reliable. With electricity there is neither friction, heat, nor condensation. There is no leakage nor loss of power when not in use. It is not affected by heat or cold, and does not vitiate the air, as is the case with steam or compressed air. The rapid decomposition of timbering, a source of great expense in all mines, due to bad air and heat, is to a great extent obviated. Many will naturally suppose that electricity will increase the risk of fire. As a matter of fact it greatly decreases it, as is shown by the statistics and actual test displayed in the Mining Building. With proper safety devices it is practically impossible to start a fire from the current. To the engineer accustomed to speed indicators, pressure gauges, and indicator cards, electrical methods of measurement seem particularly simple. If necessary, motors can be controlled from a distance.

By conversion into electrical force, water-power, even at a considerable distance from the mine or mill, can be made valuable for all purposes, and steam-power can be so located as to secure fuel and water cheaply. The introduction of electricity has in this way made important reductions in the cost of power, and there are cases in which it would be impossible to run without its help. Several mines in Colorado are operated by electricity which could not be worked by steam on account of their situation on the face of precipitous cliffs, up which the transportation of water and fuel would be nearly if not absolutely impossible.

Generators can now be obtained of any size and design to run at any reasonable speed for belting or direct connection to engines or car wheels. The largest generator in the world ran during the currency of the Exhibition in the power-station of the intra-mural railway at the World's Fair. It was of 2,000-horse power and directly connected to a compound condensing engine running at seventy-five revolutions. The electric generator was substantially the same as the motor, and both could be relied upon to give an efficiency of from 90 to 95 per cent.

When the power is carried over long distances the cost of copper is the largest item of expense. The long-distance transmission of power was first brought prominently before the public by the experimental line constructed between Lauffen and Frankfort two years ago. The power of the Lauffen Falls was converted into electricity, transmitted 115 miles to the Exposition at Frankfort, and there operated a number of motors. The distance was beyond the limits of commercial success, but it demonstrated the possibility of the system. To-day, plants are in operation and transmitting current for power and light at Walla Walla, Hartford, Portland, Pomona, and Telluride, the distances varying from 4 to 13 miles.

In no application of electricity, except lighting, engineers say, has such success been obtained as in the operation of railways. Above ground it has already supplanted animal power in many cases. For underground haulage the ready control, compactness, and freedom from smoke render it still more desirable, and already electric locomotives are employed in some thirty mines. The electric locomotive is so designed as to occupy no more space than the car which it is to haul. With any other method of traction considerable more height and width would be necessary. In coal-mines in which there are narrow seams this is especially noticeable, as much rock has to be blasted away to admit of the passage of mules. By using electric locomotives the blowing down of the roof is entirely done away with. The increased speed also permits a larger tonnage to be taken from the same outlet, and with fewer turnouts, switches, and cars. Locomotives are now to be obtained of any size and to operate on any track gauge not less than 18 inches. At Rock Springs, Wyoming, there is in operation a locomotive of eighty horse-power. It is operated by a single motor geared to both axles, the connection to the axles, however, being made through a flexible coupling allowing the entire weight to be supported on springs. The larger sizes of locomotives are generally constructed with one motor, and the smaller with two. In all locomotives in use the speed under load varies from 6 to 12 miles an hour.

Electric hoists are largely in use and follow as nearly as possible the methods and constructions approved for steam hoists. The governing mechanism is similar, and the brakes and clutches are the same. The rotary motion of the motor avoids the use of connecting rods entirely. If it is desired to lower by power the current can be admitted to the reversed motor. For small hoists used in winze and timber construction work electricity is well adapted, the power connection being easily and quickly changed. The simplicity of the application of electricity and the consequent economy is well exemplified in the Brooklyn docks of the Wilson steamship line. Nine electric hoists have been in continuous operation there for two years. Special hoists for underground are equipped with ironclad motors so as to be thoroughly protected.

A number of large pumping plants are now in operation equipped with electric motors. It is necessary in order to turn the reciprocating motion of a plunger pump into rotary to equip it with crank shaft and connecting rods. This at the same time insures a steady flow of water. The general practice has been to stop and start in order to decrease the capacity. The machines may also be controlled by varying electro-motive force supplied them from the generators. In the Electricity Building was shown a Blake pump directly connected with a slow-speed multipolar motor of 100 horse-power requiring only one gear reduction. The capacity of the pump was 500 gallons at 500 feet head.

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The statements made regarding hydraulic pumps apply equally well to air compressors, except that as air has not the inertia of water it can be automatically loaded and unloaded without throwing any strain upon the mechanism, the motor running constantly at a fixed speed. A decided saving of power can be effected by locating drill compressors near to the drills, thus avoiding losses by leakage and shrinkage in the pipes.

Although it has been a matter of great difficulty to make an electric percussion drill which would stand the continual abuse and hard usage to which air-drills are subjected, they are at present in constant and successful operation. The drill consists of an outer iron pipe casting, inside of and attached to which are two coils and the ratchet mechanism. The plunger, equipped with the ordinary chuck and rifle-nut, is in the centre of these coils. The coils are supplied with current alternately and draw the plunger up and down at a speed fixed by the generator which supplies the current. Electric diamond drills are in use for drilling solid holes and for removing cores for prospecting purposes. For prospecting both above and under ground the electric drill is particularly available, as it is extremely light and compact, and temporary wires can be run to places where it would be difficult to carry steam pipes or boilers.

Electric coal cutters are largely used in the bituminous mines. In the machine most employed the coal is undercut by means of bits set in a rotary bar on the end of a sliding frame which is fed into the face of the seam. Other cutters are constructed with a sprocket chain, to the links of which are affixed cutting tools. Machines of this kind can be fed either in or along the face of the coal for long wall or room working. In both of these the electric motor is built into and forms part of the frame, adding but little to its weight. In exceedingly hard or pyritaceous coals which cannot be cut with a continuously moving cutter an electric pick is advantageously used. Machines of this kind were exhibited at the World's Fair. The motor draws a projectile back against a spring, and releasing it lets the pick fly back against the face of the coal at the rate of 150 blows a minute. Electric drills for putting in holes, for blowing down coal after it had been undercut, or from the solid, as is done in anthracite, are also used. A drill of this type of 100 lb. weight will easily drill a 1½-inch hole at the rate of 6 feet a minute in hard or soft coal.

It is often desirable, in order to obtain the best results from fans and blowers, to locate them at the most distant points from the surface. This is done more easily by electricity than by any other power, and the blowers can be readily advanced as the workings are pushed deeper. The electric motor is especially suitable for high-speed blowers, which are efficient and occupy but small space. Much saving in piping can also be effected by using higher velocities and forcing air out from the inside rather than sucking it from the surface.

It has been found that much more work can be gotten from men by giving them better illumination. By avoiding the use of oil lamps and candles, the air is left purer, and both time and power saved by doing work underground which would otherwise have to be done on the surface. Electric lighting also reduces the risk of accident by calling attention to conditions which would otherwise pass unnoticed. In gaseous mines, where many explosions have resulted from the reckless use of miners' lamps, electric lighting is invaluable.

The refining of black and blister copper has reached large proportions, fully one-third of the copper refined in this country being electrically treated, and considerable quantities being shipped abroad. By this process gold and silver are obtained from the matte the recovery of which would be impracticable by any other method. Gold, silver, and lead are also beginning to be refined electrolytically. Aluminium and silicon are obtained almost exclusively by electric smelting and reducing. Caustic soda, sodium, chloride of lime, and vermilion are commercially obtained by electrolysis.

Niagara Falls Cataract Construction Company.

At the Congress of Electricians, held in the Art Palace on the lake front, at the end of August, 1893, at which many of the most celebrated scientists of Europe and America, including Helmholtz, Edison, Elisha Gray, Silvanus P. Thompson, Professor Henry, Dr. Bell, Preece, Mascart, and a number of others were present, a number of most important questions connected with recent discoveries in electricity were discussed. Mr. George Forbes, F.R.S., Chief Electrical Engineer of the Cataract Construction Company at Niagara Falls, gave, for the first time, an account of the work being done in connection with this great enterprise. I may summarise the statements he made as follows:—The plant as it stands would furnish 50,000-horse power, which could easily be doubled at a minimum expense. The canal commenced 1 mile above the falls. From this main canal branches lead to factories and to the power house for electric distribution. The water falls through penstocks 140 feet deep, at the bottom of which are turbines with vertical shafts. All discharge water goes into a large tunnel

tunnel opening below the falls. The revolving field magnets of the dynamo are directly on the same vertical shafts. The armatures of the dynamos are stationary, and are wound so as to give directly a pressure of 20,000 volts, thus dispensing with transformers at the generating station. At the receiving stations the pressure will be lowered by transformers to a safe pressure to handle. The same pressure on the mains will be used for distribution to points near and at a distance in order to avoid complexity of wiring and to save copper. The wires will be carried partly on poles and partly in subways. Light and power were thus provided for the village of Niagara, and for the Pittsburg works near by. The aim was ultimately to supply power not only to factories in the vicinity of the falls but to Buffalo, Rochester, Utica, Syracuse, and Albany, and perhaps also to supply power to propel the boats on the Erie and other canals to New York State.

Professor Forbes thought the matter of towing by electricity on the Erie Canal would make transportation so cheap that it would revolutionise carrying business in New York State. The distance power to be transmitted would ultimately extend 350 miles. He had no doubt of the success of the attempt, for he had dealt with similar problems in India, and had been successful. Power was to be transmitted to Madras from mountains 350 miles distant at a cost that would make it the cheapest power in the world. The most serious problem was the method of transmission. The overhead system was open to the objection of interruption by sleet and lightning. The subway was almost certain to be carried on without interruption, so the electrical engineer was naturally led to favour the subway. Last Friday the first sod was turned on the subway that will transmit power for the Cataract Construction Company to the Pittsburg Reduction Company's works, $\frac{1}{2}$ mile distant. He thought a saving of \$3,000 each would be effected by building the dynamos without transformers.

In the discussion which followed in connection with this subject Professor Rowland, one of the foremost of American electricians, objected to Mr. Forbes' statements. He thought that instead of saving \$3,000 by dispensing with transformers it would be just the other way on account of frequent breakdowns due to the absence of the transformers.

Professor Jackson said we were all familiar with the transmission of power over short distances. Plants for transmitting power 10 to 20 miles had all been successful, but until the Niagara plant is in operation he feared we would simply theorise on long distance transmission, and not get down to practice. He hoped in two or three years we would know where we stood on long-distance transmission and distribution.

Dr. Bell had something to say on the subject of transformers and commutators. He thought the utilisation of electricity for towing on the Erie Canal was not so near as might be. The overhead line would be difficult to keep up, and the conduit was commercially impossible. We must employ overhead bare wires. No insulation that could be put on would stand high voltage. In theory the conduit was all right, but commercially its cost prohibited it. As regards the distance over which power could be transmitted he did not think any one would care to set the limit. A distance of 50 miles and under was enough to keep all busy for the next decade. If only coal was cheap enough power could be transmitted any distance. It was thus of more a commercial than an electrical problem.

Electrical Units of Measurement.

The report of the Chamber of Delegates at this Congress on legal units of measurement at this Congress was of great importance to the whole scientific world. It was unanimously adopted by the Congress,

Congress, representing, as it did, the most celebrated electricians of the old and new world. It was as follows:—

Resolved. That the several Governments represented by the delegates in this international congress of electricians be and they are hereby recommended to formally accept as legal units of electrical measure the following:

As the unit of resistance the international ohm, which is based upon the ohm equal to ten-ninths units of resistance of the initial C.G.S. system of electro-magnetic units and is represented by the resistance offered to an unvarying electric current of a column of mercury at the temperature of melting ice, 14.4521 grammes in mass, of a constant cross-sectional area and of a length of 106.3 centimetres.

As a unit of current the international ampère, which is one-tenth of the unit of a current of the C.G.S. system of electric magnetic units, and which is represented sufficiently well for practical use by the unvarying current which, when passed through a solution of nitrate of silver in water, in accordance with accompanying specifications, deposits silver at the rate of 0.001118 of a gramme per second.

As a unit of electro-motive force the international volt, which is the electro-motive force that is steadily applied to a conductor whose resistance is one international ohm, will produce a current of one international ampère and which is represented sufficiently well for practical use by 1,000-1,434 of the electro-motive force between the poles or electrodes of the voltaic cell, known as Clark's cell, at a temperature of 15 degrees C., and prepared in the manner described in accompanying specifications.

As the unit of quantity the international coulomb, which is the quantity of electricity transferred by a current of the international ampère in one second.

As a unit of capacity the international farad, which is the capacity of a conductor charged to a potential of one international volt by one international coulomb of electricity.

As a unit of work the joule, which is 10^{-7} units of work in the C.G.S. system and which is represented sufficiently well for practical use by the energy expended in one second by an international ampère in an international ohm.

As the unit of power the international watt, which is equal to 10^{-7} units of power in the C.G.S. system and which is represented sufficiently well for practical use by the work done at the rate of one joule per second.

As the unit of induction the henry, which is the induction in a circuit when the electro-motive force induced in this circuit is one international volt, while the inducing current varies at the rate of one ampère per second.

The recommendation of the henry as the unit of induction, when announced, was warmly applauded, especially by the American electricians, who delighted that the labours of one of their number should have been thus deservedly recognised.

Dr. Nichols presented a report of the committee appointed to consider the question of standards of light. The committee had much discussion upon the various forms suggested for standards and, in particular, upon the two special forms of lamp, known respectively as the amyloacetate lamp of Von Hefner Alteneck, and the pentane lamp of Vernon Harcourt. They were unable to arrive at a vote recommending either, however, and therefore recommended that all nations be invited to make researches in common on well defined practical standards and on the convenient realisation of the absolute unit.

Electric Launches.

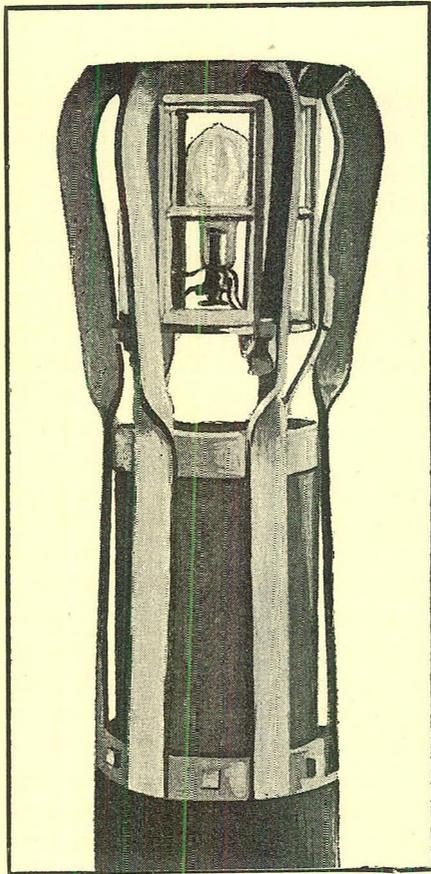
The electric launches used at the Exhibition were an unqualified success and were the admiration of every visitor as they gracefully and noiselessly with great rapidity of motion and perfect safety cleaved the waters of the lagoon. They belonged to the Electric Launch and Navigation Company of New York, a firm specially organised for this purpose. The company received the contract for their supply on 27th August, 1892, and on 1st October they commenced to build the fleet of fifty-four electric launches, partly in Racine and Detroit, after designs made by a firm of naval architects in New York. On 1st May there was a sufficient number of them in place to satisfy all the requirements of the public, and during the currency of the Fair they were so popular as a means of transportation that the demand was greater than the supply. Two kinds of trips were provided by this fleet of boats, the round trip, distance about 4 miles, touching all the principal buildings of the Exposition (fee 50 cents), and the short trip (25 cents)

for

for passage between one terminal point and the other, or between intermediate points. Not a single accident of any importance has occurred in connection with these points nor any serious damage done to the boats themselves. This remarkable fact was due to two causes, namely, the weight of the boat (about 5,000 lb., of which about 3,000 was the weight of the battery and apparatus) is so placed as to render it very safe and solid in the water, and next the great ease with which the boat could be guided and manipulated.

The boats were 35 feet 10 inches over all in length, 31 feet 6 inches on the water-line, with a beam of 6 feet $2\frac{1}{2}$ inches and a draft of 28 inches, and each of them seated thirty persons. The hulls showed the finest possible lines, and were constructed of white cedar (natural finish) with the entire inner panelling and decks of mahogany (piano finish), thus presenting a very elegant appearance. The seats were leather cushions filled with hair, the steel stanchions were of ornamental shape and the awnings over the hull were brightly coloured. The operation of the boats was exceedingly simple; it was controlled by a small lever switch at the side of the wheel which was placed in the fore part of the launch. The lever allowed four degrees of speed and of two backward. The normal speed at which these boats ran was 6 to 7 miles per hour, but they had a reserve speed of from 8 to 10 miles per hour. At a normal rate of speed these launches have performed a service of from twelve to fourteen hours on a single charge, the cost of which has never exceeded 60 cents per boat per day. The battery placed in these boats and the propelling machinery were of very simple construction, no more complicated, in fact, than the apparatus which drives an electric fan, the propeller shaft was at the same time the motor shaft, thus doing away with all gearing. One of the remarkable things about these launches was the fact that they travelled through the water with such extraordinary ease and smoothness that they left absolutely no waves in their wake—a fact explained by their mode of construction. So long as the armature turned true there was no shaking and no vibration of the boat. One kind of motion only was imparted to it, and that a purely rotatory one. Another noteworthy feature about these launches was the great economy effected in operating them. They required no licensed engineer; any person of ordinary intelligence—any child, in fact—could operate and guide them, once the battery was charged; and this, of course, made a considerable difference in the wages to be paid. Then there was also the saving in other respects: no coal, no costly repairs, no extras of any kind were required.

The batteries were grouped in two or three divisions. In each launch there were seventy-eight cells. The charging station was situated to the east and south of the annex to the Agricultural Building, below the level of that structure, and consisted of a shed-like building, extending over the water of the south pond, and thus directly communicating with the water of the lake itself. There were twenty-five slips at this station, proving safe and commodious anchorage for fifty boats. The station was L shaped, the southern section forming the longer wing. In this place, between the hours of 11 p.m. and 7 a.m., all the launches underwent the process of being charged with new electric power in place of that exhausted the day before. When a launch returned to its dock at the charging station from its 40-mile run, the work of charging was begun, in less than one minute, by an independent switchboard connected with feeders from the large dynamos in Machinery Hall; but of course it might be conveyed similarly from any electric plant by a cable which on reaching the station was subdivided. The two wires were then directly affixed to each battery by means of plugs that fit into them, and, with the aid of an ampère meter, the degree of the power was regulated to the proper pitch. As much as from fifteen to twenty and
thirty



ELECTRIC LIGHTED BUOY FOR THE LAKE FRONT, CHICAGO.

thirty ampères may be used, but it was found more economical to use the lowest-named figure. In this way it took about six hours to charge each boat. The power absorbed averaged about 10 horse-power per boat, and as high as 2,000 ampères of current at eighty-five volts have been drawn in one night for fifty-two boats, but as a matter of fact there has never been any difficulty in the handling.

The first boat in regular service was sent out on April 13th of this year, and up to September it had run 2,000 miles; in fact the record of the launches as a whole was a most excellent one. Their chief points of excellence may be summed up as follows: beautiful outlines, perfect safety for the passengers, swiftness and pleasure in sailing in them, easy management, and large saving in their operating expenses. They promise almost as much for the navigation of rivers and the quiet waters of the sea, as the trolley for lines for the land, in proof of which I may add that a number of these launches have been purchased by a Venetian syndicate for use in the historic canals of Venice, where doubtless they will soon supersede the ancient, poetic, and historic gondola.

Electric Buoys on Lake Michigan.

A remarkable example of the adaptability to the service of man in a new territory of usefulness, was exemplified in the plan adopted for the lighting of the shore of Lake Michigan in the neighbourhood of Chicago. It was found necessary to place lighted buoys for 7 miles along the shores of Lake Michigan about a mile from the shore, from the mouth of the Chicago River to the Exposition grounds, to indicate the shoals. For this purpose there were erected thirteen spar-buoys. Each buoy, according to the *Western Electrician*, carried an incandescent lamp of 100-candle power, in a wrought-iron cage or lantern at the upper end of the spar, the lower end of which was fastened to a heavy cast-iron anchor. The current for each of these lamps was supplied from a small Westinghouse convertor of special design, placed on the upper end of the spar. These convertors were connected in series, the current for the entire series being obtained from a special Westinghouse convertor of 1,400 volts. This large convertor was placed at the outer end of the main pier at Jackson Park, where all necessary switches, &c., fuses, regulating devices, and Wurtz non-arcing metal lightning-arrestor were also placed. For this work a single-wire Bishop gutta-percha submarine cable was laid from the pier to the first buoy, then from this to the second and so on. From the last buoy at the city the cable returned by the most direct route to the pier at Jackson Park. It appears probable that this system of warning lights will, in the near future, be adopted for harbours on the sea-coast and for navigable rivers. The principle is clearly capable of great expansion and of application to a wider field.

The Palace of Fine Arts and its Exhibits.

OF all the buildings connected with the World's Columbian Exposition the Fine Art Palace was unquestionably the most perfect in every detail, and it would be difficult to refer to any other building elsewhere which surpassed it in beauty.

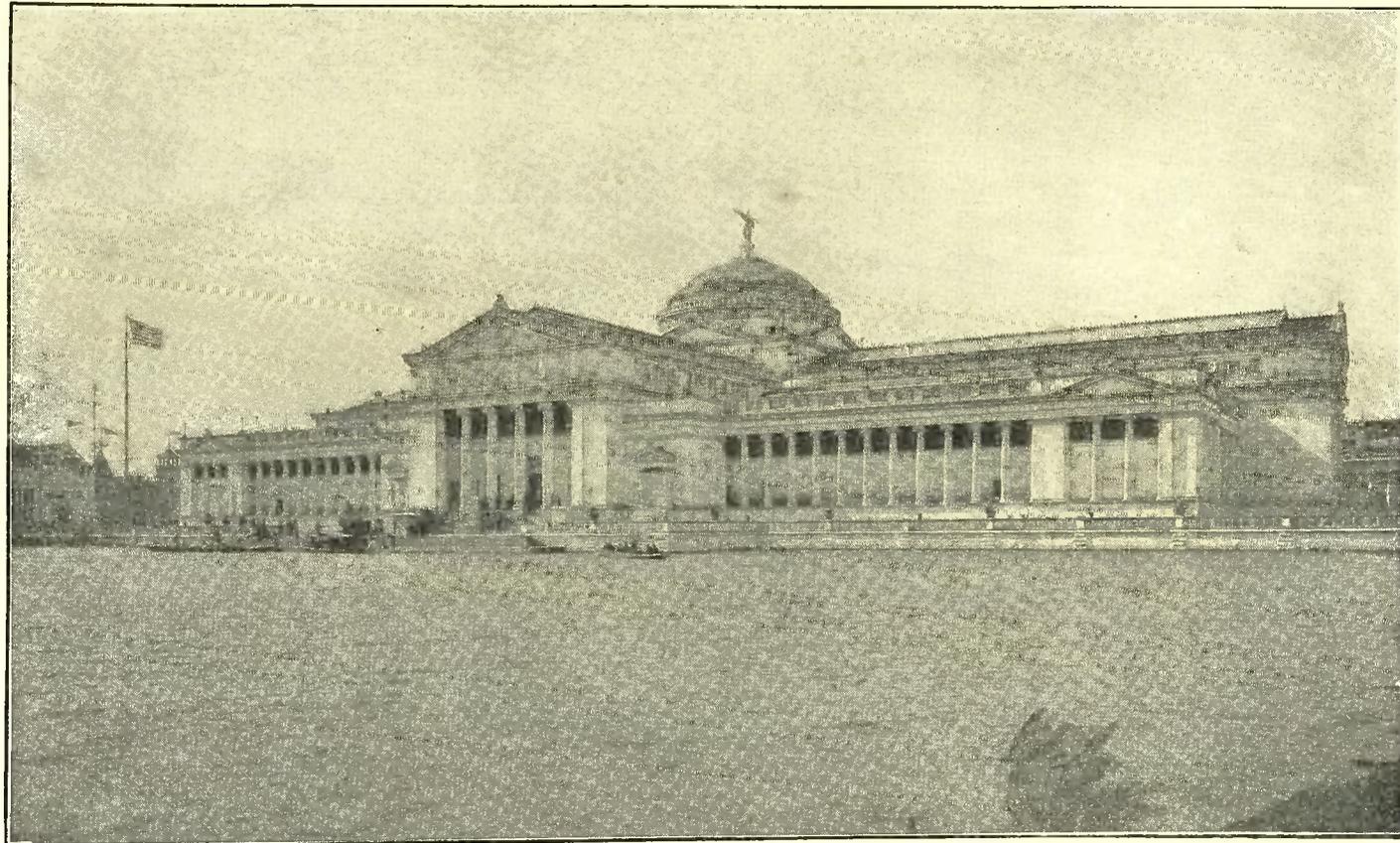
Description of the Building.

The building was in the Grecian Ionic style, and was a pure type of the most refined classic architecture, well befitting the exalted use to which it was applied. While the strikingly handsome and imposing exterior impressed every visitor, the effect was not in any way diminished by an examination of the interior of the building, and the whole work reflected the highest credit upon the architect, Mr. C. B. Attwood. The dimensions of the building were 500 feet by 320 feet, and the rectangle enclosed was divided into four large courts, separated by a central nave and transept. These were 100 feet in width and 70 feet in height, and at their intersection a dome was constructed about 60 feet in diameter. The building was 125 feet to the top of the dome, which was surmounted by a colossal statue of the type of the famous figures of the winged victory. The transept had a clear space through the centre of 60 feet, being lighted entirely from above, as I have explained elsewhere. On either side were galleries 20 feet wide and 24 feet above the floor. The collections of the sculpture were displayed on the main floor of the nave and transept; and on the walls, both of the ground floor and of the galleries, were ample areas for displaying the paintings and sculptured panels in relief. The corners made by the crossing of the nave and transept were filled with small picture galleries.

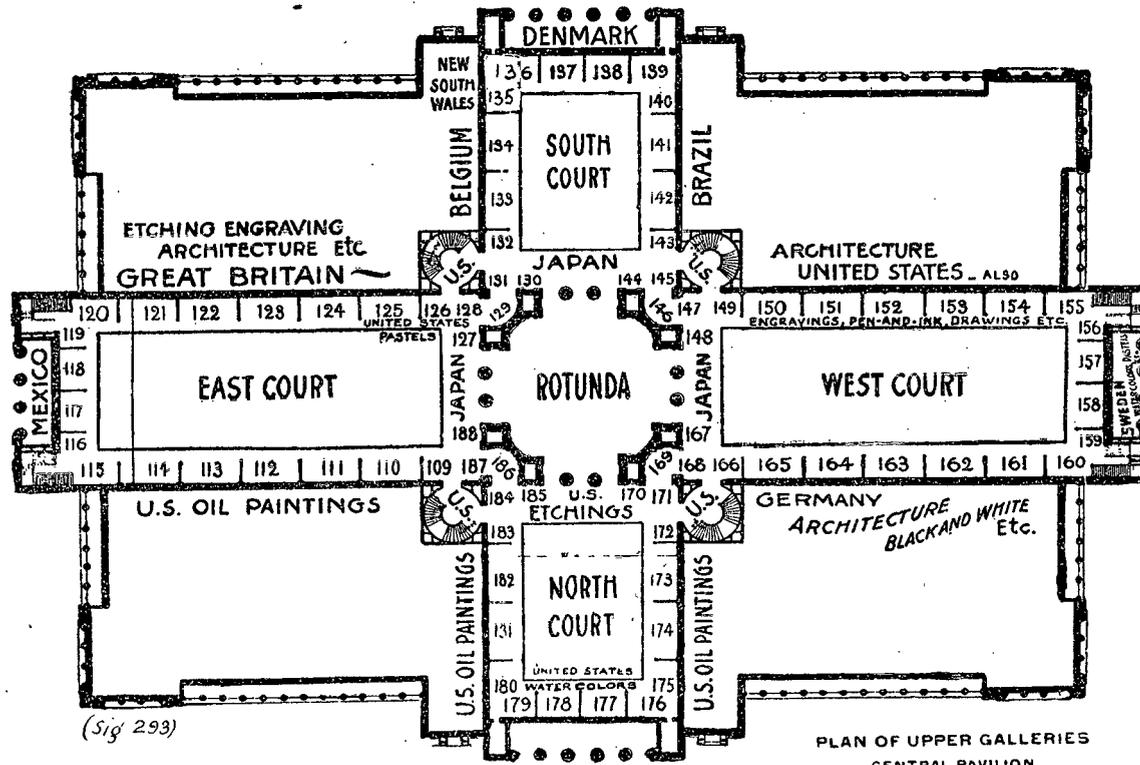
Around the entire building were galleries 40 feet wide, forming a continuous promenade around the structure. Between the promenade and the nave were the smaller rooms devoted to private collections of paintings, and the collection of the various art schools. On either side of the main building, and connected with it by handsome corridors, were very large annexes, which were all so utilised by various art exhibits.

The main building was entered by four main portals, richly ornamented with architectural sculpture, and approached by broad flights of steps. The walls of the loggia of the colonnades were highly decorated with mural paintings, illustrating the progress and the history of the Arts. The frieze of the exterior walls and the pediments of the principal entrances were ornamented with sculptures and portraits in bas-relief of the masters of ancient art. The general tone or colour of the walls was light grey stone. The construction was necessarily fire-proof. The main walls were of solid brick, covered with staff, architecturally ornamented, while the roof, floors, and galleries were lised. All light was supplied through glass sky-lights in iron frames.

The building was situated in the northern portion of the Park, with the south front facing the lagoon, from which it was separated by beautiful terraces, ornamented with balustrade, with an immense flight of steps leading down from the main portal to the lagoon, where there was a landing for boats. The north front faced the wide lawn and



ART BUILDING.



(Sig 293)

PLAN OF UPPER GALLERIES
CENTRAL PAVILION

and group of State Buildings. The immediate neighbourhood of the building was ornamented with groups of statues, replica ornaments of classic art, such as the Choragic Monument, the Cave of the Winds, and other beautiful examples of Grecian art. The ornamentation also included statues of heroic and life-size proportions. The annexes to which I have already referred on the eastern and western ends of the main building were each of the size of 120 feet by 200 feet.

In this building statuary was exhibited, as I have already said, in various parts of the ground floor of the building and elsewhere. In addition to Mattini's winged figure of "Fame," poised upon a globe over the dome of the building, this artist has placed several other works on the frieze; for example—"Architecture," a chaste figure, with a stern yet not unpleasing face, denoting intellectuality and study, the lines of her drapery being simple, and altogether different from the flowing robes of the voluptuous figure representing "Painting," every curve and line of whose face and figure spoke of gaiety and sensuousness. "Music" was represented by a pensive and poetic figure; while "Sculpture" was a more vigorous and robust figure than any of her sisters. On each side of these figures were two large-winged female figures holding garlands of flowers in their hands. There were two female figures on each side of the main entrances supporting the pediments to right and left of the doorway. These entrances were guarded by large lions, one on either side, designed by Theodore Baur and A. P. Proctor. The Royal Beast has been a favorite of architectural sculpture since the pomp and glory of the Persian Empire, and was employed to excellent advantage in the present case.

The east and west pavilions connected with the central pavilion by means of corridors were also used as galleries. The east pavilion contained the French Government exhibit, and also the French masterpieces belonging to American owners. The west pavilion contained the Italian exhibit and the exhibits of several other foreign countries whose space was limited. The central pavilion had two floors for the exhibit of paintings. The north-east section was given to the works of United States artists, and the south-east section to those of Great Britain. The south-west section contained the works of art sent by Holland, Spain, Russia, and Japan. The north-west section contained all the German paintings. In the galleries the water-colours were hung, as well as the overflow of oil-paintings. Between these four quadrangles were four courts and a central rotunda. The south and north courts contained the groupings of statuary, while the east and west courts contained the architectural exhibits. The central rotunda contained an heroic figure of Washington, by Thomas Ball, and on its sides were twelve spaces for figure-groupings furnished by different foreign countries.

There were also rotundas in each of the smaller pavilions, where statuary and architectural specimens were grouped. There were eighty galleries in all, including the east and west pavilions. These ranged from 30 feet square to 36 by 120 feet for the exhibition of paintings. There were also 108 alcoves, fronting on the court of the central pavilion, of which twenty-eight were on the first floor and eighty on the second floor, and much additional wall space was gained by their use. As regards the lighting arrangements of the building it may be stated that they were as faultless as could be devised. In all the pavilions, including rotundas, courts, and galleries, the modulation of natural light in the daytime was simple and effective. The system of artificial lighting at night was in itself a work of art, with its myriads of incandescent lamps shedding a mellow radiance over courts and galleries, and indeed the attractiveness of the art galleries at night was one of the features of the Exposition, but I have referred to this subject more particularly under the description of the lighting of the building in the account of the Electricity Building.

A remarkable charm to the effect of the edifice was produced by the water of the lagoon in front, which the architect had not been slow to make use of. The balustraded terrace of the broad flight of steps at the south front led down to the small lake in front, making a most imposing feature in the landscape, and it was one of the most creditable features of this Exhibition that the architects and those connected with the general designing and laying out of the grounds was the recognition of the important use of the landscape picture of which the ornamental waters of Jackson Park had been applied. As a matter of fact this was the first occasion on which it had been possible to make use of water on an extensive scale at an Exhibition; the natural conditions of the ground rendered it a necessity from the very first, and what might have proved a great drawback was utilised, not only for the purpose of landscape ornamentation but also as a provision for water-way communication from the artificial lagoons right out to lake Michigan.

A better representation from a greater number of different nations was seen in this building than had ever been brought together at any previous Exposition. The responses from various Governments and the enthusiasm of the artists everywhere provided a collection of the choicest productions of the World's great masters. Space was assigned to all the great countries in the World famed for the production of fine art productions. An idea of the scope of the fine arts exhibition may be gathered from the fact that it contained between 1,500 and 2,000 pieces in the American section alone.

In round figures France contributed 800 pieces, Germany 900, Dutch artists 300, England 600, Austria 300, Denmark 250, Sweden 200, Italy 600, Norway 180, and Belgium 400. There was also a loan collection of foreign masterpieces belonging to American owners, which were hung in three galleries at the west end of the east pavilion. They included all the illustrious names among artists, beginning with the dawn of this century and up to the present time—Millet, Rosa Bonheur, Carolus-Doran, John Constable, Millais, Meissonier, Alma Tadema, and a score of other famous names.

It was the aim of this department to exhibit a collection of the fine arts of the various nations so that each country might adequately represent its highest and most characteristic achievements in painting, sculpture, architecture, and decoration. In sculpture and architecture, figures and monumental decorations, bas-reliefs in marble or bronze, figures or groups in bronze, gems, cameos and intaglios were shown. Paintings in oil, paintings in water-colour, paintings on ivory, on enamel, on metal, on porcelain and other wares, and frescoe painting on walls were included within the grouping. And in addition there were engravings and etchings, prints, chalk, charcoal, pastel, and other drawings. All the works admitted to the department were first examined by juries duly constituted.

As I have already explained in a previous part of this report, I was unable to place all our exhibits in this department in the small allotment of space provided for New South Wales by the Exposition authorities; but in the space thus granted was placed the majority of the loan exhibits sent by the Trustees of the National Art Gallery. All our other exhibits were located in the hall and reception-room of Australia house. I have no doubt that they received much more careful examination there than if they had been placed in the art gallery, by the great numbers of people who thronged our building from day to day, and as the catalogues of these exhibits were one of the first that I received from Sydney the attention of critics was called to those pictures from the fact of their insertion in the official catalogue from the commencement of the Exhibition. It would be invidious for me to criticise these exhibits, but I may state that the popular attention

attention was greatly attracted to some of them, and many of the visitors expressed supreme surprise that anything so excellent could come from a country so young. In the visitors' books there were innumerable references to the pleasure and surprise of the various visitors, not only of America but also of other countries. Among the twenty-five sculptures selected by the artist correspondent of a leading American newspaper, the "Portrait bust of John Dillon, M.P." by Dr. McCarthy, placed in Australia house, was selected as a New South Wales representative of excellence," disclaiming any arbitrary standard, and calling special attention to these twenty-five, of which this representative was one for qualities inherent in each, but not as superior to all others in the plastic division of fine arts in Jackson Park." Especially did the beautiful water-colour representations of Australian flora attract attention from both the critic and the clown. I may here state that, in accordance with the provisions of the rules of the department, all the paintings and pictures, except those already so treated, were framed in gilt frames before being hung for inspection.

Entering the north court of the main building it was an easy matter to find the art exhibits of the different countries. Wide corridors or courts as they were called, as I have already explained, traversed the building from the four entrances, and converged at the rotunda beneath the great dome. At the right of the north court were the German galleries, occupying five rooms, numbered from thirty to thirty-five; the arms of Austria were above the door No. 36, and the exhibit, of that country, extended through the corridor leading into the west pavilion. Across the court, which ran through the palace from east to west, were the interesting exhibits of the Netherlands, of Japan, and of Spain, on the right hand occupying the entire south-west corner. Directly opposite was the fine art section, and, coming back across the east corridor was the representation of America, filling the rooms of the division and bordering the western wall of the east pavilion. The other sixteen rooms were the salon of France. The west pavilion was divided between the exhibits of Italy, Belgium, Norway, Denmark, Russia, and Poland, while Mexico and New South Wales were situated in the gallery.

The assignment of space was as follows:—

- United States—Galleries: 1, 2, 3, 4, 5, 6, 7, 8, 9, 37, 38, 39.
- United States—Foreign masterpieces from private collections: 40, 41, 42.
- France—43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58.
- Great Britain—12, 13, 14, 15, 16, 17, 18.
- Canada—10, 11.
- Russia—19, 20.
- Spain—21, 22, 23.
- Japan—24.
- Holland—25, 26, 27.
- Germany—28, 29, 30, 31, 32, 33, 34.
- Austria—35, 36, 59, 60, 61.
- Society of Polish Artists—62.
- Belgium—63, 64, 65, 66, 67.
- Sweden—68, 69, 70.
- Norway—71, 72.
- Denmark—73, 74, 75.
- Italy—76, 77, 78, 79, 80.
- New South Wales—
- Mexico—Space in gallery, south court: 134, 135, 136.

Architecture and sculpture shown in the rotunda, north, south, east, and west courts of the central pavilion, and in the rotundas of the east and west pavilions.

Water-colours, engravings, &c., shown mostly in the upper galleries of the central pavilion, 109 to 188.

The

The following was the classification :—

United States Section—Group No. 141, water-colours, 135 pieces; chalk and charcoal work, black and white, 517 pieces.

New South Wales Section—Group No. 139, sculpture, four pieces; oil paintings, 103 pictures. Group No. 141, paintings in water-colours, from Sydney, 119 pieces. Group No. 144, chalk, crayon, pastel, etc.

British Section Fine Arts—Group No. 139, sculptures, fifty-three pieces, containing the best specimens of Leighton, Woolner, Thornycroft, Swan, Rhodes, MacLean, Albert Bruce Joy, Goscombe W. John, Frampton, Fehr, Dressler, Allen, and Ford. Group No. 140, paintings in oil, 475 pictures, seven pictures by Sir John Millais. Group No. 141, water-colours, 205 pictures. Group No. 143, engravings, etchings, and prints (many artists' proofs), 193 pictures. Group No. 144, chalk, charcoal, pastel, and other drawings, seventy-four pieces. Architecture, 145 drawings.

Austrian Section of Fine Arts—Group No. 139, sculpture, nineteen pieces. Group No. 140, paintings in oil, 107 pieces. Group No. 141, water-colours, eighteen pieces. Group No. 142, paintings on ivory, enamel, metal, porcelain, and other ware; fresco paintings on walls, five specimens. Group No. 143, engravings, etchings, prints, seventeen examples. Group No. 144, chalk, charcoal, pastel, and other drawings, four pieces.

Brazil Section—Group No. 139, sculpture, six pieces. Group No. 140, paintings in oil, sixty-eight pieces. Group No. 145, antique and modern carvings, engravings in medallions or in gems, cameos, intaglios, seven pieces.

German Section—Group No. 139, sculpture, 120 pieces. Group No. 140, oil paintings, 421 pieces. Group No. 141, paintings in water-colours, eighty pieces. Group No. 143, engravings, etchings, and prints, fifty pieces.

Italian Section—Group No. 139, sculpture, eighty-nine pieces. Group No. 140, oil paintings, 202 pictures. Group No. 141, water-colours, forty-three pieces. Group No. 144, chalk, charcoal, pastel, and other drawings three pieces.

Danish Section—Group No. 139, sculpture, twenty pieces. Group No. 140, oil paintings, 159 pictures.

Russian Section—Group No. 139, sculpture, 139 pieces. Group No. 140, oil paintings, 111 pieces. Group No. 141, paintings in water-colours, three examples. Group No. 145, antique and modern carving.

Japanese Section—Group No. 139, sculpture, fifteen pieces on copper, bronze, marble, &c. Group No. 140, oil collection of 140 paintings. Group No. 141, water-colours, 156 paintings. Group No. 142, paintings on enamel, ivory, metal, porcelain, or other wares, and fresco paintings on walls, six examples. Group No. 144, etchings, engravings, and prints. Group No. 145, ancient and modern carvings on gems, &c.

Norway Section of Fine Arts—Group No. 139, sculpture, seven pieces. Group No. 149, paintings in oil, 117 pieces. Group No. 143, engraving and etchings. Group No. 144, drawings.

Belgian Section—Group No. 139, sculpture, forty-six pieces. Group No. 140, oil paintings, 214 pictures. Group No. 141, water-colours, seventeen pieces. Group Nos. 143 and 144, engravings and etchings, nineteen pieces.

Groups Nos. 143 and 144, engravings and etchings, nineteen pieces. Loan collection of foreign masterpieces in United States, 161 specimens. United States sculpture, 137 pieces. United States paintings, 800 pieces.

Holland Section—Group No. 140, paintings, water-colours, bronzes, &c.

Foreign artists had a powerful incentive to send their best work to America because that country had established a reputation as the best art market of the world. At no other time and at no other place had an artist received the stupendous price for a picture that an American millionaire has been willing to pay, but the climax was reached in this great exhibit.

The simple enumeration thus given will be sufficient to show the impossibility of portraying in the faintest manner any representation of this wonderful collection of the fine art exhibits of the leading countries of the world; and the information on the subject furnished in this report must be considered as only an indication of such main features as have occurred to me after careful personal examinations of the exhibits of the various courts.

General Remarks.

I have always been of opinion that there are at least two leading principles which ought to characterise or ought to be found in works of art; there should be the decided expression of national sentiment,

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as a palpable influence affecting both the artist and his works; and there should be the expression of that which is beautiful to the eye, or the production of objects which are beautiful in form or colour. I am aware of the imperfection of this definition, and I am aware also that to a large extent it would exclude portraiture as it is generally practised. It is true that a portrait may be entitled to rank in the highest plane of pictorial work; a portrait by Rembrandt, if imbued with his splendour of colour and power of characterisation, must undoubtedly be classified with other examples of the highest craft of the painter. But when neither subject nor depicitor is above the commonplace, as was the case with hundreds of the portraits exhibited in the Art Palace, and is often seen elsewhere, I am not surprised to learn that juries have sometimes considered the wisdom of excluding portraiture altogether from exhibition, although obvious difficulties would attend such a course.

Referring now to the first element of excellence in fine art productions, it was a surprise to find the very marked absence of national sentiment from the very extensive collection of paintings in the American section. "Do your artists care nothing for your republic?" was the query a foreigner uttered after he had walked through the American galleries. "After I had seen the national exhibitions of all the foreign countries exhibiting with us, and had seen our own national exhibit, I felt like a man without a country," was the exasperated comment of an American who went to Jackson Park with high hopes of American art. In the British and other sections there could be no hesitation on this subject in regard to this point, and in some of the pictures the national pictorial art presented a close analogy to the literature of the country permeated with national qualities. Frank Dicksee, in his beautiful canvas "The Passing of Arthur," was English to the backbone. So were Hubert Herkomer in the "Last Muster," and Lady Butler in the "Roll Call." In both these pictures there were, it was said, portraits. That fact was less important than the truth of the general composition, the accuracy of its details, and the spirit with which such pictures revive the past glories or defeats of a nation. The "Taxidermist," by Sir Frederick Leighton, might or might not have contained portraits. The models who sat for its figures were English, the time, the interior, the accessories of the profession it illustrated were all English. Ford Madox Brown's "Romeo and Juliet" was national, although the subjects belonged to another age and another country; the creation of them in literature was the work of an Englishman. Frith's chromish series, the "Spider and the Flies," a leathery quaint, imitation of the Hogarthian principles of morals taught by frightful examples, was English because it told an English tale in English houses, in English costumes of a past period, and in cockney English of art.

Passing from Great Britain to Holland we find the national spirit glorious; and, truly, where the national spirit is glorious the art is spontaneous and superb. Among the 200 paintings in oil there were not a dozen that were not racy of the soil. In some respects the Dutch pictures, especially the marines, were as fine as any in the Fine Art Building. Peroff, in many respects the greatest of Russian painters, was gold-medalled in St. Petersburg, and received a travelling scholarship. He went to Paris, the Mecca as it is to-day of all students of art. After remaining there some time he wrote home that he could not complete a single picture because he failed to comprehend the life and character of the people. "It seems to be less useful," he wrote, "to devote a certain number of years to the study of a foreign country than to study and work out the immense wealth that is hoarded in the villages and cities of my own." Peroff returned to Russia to become the first, if he is not still the foremost, of the interpreters of Russian life in its sombre and profound truth.

In

In the Italian section were exhibited coloured colossal busts of their King, and a resplendent portrait of the reigning Pontiff—a beautiful work by Guardabassi. Their genre painters, as exhibited, gave Italian life from receptions in Doge's Palaces to the gaities of the village tarantella, and the wild grief of the peasant mother over the death of her babe. Corelli's "Ava Maria" was an epic handling of what Millet handled in a lyric manner, the "Angelus." In all qualities of fine descriptive painting the Italian work was very excellent. The "Venetian Sunset" of Ciardi was one of a beautiful group in which aliens who paint Venice were superbly rebuked for their extravagance of atmosphere.

Norway, Sweden, and Denmark were national in their pictures. The spirit of the North presided and the legends of the North pervaded the imagination and informed the taste in their paintings. The spirit was that of the ancient domain of the Scandinavian myth; of the schools that now bespeak the Scald and Saga, the Norseman, the Viking, the land of the Midnight Sun, the waters that sent down the first pirates and merchants of the midland seas and began the history of commerce by rage and pillage.

The German fine arts exhibit was a pæan to German glory. German mythology, German wars, German peace, German religions, German fables, German folk-lore, German music, German science, German drama, German literature, German sacrifices, German love, German retribution, German landscape, German rivers, German interiors, German romance, German heroes, German leaders—friends and foes alike; kaisers, chancellors, and pope; emperors, generals, poets, German festivals, German sorrows, German pleasantries—these filled the German section of Fine Arts. Meditating thereon, one can understand the irresistible strength of the passion for Fatherland that hesitates at no loss when national honour is at stake.

The magnificent collection of paintings in the French sections represented the characteristics and their national life and history as well became the country which undoubtedly at this time leads the world in this department. The works of the French masters were very cleverly disposed in splendid array, divided in three separate classes. On this occasion all the different schools appeared in the same hall, and Gérôme, Detaille, Maignan, Flameng, La Touche, Bonnat, together with a number of other well-known artists, exhibited pictures well worthy of their fame and talents. Amongst the loan collection of pictures was a painting of sheep by Rosa Bonheur, now a septuagenarian, living at Thomery, near the forest of Fontainebleau, where she has a stock pasture and a great studio. As is well known, she has long enjoyed the distinction of being the most powerful painter of animals. The stable in which her models rest is the ante-chamber of her studio and farm, and were protected from injury by order of the late Emperor Frederick during the Franco-Prussian war. It may be suggestive of the possibilities of women in art that of twenty-five works thus selected on broad principles the one depicting military life and that of the animated life of animals were both by women. I have no doubt that neither would have consented, if asked, to be put off in the women's collection. Very clearly neither of these ladies was a woman with a big W, but each was an artist with a big A.

Referring now to the second of the leading characteristics of Fine Arts—the introduction of the ideal in form and colour—it was noticeable in the modern exhibits of painting and sculpture that the interest in the beautiful was largely supplanted by a desire to express the truth. In the art exhibits of different nations at the World's Columbian Exposition (which may be considered as the latest movement in art) there was shown a predominance of the intellectual and scientific over the ideal and the sensual. The painters especially seemed
more

more desirous of recording facts than arousing emotions or arousing admiration. Sculpture, which must be produced by slower processes and of more enduring materials, had not been so readily influenced by the spirit of the times which had left its mark on the paintings. In the sculpture there were many works which showed that romanticism and classicism have still a strong hold on artists; and it was in the sculpture that a lover of the beautiful found most to satisfy him, in spite of the fact that colour appeals more strongly to the senses than form. The highest form of beauty is generally admitted to be the physical beauty of women, and when the term "a type of beauty" is used it invariably applies to a beautiful woman, or her likeness. Occasionally one met with a beautiful face or form among those portrayed in the work of the painter represented in the work at the Art Palace; but it often happened that the result was due as much to the natural beauty of the artist's model as to anything else—in other words, it was the result of selection rather than creation.

The type of beauty is often one of the characteristic signs by which the identity of an artist in his work can be recognised. The face of Saskia van Ulenburg, in a composition by Rembrandt, is often better evidence of its authenticity than a signature. Even in the faces which Leonardo da Vinci painted before he met her, there is a resemblance to the embodiment of his ideal of womanly beauty, which he afterwards found in Mona Lisa. Gainsborough's portraits seemed to bear a family resemblance to each other, and many other painters unconsciously or intentionally give to the faces or the figures of the women in their pictures something of their ideal.

In the British section the most striking examples of ideal beauty were shown in the classical compositions of Sir Frederick Leighton. It was in the willowy, somnolent figures of the Hesperides, clad in flowing drapery, the folds of which constituted a mark of identity in the work of this artist, that the type was most pronounced. The artist has represented

the gardens fair
Of Hesperus and his daughters three
That sing about the golden tree.

They were seated on the ground, with their pliant forms encircled with the coils of the dragon Landon, who assists them in guarding the golden apples which Hercules sent Atlas to seek while he performed Atlas's task of bearing up the heavens on his shoulders. In the pictures of Alma Tadema depicting scenes of antiquity there were some beautiful figures, but they were essentially English, just as the characters of Bulwer are English people in antique costumes and posed against a Pompeian background. Hans Makart has shown in the "Five Senses" the delight he took in the sensuous beauty of extravagant brilliancy of colour and voluptuous form. The figure personifying "Sight" looking into a mirror which she holds in her hand had perhaps more grace and finer proportions than the others. In his "Falcon Woman" there was a strange type of beauty: the face was fair, the features regular, and the pose pleasing, yet there was an indication of cruelty in the curve of her lips, and a baleful light shone in her large greenish eye. It seemed as if the artist had intended to express some of the characteristics of the hawk in the woman, and the title the "Falcon Woman" may have had a deeper significance than the fact that she carried a hawk on her arm. In Rudolph Bacher's picture "Ave Maria," in the same section, one found the earthly and ideal beauty contrasted in the faces of Mary and the Angel who comes to her bearing a lily. There was one picture in the German section which never failed to excite the admiration of women visitors. It was Paul Thumann's "Psyche," a pretty blonde figure, with gossamer wings, leaning over to look at herself in the water.

In

In Siemiradski's "Phryne," in the Russian exhibit, the artist gained his conception of a woman noted for her grace and beauty, who was chosen to personate the goddess of love and beauty at a feast given in her honour. The Polish artist Zmurko's cleverly-painted "Lady in Fur" was a beauty of the ingenuous type. Another Polish artist, Alchimowicz, exhibited "Milda, the Goddess of Love," of Lithuanian mythology. According to legend, she fell in love with a young fisherman, for which she was punished by the god Perkun (Thunder), who killed the fisherman and destroyed the amber palace in the depths of the Baltic Sea. Among the paintings by French artists there were not to be found so many examples of physical beauty as might have been expected in the exhibit of so great an art-loving people. With the exception of Bouguereau's immaculate virgins and cupids, most of the figures in the paintings of allegorical subjects, as Collins's "Youth" and "On the Sea-coast," L. Lamy's "Flowering Spring," Madeleine Lemaire's "Fairies' Car," and Dubufe's "La Fourmi," the beauty, when there is any at all, was altogether too Parisian to be considered as representing the French conception of ideal beauty. But in the French sculpture beautiful figures abounded. Chapu's "Jeanne d'Arc" had a face indicative of moral and spiritual as well as the beauty of outward form. Paul Dubois's figure of a young warrior, "Military Courage," was a fine type of manly beauty and strength, and his "Charity" was a fine example of the beauty of maternity. "La Cigale," by Marquestre, was a charming figure of a young girl, and there were many other examples illustrative of this point.

ADDITIONAL REMARKS ON FINE ARTS.

Fine Art of Russia.

Russian Art exhibited in almost every picture the depression and hopelessness of the people and the effects of political despotism. The problems that vex the philosophy and confound the fiction of Russia appeared to be the subjects of her pictorial art for the most part. In other national exhibits in the Fine Arts Building the brighter side of human life was found interspersed among illustrations of its dejections or its pathos; but in the Russian exhibit sorrow pervaded every canvas, either directly and avowedly or incidentally. In this respect the exhibit, though it was comparatively small, must be accepted as representative, because the Commission for Fine Arts had practically unlimited freedom to choose among the works belonging to the Emperor and to the National Academy at St. Petersburg. An analysis of the collection disclosed the generosity of the Czar who had sent over two of his most private possessions of the art of his own country and time, Repine's prodigious "Cossack's Reply" and Siemiradski's huge "Frina," which occupied the places of honour in the main gallery. No picture can enter the Academy at St. Petersburg as its property without the Emperor's approval, and none can be lent out of its precincts except by his consent. From the Academy, and therefore stamped with the seal of representative character, were a large number of paintings. These pictures therefore must be regarded as truly indicative of the character of Russian art. In all these pictures, as well as those of individual artists forwarded, exactly the same strains were wrought out in various forms. The "Celebration of the Sabbath," by Ashnazy, indicated by a prim and restrained woman, a Slav puritan, before lighted candles, self-suppression and anxiety depicted on a straight-laced face and imparted to a stiffened body. In another work by the same artist depression was illustrated in a totally different key. "A Talmudist Bridegroom" was on probation. The young man, dejected and reserved, was evidently paying a periodical visit to his expected father-in-law to report on his behaviour and to give proof of his worthiness of the bride. All the faces were unhappy and most of them peevish. In Herzke's "Jew from Kovna," a capital bit of portraiture, there was the misery of the race concentrated in a pair of eyes to which the artist had imparted cunning, grief, guile, and distress.

Spanish

Spanish Art.

The exhibit of paintings in the Spanish court was somewhat of a surprise and disappointment. An exhibit can scarcely be called national in which, representing this age in Spain, there was no example of the brush of Fortuny, none of the greater Madrazo and nothing of the greater Villegas. If the object of the collection had been to depict the lack of national character in painting in the line of true descent from its greatest masters, the 130 Spanish pictures might be relied on for that purpose. The impression the collection made was that the art of Spain, as illustrated at Jackson Park, was sterile on the ideal side; that it relied chiefly on literary interest for subject matter; and that its best technique was French. The voice was the voice of Spain, speaking from its romance and its history, but the hand was the hand of a salon.

From the Spanish capital five works were sent to Jackson Park, all from the National Museum of Painting and Sculpture. "Isabella, the Catholic, dictating her will" by Eduardo Rosales, was a pleasing example of historical genre which is too prevalent a choice with Spanish pictures of the present time. "The Lovers of Teruel" was a gruesome work, consisting chiefly in its dimensions and its painting of textures and bric-a-brac, by Don Antonio Munoz-Degrain. The third picture sent by the Spanish Government was "The Conversion of the Duke of Candia," by Jose Morino-Carbonero, who was also represented in another room by several interpretations of Spanish literature, all showing daintiness of feeling, pleasant humour and French tone.

The rest of the pictures were devoid of special characteristic significance.

Dutch Art.

While there existed a great contrast between the paintings of the modern Dutch artists exhibited at the World's Fair, and the works of the early Dutch painters, yet in a roundabout way the spirit of the old dutchmen, though changed and modified, can still be observed in the works of their descendants in art. The influence of the Frenchman of the Fontainebleau school, as far as the manner of painting is concerned, was observable; but throughout the whole of these paintings there was clearly indicated the desire to penetrate deeply into the secrets of nature, and to glorify the simple beauty and the sentiment the artists found in the landscape of their country, and the lives of its peasants and fishermen. In the work of Joseph Israels, who is generally looked upon as the leader of the modern Dutch school, Dutch peasant life was depicted with art and sentiment, just as in Millet's paintings one finds the story of peasant life in France. His "Alone in the World," was not only one of the most pathetic subjects in the Exhibition, but was fine in tone and altogether a distinguished piece of painting. It was a fine work, both in a literary and in a technical sense. When one looked at the figure of the old man worn with labour, seated by the bed-side of his dead wife, who had been his companion in a life of toil, the observer was impressed by the fact that the realisation had come upon the old man that he was truly alone, and that all that remained for him in the emptiness of the world were his memories. In the scenes of peasant life by Albert Neuhuys, the subjects were generally cheerful, and the colour richer than in Israel's works. His "Sober meal," showing a family of peasants at dinner, possessed that remarkable richness of colour and quality of painting which makes a picture intrinsically beautiful, and the subject was also well expressed and the figures admirably drawn; it certainly was one of the masterpieces of the collection. Besides these artists there were a number of paintings by Blommers, Offermans, landscapes by William Maris; architectural subjects by Klinkenburg; winter scenes were shown by Louis Apol and Bakhuyzen; while Poggenbeck

Poggenbeck and Mauve, as well as a number of other Dutch artists were fully represented. In fact the exhibit of Dutch art at the Columbian Exposition was of excellent character, as only artists of acknowledged merit and reputation were invited to participate, and a special effort had been made to secure the best examples of their work procurable.

The Loan Collection of Foreign Masterpieces.

While there were so many oil paintings in the Fine Art Palace, exhibiting examples of the work of the leading artists of the great art centres, and showing the tendencies of the different schools, the aims of individual artists and the probable value of the experiments in art which are now being made, the Loan Collection, containing the foreign masterpieces, the work of sixty-seven painters, living or dead, gave assurance that there are laws governing eternal beauty and that many painters have not sought in vain for them. Many of the artists were represented by several examples of their work. There were, for example, eight of Millet's pleasant pictures—the "Man with a Hoe," in all his deadly hopelessness; the "Shepherdess," the "Gleaners," the "Sheep Shearers," "Peasants Carrying a New-Born Calf," the "Haymaker," the "Pig Killers," and "After the Bath." After seeing these peasants, with their stolid faces and stupid movements, one feels how the sacred human soul can last through generations of toil and privation and realises what a painter Millet was.

There were also ten landscapes painted by Corot, in his own inimitable manner. It must be inimitable, for in spite of its great beauty no one of the younger artists is attempting it. They seem to realise that it was not any method or trick of the brush, but Corot's own nature which made his pictures what they are. The collection includes the great "Orpheus," the exquisite "Dance of the Nymphs," a bit of woodland with a white morning dawning over it, "The Path to the Village," with its blue sky, the big mysterious "Evening," from Jay Gould's collection, and another lovely little picture of the same subject, showing the black-green trees and the bowed peasant with the speck of red which forms his cap. The lonely "Shrimpfisher," the old-fashioned "Environs of Villa d'Auray," "The Inn," the little gem designated only as "Landscape," are all in the manner which is distinctively Corot's. The "Flight from Sodom" and the "Old Man Seated on Corot's Trunk" are somewhat different.

Seated on a bench in these rooms there was before one a group of little pictures by Delacroix, Corot, Rousseau, Millet, Daubigny, and Meissonier. Such an opportunity for comparison and distinctions was rare, and was also such a possibility of enjoyment. The Meissonier was a charming landscape in light bright greens, a "View Near Poissy." The only other Meissonier in the collection was the "Reconnaissance." The only Fortuny was the "Beach at Portici, Italy," a perfect blaze of light and life and colour, with a bright blue sky and great white flecks of clouds, making one feel that the vivid, passionate life of the Spanish land was present with Mariano Fortuny. Another picture of somewhat this tone was by Michetti of Naples. "Spring-time and Love" was its title, and it held a blue sky and a blue sea, with a grass-covered cliff and a slender tree with its long branches in rosy bloom, and the abandon of youthful figures joying in the sunshine.

For Gérôme there was "L'Emminence Grise" and "The Serpent Charmer," wonderful things. The powerful monk with his crafty, watchful vanity under the humility, has been shown in black and white reproductions with some little success; the "Serpent Charmer," with its blue background and some of the frescoing of the wall worn off, leaving bare brown spots, the row of the clear cut brown faces of the Sheik's party seated at the base of it, the inspired old heathen playing, and the tall slender boy holding up the snake in the background, was to be remembered long. In

In addition to these there were several paintings by Raffael, Carolus-Duran, Rosa Bonheur, L'Hermite, Monet Breton, Rousseau, Watts, Alma Tadema, Constable, Barrington, Morland, Israels, Knaus, and many other celebrated artists.

Water-colour Exhibit.

The water-colour exhibit taken as a whole was only moderately fine. It did not compare favourably with the exhibit in the stronger medium and was inferior in drawing and composition to the black and white, especially the etchings. The strongest effects in the lighter medium and in pastel were to be seen in the Italian section; the weakest in the British, but this latter section contained many admirable and beautiful aquarelles. It was to be regretted that Whistler was not among the aquarelle exhibitors. A little sheet of notepaper, with half a dozen brush touches by his hand, the very shorthand of pictorial effect, contains more idealism than a yard by water-colourists who might be named and who were to be seen on the walls at Jackson Park. Concentration is the very essence and the very soul of line, and since in the lighter medium line is the chief reliance of the artist, he who can crystallise most succinctly is the most valued. It is a paradox of water-colour work that the Italians alone carry it to its extremes. They use the medium lavishly. They are not afraid of elaboration, and they maintain a simplicity and strength—the masters that is to say—even in animals in which they are not approached by the Spanish or French who come next to them in this department. On the other hand the Italian bad water-colour is a worst possible deception. It is a waste of good paper under ineffectual colour and too often illiterate drawing. One of the queer vices of mediocre Italian water-colour is the inability of the draughtsman to put a correctly drawn head on duly proportioned shoulders. In many examples, the heads were nearly always too large even in fairly good work and seemed to be drawn by another hand than that which had produced the accessories or the draperies.

That alertness in draughtmanship which is involved in the basis of water-colouring is a natural trait of the French artist. The chic which most people eagerly demand in the tone of water-colour paintings is also pre-eminently French. The French water-colour school was not exhibited representatively at Jackson Park. Of the Society of French water-colourists who have their own special exhibits every year at Paris, which they call the Salon of French Aquarellists, considerably less than one half the membership was represented at the Columbian Exposition. At the Paris Exposition there were 114 artists in aquarelles, pastels, engravings, and medallions while at Jackson Park there were 550, but there were absent the works of a large number of the most famed representatives in this department. There were also water-colours by painters not identified with the French Society amongst which the Chef d'Œuvre of the French water-colour exhibit was the pastel entitled "L'Été" (Summer) by Mme. Marie Cazin.

The pastel is truly one of the most popular enemies of true art, and the safety of the pastellist, like the shelter of the water-colourist, is economy in dimensions. Mme. Marie Cazin, justly fearless in conscious power, has given her hand free scope in this charming composition as if she were handling clay or tubes. The scene was idyllic, the sea-shore, cool but not cold, a grey and lavender sky, accentuated with light indigo, rocks drawn with remarkable freedom, mothers and children, all blending in a summer scene of tranquillity, purity, and poetry. It possessed above all other qualities that of ideal beauty, that is to say, beauty of colour, beauty of line, beauty of physical elements, combined with the beauty of moral elements—the sweetness of motherhood, the innocence of childhood, the profound peace of nature, and the sublime custodianship of the sea which one feels

feels to be in the hands of God when infancy is left playing on its protecting sands. There were also some works very characteristic in tone by Boutet de Monvel and one water-colour by Edward Detaille, so well known by his depictions of military life. The decorative quality of water-colour painting was carried to a high degree by Madelaine Lemaire in two examples, "A Ball in 1830" and "A Farewell." While the first was necessarily little more than a fashion plate, it was painted with so much brilliancy as to command intense admiration, and it served also to show that after exactly sixty years women's costumes have got back to the fashions then in vogue. The second example was a sentimental subject, two men going away in a boat on a river and two young women bidding them adieu from the shore. There was a graceful blending of landscape with water, a happy general romanticism, marred a little by slightly defective drawing in one of the female figures. Madame Lemaire has been recognised for some years as the foremost of the women artists of France in water-colours and etching.

The Russian water-colour exhibit contained a large number of pictures, but, unhappily, they, like the oil paintings from that country, were characterised by the hopeless sense of sorrow which would appear to be a dominating characteristic of Russian art. The water-colours by Sokoloff were vigorous and well composed, the drawing was excellent, and a thoroughly artistic instinct was apparent in every touch; the subjects, however, showed clearly the unhappy strain to which I have just referred. There was the "Funeral of the Peasant," "A Country Inn," in which there was an indication of joviality, but it was brutal, and there was "A Private Supper," which was a coarse carousal. The "Charcoal Seller," a beautiful piece of colour, exquisitely harmonious, a lovely blending of sky and landscape, horse, a waggon, and drunken merchant was still another indication of what art finds most to express in Russian life—its hardship, its stupor, and its hopelessness.

Exhibits of Sculpture.

The collection of sculpture at Jackson Park was undoubtedly inferior to that of painting, and it was a common observation and a regret that many of the great modellers of the age were not represented. Neither Russia nor Italy exhibited sculptures such as might have been expected. Great Britain has never been so strong in sculpture as some of the Continental nations, but some of her best productions were shown at this Exhibition. The supremacy of Mr. Gladstone in the thought of his country was curiously disclosed in the British section. He was modelled by four of the most distinguished living British sculptors. A colossal figure of "The Grand Old Man" was shown in Donegal Castle, Midway Plaisance, by Bruce Joy, and this artist showed his impartiality by exhibiting the Marquis of Salisbury in the British sculpture section in the Fine Arts Building. Onslow Ford's Gladstone, a bust, was in the rotunda, as was Albert Toft's bust. The late Thomas Woolner made an excellent presentment of Gladstone, which was one of the group of works by him in the British exhibit. While all were good enough portraits, as portrait busts go, the face of the Joy colossus was exceptionally strong, "the fierce light that beats upon a throne" from the blazing old eyes being admirably caught in the treatment of the features. Hamo Thornycroft's "Mower" was perhaps the best figure in the entire British collection. It was free, supple, and alert, the type was muscular, but not heavy, and the action was spontaneous and direct. Sir Frederic Leighton indulges in sculpture as a luxury. He has modelled several notable groups, "An Athlete strangling a Python" being the best, while his "Sluggard" was modelled a dozen years ago, and is a fine study in anatomy.

The dramatic trend of French sculpture was redundantly demonstrated at Jackson Park. In many exhibits the action degenerated into

into violence or sank into maudlin struggle for theatrical effect, notwithstanding this defect and the other of neo-hellenism without Greek spirit, the French exhibit in plaster, marble, and cireperdue was strong, varied, and striking. The vigour of prevalent sculpture in France runs unfortunately to huge works, just as the painting for some time has consisted of canvasses too large in dimensions. Not the least valuable portion of the French sculpture exhibit consisted of the plaster cast of monumental architecture and ecclesiastical reconstructions which depicted the architecture of France from the eleventh to the nineteenth centuries, and were themselves a school of design. In this country's space were the "Age of Iron," by Alfred Lanson; "Quand même," by Antonin Mercié; and two examples of the work of Barrias, which were very excellent.

The exhibits of Germany contained many noble conceptions, for the most part well executed; "Saved" and "Eve," by Brütt; "The message from Marathon," by Max Kruse; and the "Von Moltke," by Bruno Kruse; were excellent productions of the sculptors' art. There were also a few good specimens of American sculpture.

In a room facing the central Corridor of Sculpture in this building there were some sculptures by Auguste Rodin, the celebrated French sculptor. The most remarkable were two illustrations of the Portal of the Museum of Decorative Arts, in Paris, a work which has aroused extraordinary fervour in artistic circles everywhere. This work was wonderfully beautiful and executed with the great delicacy peculiar to France's greatest sculptor. To appreciate their relation to the portal as a whole it is necessary to give a brief description of the entire work. The door is a series of dreams in bronze, not a mechanical or literal transcription of any portion of the Inferno, but a coherent and terrible presentation in appropriate symbols of the awful lessons it teaches of human sin and its consequences as seen by Dante. He calls it himself the "Door of Despair." It is an appalling summary of the universal tragedy of human existence. The lintel is surmounted by a group of nude, emaciated, and miserable figures, and below the cornice there is an image of man contemplating the terrible web of human destiny. The central panels contain clouds of figures whirled through space in irregular masses, with sudden flashes of light and depths of shadow, apparently incoherent, but actually having a subtle, philosophical, and artistic relation.

On the door-posts there are reliefs on a larger scale. One plane symbolises those who died without sin but are excluded from the light of heaven. Children, unconscious of disaster, caress their parents. Sinful death is illustrated in the groups of Paolo and Francesca, of which the two copies are in the Fine Arts Building. The first expresses illicit rupture of the lovers, the second their eternal torture and hopelessness. The story has been told by Boccaccio, Leigh Hunt, Sylvio Pellico, and others. Guido, Lord of Ravenna, gave his daughter, Francesca, in betrothal to the eldest son of Malatesta, Lord of Rimini, as a condition of peace. The bridegroom, being deformed, deceitfully sent his young brother, Paolo il Bello, as a proxy to be betrothed to Francesca and bring her to her future home. They fell in love and were put to death. Dante recalls this incident in the fifth canto of his "Hell." Francesca's reply to Dante's inquiry contains the original of Tennyson's "Sorrow's crown of sorrow is remembering happier things."

With these two groups is a third, "Andromeda." These marbles, seen detached from that of which they are a part, would naturally offend, and it was wise on the part of the authorities at Jackson Park to protect them from misjudgment as well as from injury by placing them in a private room away from the general exhibits.

Bronzes.

Bronzes.

In the bronze section of Fine Arts, Russia, France, Italy, Germany, Japan, and the United States were all well represented.

Amongst the Russian bronzes several were thoroughly characteristic of the country of their origin. There were exhibited a score or two of examples of the work of the late celebrated Eugene Lanceray, together with the latest achievements of Professor Bach, Ober, Gatscheff, and other academicians who are at the present time the exponents of the bronze art of Russia. A remarkable Russian conception of art in bronze was Ober's figure of the Cossack Dimitri Peschkoff, mounted on his horse "Gray," after he had done his memorable six months' ride of 5,488 miles through Siberia.

Two of the greatest bronze-founders in France were represented—Thibaut Frères and Le Blanc Barbedienne—with half a dozen smaller firms, who are rather intermediaries between the artists and the public than producers. An indication of how important an element bronzes are in the art and manufactures of France may be gathered from an inspection of the list of the principal works executed by Thibaut. These included about 250 public monuments erected in every continent in the world; of two dozen equestrian statues of equally wide distribution; thirteen great public fountains; thirty-eight animal groups, some life-size and some larger; 180 statues, chiefly ideal subjects of "natural size"; and subjects innumerable of smaller artistic and of purely commercial bronzes. The works produced by this firm bear the names of more than a hundred sculptors of established fame in this generation and the last, and their subjects illustrate very clearly the traditions and tendencies of French art in bronze. The Russian bronzes are the product of originals in wax models for the sole purpose of reproduction. The French bronzes have their beginning sometimes in a marble original, sometimes in a study in plaster. For example, that fine work of Barrias, "The First Funeral," was seen in a cast exhibited in the Art Gallery, and again in a reduced copy in bronze in the French Court in Manufactures Building. Both were executed under the eye of the artist, and the bronze was by no means the least faithful exponent of the beauty of form and depth of feeling of the original. Boucher's "A la terre," a wonderful study of the muscular action of the primeval toiler, was exhibited in plaster in the Art Galleries, and in bronze in the Barbedienne Pavilion. Auguste Caine exhibited three of his superb animal groups, one in bronze and two in plaster, side by side in the collection of sculpture. In France, in short, the medium is a secondary consideration; the art is strictly that of the sculptor.

Consequently the artistic bronzes of France deals mainly with the ideal, and in many cases the sculptor is so intent on preserving the artistic stamp on his work and preventing its duplication that he models it in wax and has the wax burned out of the mould before the metal is poured in. This, of course, is the well-known "Cire Perdue" or lost wax, process, a method of casting in metal as old as the Greeks, and of such curiously wide diffusion that the Cherokee Indians of the United States of Columbia are known to have used wax or resin in the models for their gold images. For the production of delicate details the process has some advantages, and is obviously well adapted to make a bronze unique by the destruction of its original. A bold and striking conception of "Mephisto," by the Russian Antocolsky, was exhibited in the Thibaut exhibit in the French Court of Manufactures as an example of this latter use of the lost wax process. One of the Barbedienne foundry exhibits deserves special mention. It was a large statue of Charles V. The armour of the Emperor could be taken off and a perfectly modelled body was revealed.

The

The Italian bronzes were divided between dignified and serious reproductions of statues and busts from the Vatican, and other collections and rather frivolous groups copied from modern pictures. The French keep the "Bronze de Fantaisie" in strict subordination; the Italian fairly run riot in it and detract still further from the essential dignity of bronze by the free use of silver and gilt on its surface. Among the innumerable small pieces in bronze of this country there were a number of decorative articles modelled on the work of Benvenuto Cellini and his school. But these, like many of the other Italian exhibits in the sphere of art, merely emphasised the fact that the craft and spirit of the renaissance is as dead in Italy to-day as are those of the classical antiquity from which they drew their inspiration.

The commercial bronzes of Germany exhibited bore but little of the stamp of art, while the artistic bronzes were such as would not commend themselves to commercial distribution. One might covet a reduced copy of Max Kruse's "Messenger from Marathon;" of Brütt's fisherman carrying in his arms the girl rescued from drowning; or of Herter's study of the other fisherman, who has caught "a fish rarely be met with"—a mermaid to wit—but the work of German sculptors, on the whole lend itself readily to the reduction, and therefore not to diffusion. It is more conspicuous for strength and delicacy, for originality of conception than for facility of treatment. As far as hammered metal work is like the great Armbruster wrought-iron gates at the entrance to the German Court, in the Manufactures Building, or Professor Begas' magnificent "Germania" group in hammer copper is concerned, Germany can challenge the competition of the world. But its art in bronze must be regarded as still in the formative stage of a vigorous and characteristically national growth.

Japan passed this stage long ago, and made a lavish display at this World's Fair of those elaborately pieced and chiselled productions in which the skill and patience of the artificer are easier to discern than the genius of the artist. There was a vivid imagination in the grotesqueness of the bronzes representing legendary heroes, demi-gods, and dragons, and a conscientious study of nature in the elaborately executed study of nature bird pieces which commanded admiration. There was about some of the most common-place pieces a richness of half lustrous colour that must be the despair of imitators. The Japanese treat bronze just as if it were a ductile metal, carve on it, ornament it with inlayism, and generally speaking, make the casting a basis of work for the tool. Where they have yielded to the influence of French art it has been to the detriment of the characteristic excellence of their work; where they maintain their antique traditions they occupy a place and an eminence all their own.

At the entrance of their court in Manufactures Building was a Japanese vase of exquisite beauty. It was made of bronze and inlaid with gold, silver, and copper, and was valued at \$1,800; its companion vase was purchased by the Mikado himself. Two vases, 400 years old, testify to the age of the art in Japan, and two candelabra, valued at \$1,000, were as elaborate products of the combined energies of the artist, the caster and the chiseler as could be found anywhere. A lot of vases of pear-coloured bronze, inlaid with black bronze, gold and silver, were very beautiful and characteristic of Japanese art. Such work can only be produced where manual labour is cheap, and where people have been trained through centuries for the purpose.

Liberal Arts Exhibits.

No separate building was provided for the Department of Liberal Arts, and so numerous were the different classes of exhibits relegated to this division, that it was found impossible to make provision for them in one building. The largest proportion of the exhibits were to be found in the great galleries of the Manufactures Building; two of its bureaus were located in the Anthropological Building. The Music Hall at the entrance to the great basin, and the Choral Hall, opposite the Wooded Island, were also included in this department.

As the central idea of the Exposition was to educate, by making all displays exponents of the World's advancement, no department afforded greater interest to the visitors than that of the Liberal Arts.

Each succeeding Exhibition, beginning with that held in London in 1851, has been the schoolmaster of the nations. No other single educational influence has been so instantly and so extensively active. This is because each national exhibit has been the exponent of that particular nation's advancement. The nation which has borne the palm of victory has been that whose progress in education, taken in its broadest and fullest sense, has been most pronounced. Recognising these truths, the promoters of the World's Columbian Exposition have given to education a position of high prominence in the centre of interest, and in the grandest of all the great structures the Manufactures Building. Here education was surrounded by her hand-maids—music, science, literature, charity, religion—and these, grouped together, as by their nature was most fitting, form the constellation of the liberal arts. These are the arts whose advancement has made the closing century glorious, and has made all mankind free in the light of truth and law and liberty. Very earnest expressions of demand for a separate building for liberal arts, or for education alone, were presented from all sections of the country before the opening of the Exposition, but a careful consideration of all the conditions led those directly connected with the department to the belief that the present solution of the question was satisfactory. The amount of space provided was fairly adequate, as compared with that given to other departments; its position was central, convenient, dignified, and worthy, and its location in one entire end of the great Manufactures Building was much to be preferred to any which would have placed the department away from immediate association with the remainder of the Exposition, a contingency that most likely would have arisen if a separate and distinct building had been provided. As a matter of fact this question was carefully considered by the Board of Control and an appropriation for an Educational Building was made in response to urgent requests from many educators throughout the land. An eligible site for such a building was carefully sought for but could not be found, and the purpose to erect a separate structure was abandoned, not from any lack of appreciation of the Department of the Liberal Arts, or from want of interest in its work, but wholly as a matter of expediency.

The department included twelve distinct and separate groups. The exhibits of the first group were divided between two bureaus, that of Hygiene and Sanitation and that of Charities and Correction, and were installed in the Anthropological Building, and will be referred to under that department elsewhere. The subjects under the control of the
Bureau

Bureau of Hygiene were the nursery and its accessories, athletic training and exercise, gymnasiums, food supply and its distributions, representations of dwellings and buildings characterised by the conditions best adapted to health and comfort; sanitary appliances and methods for dwelling-houses, buildings, and cities; hygiene of the workshop and factory, modified from that of the London Health Exhibition; sanitary supervision, including quarantine and the isolation of contagious diseases. The Bureau of Charities and Correction presented matters pertaining to the sick and the needy—asylums, homes, hospitals, dispensaries, appliances for the transportation and the relief of the sick and the wounded; prison management and discipline—models and specimens of police stations, houses of correction, reform schools, dress and equipment of prisoners, samples of convict workmanship, the Bertillon system of personal measurements, &c.

The second group included instruments and apparatus of medicine, surgery, and prosthesis, including drugs and medicines, dietetic preparations intended for the sick, instruments for physical diagnosis, surgical instruments, artificial limbs, and dental apparatus. This group was arranged in the north end of the gallery floor of the Manufactures Building. The exhibits from the Western States contained primary, secondary, and superior educational statistics, apparatus, and appliances were exhibited in a group, wherein were shown infant schools and kindergartens; text-books and diagrams, and specimens of work in elementary schools; specimens of domestic and industrial training for girls; handicraft teaching in schools for boys; specimens of school work in chemistry, physics, mechanics, &c.; art work, modelling, &c.; results of industrial work; exhibits of elementary instruction of Indians; schools for the deaf, blind, and feeble-minded; statistics, methods of instruction in public schools: descriptions and statistics of academies and high schools; buildings, libraries, museums, courses of study, &c., pertaining to colleges and universities; various branches of professional schools, such as law, theology, pharmacy, mining, military, commercial, &c. Distinct exhibits were presented by thirty states and territories; about forty colleges and universities, including six for women and seven distinctively for the coloured race, more than thirty normal schools, a series of training and manual schools and trade schools, sixteen art schools, collective exhibits from thirty business colleges, fifty schools for the deaf, schools for the blind, schools for those of feeble mind, &c. An extended exhibit showed the work of the schools conducted under the control of the Catholic Church. Educational exhibits were presented by the School Board of London; from New South Wales and Canada; from the Governments of France, Russia, Austria, Mexico, and Brazil; a very complete exhibit prepared under the orders of the Imperial Minister of Education of Germany. The exhibits from the United States occupied about 175,000 feet on the south end of the gallery floor; the foreign exhibits occupied nearly 50,000 more.

In the group of literature and books were exhibits of miscellaneous and educational publications; the great magazines, engraving, lithographing, maps and charts, &c. Then came instruments of precision, weights and measures, astronomical instruments, including the great refractor of 40 inches aperture; geodetic, hydrographic, meteorological, optical, acoustic and chronometric instruments, photographic apparatus and a gallery of photographs. Architectural drawings, specifications for foundations, walls, partitions, floors, roofs, and stairways; contrivances for safety, comfort, and convenience in the manipulation of elevators, doors, and windows; working plans for hoisting, handling, and delivering building materials, for paving and draining, &c. Statistics and publications of religious organizations and systems, showing the origin, nature, growth, and extent of various religious

religious systems and faiths; maps and reports of missionary societies, missions and missionary work; Bible societies, tract societies, and other publications. These were chiefly American exhibits.

In the group including music and the drama an interesting collection of instruments and literature pertaining to these arts was gathered in the galleries of the great building from all parts of the world. It included crude and curious instruments; music books and scores; drums, tambourines, cymbals, triangles, gongs, castanets, music-boxes, lutes, guitars, banjos and mandolines, harps and lyres, zithers, dulcimers, violins, the viol, viola, viola-da-gamba, viola-di-amore, the violincello, and the bass viol; the pianoforte, square, upright, and grand actions, and parts of a piano; the predecessors of the piano,—clavicytherium, clavicymbal, clavichord, manichord, virginal, spinet, harpsichord and hammer harpsichord; street pianos; the flute, flute-a-bec, syrinx, organ pipes, flageolet, clarinet, oboe and saxophone; the trumpet (simple) and the bugle (oliphant), alpenhorn, the trombone (with slide and with finger holes); the serpent, bassoon and bagpipe, key bugles, cornets, French horns, cornepeans, orphecleides, reed organs, melodeons and harmonicas, accordeons, concertinas and mouth organs, hand organs and organettes, automatic organs, orchestrions, strings, reeds and bridges, mechanical devices for the orchestra, &c. The grand pipe-organ in the Music Hall was part of this exhibit, as were also the chime of bells in the central tower, and the chime in one of the towers of Machinery Hall.

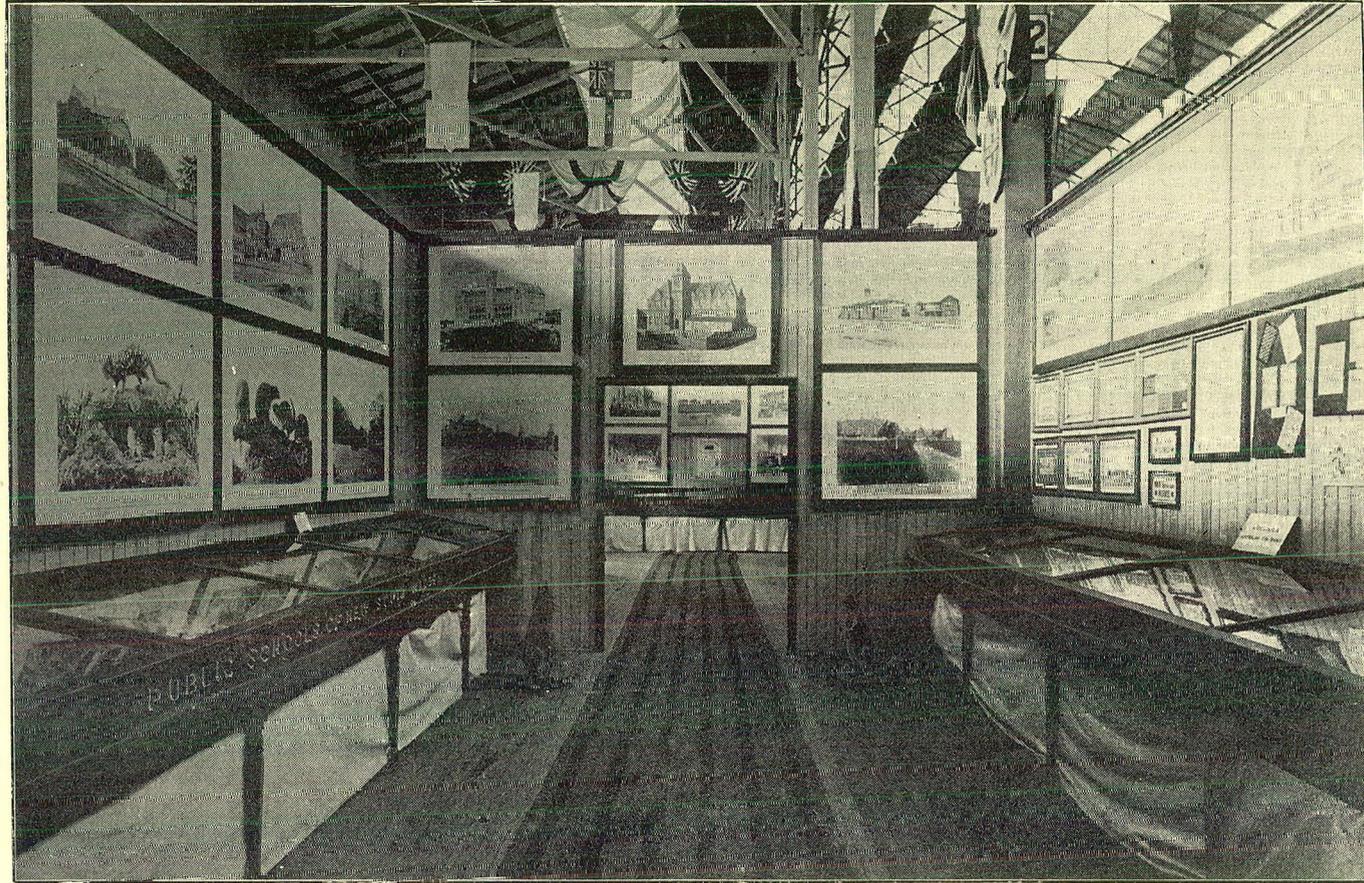
The Bureau of Music was a branch of the Department of Liberal Arts, and was under the charge of special officers.

New South Wales Liberal Arts Courts.

In the Liberal Arts Gallery New South Wales had a very excellent position, and, comparatively speaking, a fair share of space, but yet insufficient for our requirements. Our courts occupied 6,247 feet floor space and 10,000 feet wall space. Our space was bounded by Russia on the south, Canada on the east, and Great Britain on the north. In consequence of the shape of our allotment, and in order to make the best possible show of our numerous exhibits, I divided the space into a series of courts, and the plan of the court will exhibit at a glance the mode adopted. Over the main entrances, north and south, were the arms of New South Wales, and on each side of these a stuffed and mounted kangaroo and emu, with large trophies of our flags. Above the south entrance was the great panorama of Sydney, for the information of visitors, labelled as the largest photograph in the world, and on either side of this on the walls were the large photographs of Sydney in 1885 and 1892. An extensive wall space at the south avenue was devoted to the maps prepared by the Survey Department, and a similar space on the outer wall of the north end to topographical maps and charts. On the walls of the courts were displayed the numerous and beautiful photographic enlargements prepared by the Government Printer, with the exception of those representing streets, banks, &c., which were placed in the Manufactures Building. I may here remark that these photographs were one of the most popular, instructive, and attractive features of this and other courts, and as a collection were unrivalled. In the south court were placed the exhibits of the Technological Museum, in suitable glass-covered cases running the whole length of both sides of the space, as well as Mr. Maiden's herbarium and "century" of plants. Of the wool exhibits in this section I retained some characteristic series, but the principal portion I placed in the wool court in the Agricultural Building to complete the character of that very important section. A notice on the exhibits called attention to this arrangement, so that visitors so disposed might visit our wool court to see the exhibits. I constructed three large glass-walled cases for the numerous
birds



NEW SOUTH WALES COURT IN LIBERAL ARTS BUILDING, SHOWING NATURAL HISTORY SPECIMENS, &c.



SECTION OF A NEW SOUTH WALES COURT IN THE LIBERAL ARTS BUILDING.

birds sent by the Sydney Museum, which were mounted and stuffed and placed in appropriate natural attitudes on branches of a tree with ground-work at the bottom of the case. In the fourth case were the animals sent, similarly prepared and mounted. Here a piece of rock scenery was made in the case, in which the animals were placed in such a way as to show as far as possible their peculiar habits under natural conditions.

In the courts east of the main avenue were placed in glass cases the various exhibits of the public schools of the country, arranged and classified; while on the walls were hung the photographs of the public schools buildings and of the University. In the northern of these courts were the exhibits of the Institutions for the Deaf, Dumb, and Blind in Sydney.

The most southern of the west courts (Newspaper Court) was the place provided for the consultation by visitors of the files of Sydney newspapers. Then came the *Sydney Morning Herald* court, and the *Daily Telegraph* and *Town and Country Journal* exhibits. The walls of these buildings and courts were covered with the pictorial representations belonging to the different newspapers and the *Pictu-resque Atlas Company*. In fine, there was in this part of the department a fair representation of the Press of Sydney. The next two westerly courts contained the exhibits of the Technical College, displayed on tables and in cases, and on the walls were the photographs of the "Wolverene" and Naval and Military Services. In this court also was the revolving-stand and exhibits of the Sydney General Post Office.

On the walls of the principal avenue, running between our east and west courts, were placed architectural drawings and photographs all along the length of the avenue in classified order. The north court contained on each side three bays, and the east side was devoted to the photographs of Messrs. Kitch and Co.; the Katoomba Council; Mr. Holden, of Kiama; Mr. Little, of Young; Mr. M'Fadyen, of Murrurundi; Marion & Co.; the Newcastle Council; Mr. Newman; the photographs of Orange and of the Sydney Municipal Council; while the west side contained Mr. Russell's beautiful astronomical photographs, as well as representations of most of the technical schools of New South Wales. In this court also were placed the exhibits from the Macleay Museum.

This is a mere running description of these courts and of some of the exhibits they contained, and represents but faintly the excellence of the arrangement. Much thought and trouble were expended on the installation of the numerous exhibits in this department and in the elaborate decoration, but the excellent effect and appearance of the whole rewarded all the efforts made for the display of the exhibits in this department.

Educational Exhibits.

As a number of valuable reports on the various Departments of Education by various writers have already been published in our country, it would be superfluous to discuss at any length the distinctive features of the systems of the various countries represented at this Exhibition. It will suffice to characterise succinctly the more representative exhibits, as well as the salient features of the advances made within the last few years.

Great Britain's Exhibit.

Although Great Britain occupied a large division of that section of the Liberal Arts Building devoted to educational exhibits its representation was not comprehensive in any particular. When the large amount of money appropriated by the English Government for the main-tenance

tenance of its Art Schools is considered, the meagre massing of work from the Art School of South Kensington was disappointing. There were, however, some fine examples from the Department of Science and Art of the Kensington Museum, in which the drawing was vigorous and the shading excellent. The drawing from cast, both of ornamental work and figures, was technically very satisfactory. There were a few examples of time sketches, nudes from life, and also hands from life, which evinced much cleverness. One picture from the Composition Class, an aquarelle, representing the interior of a working studio, was the only one of this class, and was not a very interesting production. The studies in historical style from casts in monotone were very good, as was also the pencil work in pen and ink for illustration purposes. The exhibit of the School Board of London, especially the work from the elementary schools, from children between the ages of eight and eighteen, was creditable. In the exhibits illustrative of Applied and Industrial Art the original designs for wall-papers were remarkably artistic. The examples which showed a sketch of a single flower taken as the motif for the composition and then conventionalised into rimlike or geometrical designs were characterised by undoubted skill. The plaster relief work, and one or two drawings from life, and one or two nudes were excellent, and illustrated the importance of the introduction of the industrial and applied arts into elementary schools.

French Educational Exhibit.

The French education exhibit at Jackson Park was an epitome of the education system of that country. It was compactly gathered together in the gallery, and constituted group 149 of the catalogue of the Liberal Arts Building. It was made up of complete sets of official publications containing the laws and rules of the school system, showing its anatomy and physiology, and illustrating by manual as well as literary means its operations and results. As an able American writer has said, central government in France, notwithstanding its Republican organisation, is dominant in the education system. In this respect it radically differs from that of the United States. In federating the States that constitute the American Republic it was not the design of the fathers, nor has it ever been the will of statesmen inheriting their convictions, to give to the Federal Government any control over education in the United States. That control was among the prerogatives reserved by the States to themselves individually.

There has been from time to time an effort to attribute to the education bureau of the Interior Department quasi-authority, or at least some show of a vital connection with American schooling. It has been unsuccessful. The bureau of education continues to be restricted to a fragmentary and more or less incoherent policy of publishing monographs on educational topics, and of classifying incomplete statistics for whose orderly and exhaustive gathering it has neither money, men, nor legal right. A bureau of statistics, scientifically managed, would confer upon students and leaders of education great service in the crystallisation of trustworthy facts exhibiting the status of schooling, general and special, in the United States from time to time. This function may yet be added to the work which the bureau of statistics in the Treasury Department now performs. It is not likely that public opinion would favour extending the jurisdiction of the education bureau even into the domain of statistics, and it certainly will never approve any interference by the Federal Government with the management of education in the States. That it was the will of the fathers to keep apart the Federal Government and the management of education was shown not only in the reserve by the States of educational jurisdiction in their own respective boundaries, but also by the more explicit evidence of allocation of public lands by Congress

Congress to the various States for school purposes, Federal authority being abrogated for ever concerning them in favour of inalienable State fee.

The French school system, unlike that of the United States, is as distinctly national as that of Prussia or England or New South Wales, and the Central Government has as exclusive a jurisdiction over its general direction throughout the Departments of France as a State Legislature exercises over the schools of a State.

The National Government of France takes cognizance of all kinds of instruction found useful to the people, and applies its own mould to the entire gradation of schools from Kindergarten to University, ramifying this control through every category of teaching. The national system has, indeed, more than one head. The Minister of Commerce, of Industry, and of the Colonies, maintains supervision over the national school of arts and trades, and in the exhibit at Jackson Park, made under the auspices of that department of the national Government, were evidences of the work of pupils in national schools of clockmaking in several cities. The same Minister exhibited the commercial instruction of France, with portfolios, photographs, &c., showing the work of commercial high schools at Bordeaux and Havre. The Minister of Public Instruction classified his exhibits under six heads—science and letters, institutes and learned societies, press and books, higher education—to which was attached the exhibit of the Pasteur Institute—classical education and elementary education—to which was attached the exhibit of the pedagogical museum. Grouped with these were the exhibits of the Polytechnic Association, for the promotion of public instruction; the exhibit of the National School of Arts and Trades at Aix, that at Angers and Chalons, special schools at Douai, the Central School of Arts and Manufactures at Paris, the Trade School of the East, the Franklin Society, whose business it is to propagate free public libraries, and several private schools of book-keeping and commerce.

State supervision of education in France covers its entire operation, and extends to every feature of it. The result is a diffusion of schooling unequalled in degree and precision. The public money, national, departmental, and communal, devoted to primary instruction in the country exceeds \$50,000,000 a year. In 1890 the total number of children of school age, that is between six and thirteen, was 4,729,511. Of this number, 4,579,461 are enrolled in primary schools—an extraordinary ratio to the credit of France. There is one elementary school for every 445 inhabitants, and the enrolment shows more than one in six of the population.

Nor is State supervision of schools in France abstract. It is actual; it is minute; it is incessant. To appreciate its minuteness and its directness it is necessary to understand the union that still exists between religion and government in France. All the religions are equal by law. Any sect which numbers 100,000 adherents is entitled to public money. Those now receiving appropriations from the State are Roman Catholics, Protestants, Jews, and Mussulmans in Algeria. Roman Catholic worship and places of worship cost the Government about \$8,000,000 a year; the Protestants, \$400,000 a year; the Jewish, \$40,000 a year; the Mussulmans a little more than the Jewish, and the administration of the religious appropriations cost the people about \$60,000 a year. All these are recognised in connection with instruction, which since 1881 has been obligatory, and since 1882 absolutely free. The highest schools or universities go by the name of Faculties of the State, and these include law, medicine, pharmacy, and fine arts. The Roman Catholic theological faculties were suppressed in 1885, but Roman Catholic universities continue to enjoy State aid. The council of Public Instruction consists of the minister, five members of the institute,

tute, elected at a general election, nine councillors, confirmed by the President of the Republic on nomination by the Minister of Public Instruction, and chosen from among directors and ex-directors of the Department of Public Instruction, inspectors-general and ex-inspectors, rectors, ex-inspectors of the academy, and professors engaged in public instruction. With these are associated two professors of the College of France, elected by their colleagues, a professor from the museum, a professor of the faculty of medicine, one from a high school of pharmacy, two from the superior normal school—one for letters, the other for sciences—one from a special normal school, one from the National School of Maps, one from the School of Living Oriental Languages, one from the Polytechnic School, one from the School of Fine Arts, one from the Conservatory of Arts and Trades, one from the Central School of Arts and Manufactures, one from the School of Agriculture, two from communal colleges, six representing primary instruction, and four from free schools under private conduct. All the members of this council hold office for four years each, and they are indefinitely re-eligible. Nine members, named by the president and six designated by the minister, constitute a standing committee whose business it is to study programmes and rules of education everywhere, and to give advice concerning lyceums, colleges, normal schools, text books, libraries, discipline, teachers, methods of teaching, examinations, gradation, and graduation.

Education in France begins with the Kindergarten, or as they term them, mother's schools (*écoles maternelles*). Instruction and play correspond substantially to those of like schools in other countries. There is more, however, of a combination of *crèche* with the Kindergarten in France. Women in France were engaged in industries before the Franco-Prussian war, but that event withdrawing the men from the country, had a corresponding effect to that of the civil war upon the employment of women in the United States—that is, it enlarged the number of occupations in which they are engaged. There is scarcely anything men do in France that women do not do. A man and wife, mother and daughter, concern themselves with money-making in France more than do the women of any other country. The schools are the natural resorts of mothers who desire to have their children pleasantly if not profitably occupied during the hours when they are themselves concerned with other than domestic cares. In the primary school instruction consists of moral and religious teaching wherever it is desired for any number of pupils, for each division of whom it is given by an authorised representative of one of the creeds mentioned. In addition to this, instruction includes reading, writing, the French language, simple mathematics, and the legal system of weights and measures. In the higher grades, arithmetic is carried into practical operation, and there are added the elements of history and geography, of the physical sciences, of natural history applicable to practical things, elementary instruction in agriculture and a number of industries, and hygiene. Surveying is taught to those who wish to study it, while drawing, modelling in various ways, singing, and gymnastics are obligatory upon all. There are also special schools for girls, or special classes in the regular schools, in which, in addition to these things, every kind of needlework is taught. There are also special schools for adults and for apprentices in various trades. The normal schools are kept up to a high degree of efficiency. These schools, like those of manual training and apprenticeship, are widely distributed throughout the departments, and receive appropriations from the Republic as well as from local revenues. Their course of study is under the general direction of the Council of Public Instruction.

It will be seen that the foundation of the school system of France is uniform and universal. The presumption is that every child of both sexes may be self-dependent, and the education scheme proceeds

proceeds directly toward equipping the child for a useful industry. In furtherance of this object the elementary instruction is strongest in those things that are indispensable for industrial production. All the teaching is practical. What they learn of physical science is aimed at industry; what they learn of natural science is designed to help them to become producers. Their study of drawing and modelling gives them that skill in early childhood when the hands are supple and the eye keen, which a little later will seek special development in some distinct path.

They seem to be untroubled in France with the idea that cultivation of the sense of form is going to make men and women "artists." They know, on the contrary, that it will make artisans and skilful judges of artisanship of the vast majority of the children. As for artists, they will be a small percentage out of the entire number, and their education begins much later in special schools, leading up to *Ecole des Beaux Arts*. The primary teaching in modelling and drawing has no specific relation to fine arts. It has a specific relation to complete mental development, and the result of it is that France controls the markets of the world in every higher form of skill.

The minute care which France exercises over her schools was shown by the exhibit of her Museum of Pedagogy. This consisted of 20,000 publications and stocks of all appliances, objects, and tools used in general and special instruction. Of course it was represented in a compact exhibit chiefly by catalogue. Many of the volumes, however, could be seen in the exhibit. One line attracted much attention. They were the classics of literature prepared for the schools of France under the direction of the Department of Public Instruction. The children learn to read the best literature as soon as they are able to understand language. Their time is not frittered away on silly fragmentary sentences that convey to them no meaning. It is assumed that the best reading is the best for the child, and the children of France learn to read masters of style in their infancy. Nor is the list restricted to the French language. Men of the highest ability are engaged to prepare books upon masters of all languages, and at its proper place in a progressive course of study the French child learns, for example, what Dante's "Divine Comedy" is, and becomes acquainted with Longfellow's "Hiawatha." Attached to each school, wherever funds permit, there is a good museum, consisting alike of books and materials, the use of which is free to the children and to the townspeople, under no restriction, except one of custodianship. In the Central Museum of Pedagogy there are gathered together publications relating to schools throughout France, and from almost every civilised country of the world. These publications cover not merely literature about schools, but school systems, courses of study, examination reports, and everything pertaining to the practical management of instruction.

A novel and unique feature of the French education exhibit was that relating to the commercial school organised by the Chamber of Commerce, Paris. It was founded in 1863 for the purpose of giving primary and secondary instruction in business, diplomacy, and trade. Students of both sexes are admitted on the same terms. There is a special course for women for the purpose of teaching them accounting and bookkeeping. After passing an examination a certificate is given to them, upon which they are able to secure higher employments in important business-houses. The certificate affirms that they are able to carry on commercial correspondence in French, and generally also in English; that they possess all the qualifications of expert accountants, and are trustworthy as well as competent. The young women having this certificate are eagerly sought by the heads of business concerns. The institution is modelled upon the
higher

higher commercial school of Paris created in 1820. Among those connected with its direction have been Adolphe Blanqui and Aimé Girard. The school has supplied to commerce and industry at the French capital, to the colonies, and throughout the provinces of France, a large contingent of their most valuable men and women of affairs. Its graduates become brokers, bankers, administrators, directors, and agents of all sorts of commercial and manufacturing concerns. In 1881 the commercial high school of Paris was equipped by the Chamber of Commerce for the additional purpose of giving complete special instruction to young people who had already graduated from the classical courses in other institutions and desired to devote themselves to commercial careers. The school teaches science, the historical development of manufacture, and all practical modes of general exchange. Its graduates study diplomacy if they so desire, and take a diploma which admits them to competition for appointment to diplomatic and consular posts. The Departments of Commerce and Industry of the Colonies and of the Customs service give precedence to students of this school.

With a generosity that characterises the attitude of France toward learning of all kinds, foreigners are admitted to the school on complying with the conditions of admission as freely as natives of France, and they are even permitted to follow special lines of study without undergoing a preliminary examination. The studies include, in addition to the French language, German, English, Spanish, and Italian; history and geography in their immediate relation to the commercial profession, arithmetic as applied to commerce and banking, commercial correspondence, bookkeeping, financing, geometry, design, commercial law, political economy, physical sciences, and stenography. Students must be in attendance from 7:45 in the morning until 4:45 in the afternoon. There are three hours of recitation in the morning and three in the afternoon. They take luncheon, if they choose, at the school, or are at liberty to go home, returning at 1:30. Luncheon at the school is served at 12 o'clock, and is followed by an hour and a half of recreation. There is a fine library for the use of pupils. There are special scholarships founded by various corporations and institutions, such as the Rothschilds, the Bank of France, Credit Foncier, the railroad companies, omnibus companies, gas companies, and members of the Board of Trade—in all nearly 200. The Government of France maintains twenty scholarships, disposed of at an annual competition. The whole number of pupils attending in 1893 exceeded 500 during day courses and 1,000 in the evening courses. Of this 1,000 one-fifth are women. The exhibit made by this school in the Liberal Arts Building consisted of class-books and albums showing the work of various grades and illustrations of work in design by the women. Many of the cleverest fashion-designers of the French capital are women who have studied in this school. It gives a combination of instruction peculiarly adapted to the industrial and artistic position of France in the world—the commercial with the ideal.

The entire series of text-books used in primary and secondary schools was shown. Copies of the course of study of each grade could be had on application in the exhibit. No teacher could fail to derive benefit from a study of the French educational exhibit. Its logic, its directness, its precision were equally apparent and were equally admirable. Of all the people in the world conducting free schools the French are the most frugal, the most sagacious in applying means to ends. That the work shown was the genuine work of pupils and not of teachers was evident from examiners' markings found throughout the portfolios. There was no slovenliness in the work, while there was a great deal of childishness. It was all neat, clean, orderly, and well arranged. As a national exhibit it surpassed all others in the Columbian Exposition.

I may remark that the anatomical drawings shown by the French in their educational section were very fine. These examples were mainly from the higher and normal schools and from the Association Polytechnique. There were but one or two specimens of drawing from life or cast, and only two strong reliefs in plaster; but their display of papier-mache bower models, used in schools for botanical instruction, although the collection was purely elementary, was very interesting. There were also shown in the same division the most perfect-coloured photographic negatives from Nature ever taken. These were the work of a Frenchman named Lippman. One negative showed a branch of a tree on which was perched a bird of brilliant plumage. The dense growth of the foliage was true to Nature in its colour notes, and the bird's feathers, which were red, green, and yellow, were exquisitely lovely. It is questionable whether the printing of photographs from coloured negatives has yet been successfully accomplished, although in a German exhibit I saw some in which this result was said to have been accomplished.

German Exhibits.

The School of Education for Artisans of Germany exhibited some excellent pieces of work, including some good drawings from life and casts. The illuminated designs for textiles and tapestry, done in water-colour, were very attractive. Pen-and-ink work of great fineness, for the embellishment of diplomas and programmes, is very cleverly done by German art students. Their plaster relief work and woodcarving were unusually attractive. Several busts were shown in both mediums which evinced considerable skill.

The first work of the Industrial Art Schools of St. Petersburg was shown in their architectural and ecclesiastical designs in water-colours. These were new examples from a composition class and a few from a life class. The institutions of the Empress Marie were well represented, not by drawings and paintings, but in embroideries and textiles. The weaving of rugs by children under twelve years of age, accomplished by the pupils of these schools, was surprisingly clever. The Kremlin at Moscow was chosen as the subject of a lovely needlework picture. The Demidoff School exhibited an exquisitely fine piece of embroidering on silk linen, intended as a present to Mrs. Cleveland, the wife of the President. It was all in white, and the subject was the steamship "Leo," the vessel which was sent from America to Russia during the famine of 1892 freighted with corn. Another charming bit of work from the same school was an intricately-wrought stripe for a fireplace, the copy of a scroka (head-cover), worn by the women of Vladimir in the 13th century.

German Bacteriological Exhibit.

One section of the German University Exhibit was under the care of Professor Dittmar Finkler, of Bonn University, and Dr. Lichtenfeldt, of Berlin. This was the department of bacteriology, which was fitted up most completely, and which showed all the peculiarities, the growth, the life, the harmful or harmless qualities of those infinitesimally small organisms which have been designated as Bacteria. This department formed an independent section in the exhibition the German Universities made in liberal arts. At none of the previous great Expositions has there been an exhibit in bacteriology. This is not to be wondered at, since the science itself is but a few years old. How this science, however, has grown within so short a space of time this particular exhibit showed. It was fitting that Germany, of all the countries, should make it, since Germany has been the principal factor in the creation of the science of Bacteriology.

German

German research in the field of bacteriology laid the foundation for its further development, because Dr. Robert Koch found a method by means of which it became possible to separate the different bacteria which formerly had always been encountered in a mixture. By this method the scientist was enabled to discern the real character of each organism, and by making use of Koch's culture system it became possible to raise the different kinds of bacteria and to study thoroughly their varying qualifications. This, from a scientific point of view, was the greatest merit of Koch. After having once originated his system of separating and growing bacteria it was no longer very difficult to discover new ones, and to learn the various facts concerning them. Correct ideas were thus formed as to the origin and nature of tuberculosis, cholera, diphtheria, typhus, and other infectious diseases.

It must not be forgotten that this whole science of bacteriology is, practically, but a few years old. It dates back barely forty years, when Professor Haenle, of Gottingen, discovered the presence of these minute living organisms, since christened bacteria, and of which science now knows that every cubic foot of air contains thousands, and every cubic foot of water millions upon millions. But the utilisation of this first discovery began but a few years ago.

In the bacterial exhibit of the German University exhibit there were comprised the natural history of bacteria, their chemical effects, and the etiology or genesis of the diseases they produce. Bacteria may be divided into pathogenic (disease-producing) and non-pathogenic ones. Of the latter there are now recognisable some three hundred kinds, and these have been made useful by German chemists in fermentation, dye-stuffs, &c. The disease-breeding bacteria, of which there are at present known some 500 kinds, are divided in groups (as in zoology), widely differing from each other in shape, characteristics, growth, and fertility.

Of these latter, the pathogenic class of bacteria, there was an excellent collection of photographs or views made from living specimens (magnified enormously of course) by Dr. Richard Pfeiffer, chief of the bacteriological section in Koch's institute in Berlin, under Dr. Koch's supervision. The vivid, lifelike pictures, included those of the bacteria producing diphtheria, typhoid, cholera (magnified a thousand-fold), tetanus, malleus, erysipelas, acute rheumatism, hog-cholera, pus (a whole group), &c., as well as the picture of the influenza bacillus, discovered by Pfeiffer himself.

There was on view a large number of microscopical preparations of living bacilli. These of course were only accessible to specialists visiting the exhibit, who wished to investigate for themselves. This collection was prepared by Dr. Robert Koch and three of his ablest disciples, Loeffler, Pfeiffer, and Fraenkel. A regular zoological museum of bacteria was also exhibited in the form of "cultures." Those made possible by adopting the method inaugurated by Koch on gelatine plates, and the further growth of each colony of bacteria arrested by some antiseptic fluid, showed the appearance of each army of bacteria at certain stages of development. There were in this collection some of the most virulent and deadly bacteria. To facilitate, however, the understanding of Koch's method of treating and raising bacteria, there was on view a whole worktable covered with all the apparatus needful, comprising appliances for sterilising and for the raising of culture-soil (Naehrboden) required for the growth of bacteria.

A peculiar and intensely interesting part of this exhibit was one prepared for the World's Fair by Professor Breiger. It was a collection of the swiftest and most powerful poisons on earth, all gained from the dead bodies of those that fell victims to various deadly bacteria. This class of poisons are termed taxines, toxalbumines, or cadaverines. They were

were exhibited in carefully-closed glass tubes, so that each kind could be closely inspected. Among them were such deadly poisons—all discovered in recent years—as neurine, betaine, gadinine, tetanotoxine, typhotaxine, toxalbumen of cholera, of typhus, cadaverine, obtained from a normal body, &c. There was also in this group two immunising fluids, *i.e.*, substances that will prevent diseases such as diphtheria and tetanus. But it must be added that the discoverer of the immunising fluids, Professor Breiger, has thus far tested their efficacy only on various animals, but not on human beings. So far as his experiments go, however, they have proved successful. These poisons, forming the extract of the poisonous substances excreted by various bacteria, are highly concentrated, and they are beyond doubt the most powerful life-destroyers yet devised.

Of interest, too, were the various appliances used by bacteriologists in their experiments and tests made on living animals, especially frogs, rats, mice, and guinea-pigs. There were tiny operating-tables made of steel or glass, and almost the exact duplicates in miniature of the operating-tables used by surgeons on human patients, to which these small victims of science were fastened with leather straps. This enables the scientist to make incisions or injections wherever needed for the purpose of demonstrating the correctness of some theory won by research. There was also a wealth of other curious instruments on view, including filters, suction pumps, and centrifugal machines.

To further enable visitors interested in bacteriology to derive all the practical good from it that was possible, an auditorium was fitted up in the southern corner of the gallery belonging to the German University exhibit. It was an exact copy of the auditorium used by the famous Professor Virchow for his lectures on pathology, fitted up with tables, where practical demonstrations were made.

During the currency of the Exposition Professor Dittmar Finkler lectured on Bacteriology to a select audience of specialists and scientists invited for the occasion, giving practical demonstrations. Professor Finkler is next to Koch, the greatest authority on bacteriology, and the author of a work in which are contained some of the most valuable results of his researches in this field. Professor Fraenkel, of Marburg, took part in these lectures later on, and both these gentlemen lectured in English.

American School Exhibits.

The educational exhibits of foreign countries as regards magnitude and variety were quite overshadowed by those of the United States of America. These exhibits occupied no less than 225,000 feet. In addition to the large and representative exhibits of public school-work from the various States, High and Technical schools were shown on a very extensive scale. A series of thirty-five screens in the west balcony illustrated the work of the Art schools, and there were ten or twelve exhibits of the manual training schools. One interesting exhibit represented all the work practically carried out from day to day by students of what was named a Business College; in which, in various rooms and at the desks usually provided in business offices, all the different stages of commercial transactions were performed by the student clerks. In the south portion of this department nearly all the forty-four States of the Union were fully represented, and, besides this, in the north-west portion as well, many of the leading religious, political, and social institutions in several of the States had their own separate and well-ordered collections. It was a characteristic of the American people that in some of these latter bays there was displayed the old, worm-eaten travelling pulpit in which Whitfield once preached, and in another, the equally ancient arm-chair of the "Dairyman's Daughter," both objects of great veneration, as well to the exhibitors as to the visitors.

American

American public schools were represented by specimen work from pupils, photographs, charts, and comprehensive statements with regard to the plan pursued in education. From the work for exhibition the committee selected fifty of the best manuscripts in each branch and forwarded these to the Public School Commission. Maps showing the situation of each school-house in each State; the cost of education in each county; the relative number of pupils in each county, town, and city; the schools for each of the past forty years. The relative number of pupils in primary, grammar, and high schools for the past forty years. Picture albums of schools, buildings, &c. History of the organization of the school system as shown by legislation; text-books arranged to show the old and the new systems.

American Schools of Art.

The educational section devoted to the exhibits of the work of the various American Schools of Art was very interesting and very extensive, nearly every Art school in the United States being represented. Although I both heard and read much of a laudatory character as regards these exhibits, after a very careful and prolonged examination I must confess I found a number of them crude, and none of them superior to the exhibits of South Kensington or our own Technical College. The water colours, the etchings, canvasses, casts, drawings from the round and the paintings from the various schools were, as might naturally be expected, of very various value. Many of the schools represented showed exhibits of very excellent character.

Catholic Exhibit.

The Catholic exhibit in the Liberal Arts was one of the largest shown. It contained exhibits of every kind from all the different classes of schools in the United States. A special effort was made by the Roman Catholic authorities of America to show that the schools under their charge were as well appointed, as well arranged, and obtained as good results as any schools elsewhere. Each important school had a separate court, and all the gradations of the school work were exhibited. The show was a very extensive one and was well arranged.

American Universities' Exhibits.

The great Universities of the United States had a remarkable series of exhibits. Harvard, Yale, and John Hopkins, and other of the highest institutions of learning in this great Republic, displayed many of their literary and scientific treasures, thus carefully completing the educational exhibit of the country.

Harvard's exhibit might be regarded as an historical review of the development of Universities in America. It included a complete series of University publications, photographs of the University grounds and buildings, the methods of work and study in each of the great departments—academic, scientific, medical, legal, &c.

It also contained an extensive series of photographs of stars, planets, and spectra taken at the Observatory, as well as interesting views of the various observing stations established by the University at Arequipa (Peru). There was also a large collection of minerals and a valuable number of classified meteorilites and numerous specimens in botany and comparative zoology examined by Harvard professors. Specimens of 262 papers published on chemical subjects, and about 100 out of 800 chemical compounds discovered in the laboratories of the University were also shown. I must not omit to mention also some of the results obtained in the physical laboratory. One of paramount interest was the
photographs

photographs showing the oscillation of an electric spark. Between two tin terminals the spark was made to pass, and the image formed on a rapidly revolving mirror was thrown on a sensitive plate. The spark appeared to the eye as one streak of light, but was drawn out by the rotating mirror into a comet-like tail. Then a bead-like appearance was noticeable in the photograph, due to the electric oscillation. The duration of an oscillation could be calculated by measuring the distance between the two beads and the known circumstances of the motion of the mirror. Professor Trowbridge gave this as $\frac{1}{150000}$ of a second. The photographs further showed that air does not conduct away the heat of the spark in less than three times the above function of a second, so that air is practically as inert as a plate of glass during the same period of time. Professor Trowbridge also exhibited cards showing ten lines of force due to an alternating magnetic field of frequency 1,000 per second. The lines were straight and radiated from the centre of the cylindrical core. These photographs served to establish the magnetic field is restricted to a shell $\frac{1}{4}$ in. thick in the case of a solid iron core $2\frac{3}{4}$ in. in diameter.

It would be difficult to find anything more exquisitely beautiful, and at the same time educational, than the Blaschka glass flower collection, which is the property of Harvard. The models of flowers and their parts were selected from the Ware memorial collection in the Botanical Museum. The collection now has 350 large and over 1,000 small models. When completed it will represent the principal types of flowering plants and cryptogams of America. The models of flowers, when made of the somewhat clumsy and exaggerated papier-mache manikins, made botanical analysis less difficult, but these dainty reproductions of flora were true to nature both in colour, outline, and size. The forefathers of these clever artificers were Venetians, but their studio is now at Hosterwitz, a few miles from Dresden. The firm consists of father and son. For many years they devoted themselves wholly to the construction of models of animals, chiefly marine invertebrata. In 1886, through the urgent request of Professor Gordale, director of the botanic gardens and author of "Wild Ferns of North America," these artisans consented to construct flower models. All of the flowers now manufactured by the Blaschkas go to America. When viewing the exquisite specimens in this collection it was difficult to believe that they could not exude a delicious perfume. There was in the showing a spray of rich purple clematis with leaves and clinging tendrils of tender green that was most lovely.

Besides these interesting exhibits this University showed a large number of the literary productions of her distinguished professors and graduates, amongst whom were the names of Longfellow, Professor of Belles Lettres; Oliver Wendell Holmes, Professor of Anatomy and Physics; James Rupert Lowell, Professor of French and Spanish Literature; John Lothrop Motley, Prescott, Bancroft, Asa Gray, and many others of her illustrious sons.

Considerable space was occupied by the exhibits of other Universities, and many interesting data were given in the various publications issued by their authority; but none of them appeared to me so large and so well displayed as those of Harvard.

Black and White Art.

Exhibits in Black and White were shown by nearly all the European countries and the United States in the Fine Arts Palace, in Women's Building, and in Liberal Arts. In the Liberal Arts Gallery, at its southern portion, were some excellent collections in the courts of the illustrated magazines, such as *Harper's*, *Scribner's*, and others. In the *Century* Company's exhibit there were also letters from Longfellow, Mary M. Dodge, Helen Hunt, Louise Alcott, Frank Stockton,

Stockton, William Cullen Bryant, and Alfred Tennyson. Interesting examples of work were exposed illustrative of photographing by direct process. The walls of the room were hung with original engravings and drawings from the hands of the many noteworthy artists whose clever work has been seen in the various monthlies of this company.

Work of the Deaf and Dumb and the Blind.

While the exhibits of New South Wales, Spain, and Japan were very interesting, those from the various States of America, from their magnitude and their full representation, call for special reference.

At the south end of the west side of the gallery in the Manufactures Building was a collective exhibit of an unusually interesting character. Very few persons examining the specimens to be seen there would believe that they were the work of the blind, the deaf, the dumb, and the feeble-minded, if it were not for the cards placed in the show-cases announcing such to be the case. As evidences of neatness in needlework, and of handiness in the mechanical industries, the specimens on exhibition compared favourably with those of pupils in various industrial institutions who possessed no physical imperfections.

A length of 300 feet at this end of the gallery was devoted to the exhibition of what can be accomplished by those who have not the full use of their faculties, under proper training. That the promoters of the exhibit succeeded in their aim was manifested by the general interest taken in it by the immense number of visitors who frequented that section of the Liberal Arts department.

On entering from the south end of the building the first booth contains a pictorial description of the National Deaf-Mute College at Kendall Green, Washington, D.C. Prominent in the centre of the display of pictures were the portraits of Dr. Thomas Gallaudet, LL.D., the founder of the college, and Edward M. Gallaudet, Ph.D., LL.D., its President and Professor of Moral and Political Science. There were several water-colour pictures of landscapes and flowers and a case containing photographic views of the college and grounds.

Close by was a book-case, the work of pupils of the Michigan School for the Deaf, at Flint, Mich. It was a handsome and solid piece of cabinet work, showing care and ability in the use of tools necessary for the cabinet-makers' art. The book-case was well stocked with books and literature of various kinds suitable for young people.

Next came the exhibit of the Indiana Institute for the Deaf and Blind. Among other things it contained a pleasing and well-executed assortment of tidies, afghans, capes and shawls in crochet, shoes and slippers, samples of carpet-weaving work, pieces of wood showing with what cleverness the pupils can use the turning-lathe, mats, inlaid work, brooms, and whisks, samples of chair-caning, machine-sewing, and bead work. There was also an assortment of skirts, capes, lace, and knit work.

St. Mary's Institute of Buffalo, N.Y., showed a group of views of the buildings, rooms, and grounds. The Maryland School for the Deaf at Frederick, Md., gave illustrations of the kind of work done there.

An object that attracted probably the greatest amount of interest in this quarter was a large oil painting of Her Majesty the Queen of England visiting a poor deaf and dumb woman in her little cottage, not far away from the Queen's summer palace at Osborne, Isle of Wight. The picture showed the Queen teaching the woman, whose name was Bectine Groves, some new pattern of crochet-work, and Bectine was depicted with an amount of interest in her features as she watched the royal fingers showing her the new pattern. Queen
Victoria

Victoria was seated on a plain chair, and Bectine stood before her. On the floor was a sturdy youngster, entirely oblivious to the fact that he stood, or rather sprawled, in the presence of royalty, as he reached out in different directions for a red wooden soldier and a white tin horse. There were no lackeys in the picture, and Her Majesty was shown as a good human soul trying to brighten up the life of an afflicted sister. The picture was historically truthful, and recently, when reminded of the visits, the Queen is said to have expressed regret that she was not so nimble with her fingers either in speaking the silent language or in crocheting as when she used to visit Bectine Groves.

The Clarke Institute for the Deaf, at Northampton, Mass., was the next exhibit that attracted attention by a series of views. Close beside it was an heroic-sized statue of Dr. Thomas Gallaudet, who was the first founder of the training for deaf mutes in America.

The exhibit of the Colorado School for Deaf Mutes showed flower-paintings, drawings, embroidery, and basket-work, inlaid work, clay-modelling, a wall map in relief, school-papers in point, sewing-cards, mat-weaving, knitting, and hammock and mattress making in miniature.

A varied and very beautiful selection of things spoke well for the training of St. Joseph's Institute of New York. It had three houses, one at Fordham, one at Westchester, and a third at Brooklyn, all three being close to New York City. There were specimens of embroidery wonderful in their beauty, tidies of intricate designs, sachets, dolls dressed in elaborate styles, shoes of strong and some of very fine grade, nearly everything that one could think of in crochet and knitting, and hundreds of things beautiful and useful.

Near the St. Joseph's Institute was a large bust of L'Abbe de l'Épée, which was presented to the deaf mutes of America by Felix Flessis, the French sculptor, on the occasion of the opening of the Congress of Deaf Mutes at Chicago, July 18, 1883. On the side of the bust was written a few lines to the effect that it was presented as a token of the friendship existing between the two republics, France and the United States.

A case of views giving pictures of the American Asylum for the deaf and dumb at Hartford, Conn., was the next object to be noticed. It showed the teachers and pupils actively engaged in their work. There were also views and specimens of work from the Pennsylvania Institute for the Deaf and Dumb at Mount Airy, Philadelphia.

In addition to these exhibits there were also booths containing exhibits of the American Institution for the Blind which had been gathered under the direction of a committee appointed by the American Association of Instructors of the Blind at their meeting at Brantford, Ont., on July 5, 6, and 7, 1892. Several institutions were represented. The American Printing House for the Blind at Louisville, Ky., had 103 bound volumes and fifty pamphlets in "New York Point;" 140 bound volumes and fifty pamphlets in "Boston Line;" a volume of the Gospel of St. Mark; a volume of "Arithmetique," Paris, 1786; a complete set of physical maps of the grand divisions of the globe carved in wood and mounted on stands; dissected maps of the United States and of Europe, also carved in wood and mounted on stands; flasks, plates, and matrices showing the method of making stereotypes, invented by the superintendent, B. B. Huntoon, for printing embossed characters.

The Society for providing Evangelical Religious Literature for the Blind, Philadelphia, Pa., H. L. Hall, Secretary, showed ten bound volumes in "New York Point," twelve volumes in "Boston Line," and

and twenty-four bound volumes of the *Sunday School Weekly* in "point" and "line." The Ohio Institution for the Education of the Blind, Columbus, presented for inspection framed photographs, groups, and plan drawing, relief map of Ohio in wood, a model of the leaning tower of Pisa, a model of piano action, organ-pipes, geometrical blocks, philosophical apparatus, plaster casts, specimens of "point" and pencil writing, books of mounted work in sewing, cutting, folding, and weaving, bead and clay work, brooms, chair-caning, and a large case filled with knitting, crocheting, and sewing, all forming a creditable exhibit for the institution which provided them.

The New York Institution for the Blind had a volume showing the various stages and kinds of chair-caning, books illustrating methods of sewing, knitting, &c., answer-papers in Regents' examinations, kindergarten album, clay and peas work, institution photographs, miniature samples of mattress-work, appliance for teaching staff notation, composing case for music, an original copy of the first embossed book printed by Hany in 1785, illustrations of the New York "point" system, examples of "point" in English, German, and Greek, and a pin-board apparatus for first lessons in point signs.

In the exhibit of the Ohio Home for Blind Men were framed photographs of the building and samples of large and small brooms. The Ontario School for the Blind, Brantford, Ont., showed willow and rattan chairs, clothes-baskets, and a variety of small baskets, with models for making them, as used by the pupils.

Rather more scientific was the exhibit of the Pennsylvania Institution for the Education of the Blind, Philadelphia, Pa. In it were outline maps of Pennsylvania and other States in wood and pasteboard, relief maps in clay, wood, plaster, and metal, cushions for wire and tablet work, pamphlets of school-work, volumes of essays printed by hand in "Braille" and "Taylor" systems, the first embossed book printed in America for the blind, card-sewing, mat-weaving, paper-cutting, pasting and folding, paper flowers, mattress and brooms, and an unusually large and attractive display of sewing, &c.

The Kentucky School for the Blind, at Louisville, Ky., sent a kindergarten department showing designs in cushions, stick-work, paper-folding, mat-weaving, card-sewing, clay-modelling, soap-carving, and building with blocks, together with some crochet-work in silk, wool, and cotton, hosiery, mittens, and lace tidies. The quality and quantity of the hand and machine sewing, as an exhibit, was such as would have done credit to any "seeing" school.

Caned seats and backs for chairs, mattresses, scrub-brushes, twelve varieties of brooms, hundreds of yards of rag-carpet, and framed photographs of the institution constituted the exhibit of the Pennsylvania Working Home for Blind Men at Philadelphia.

The most noticeable features of the Missouri School for the Blind, at St. Louis, were plates of iron, tin, copper, and brass for printing, made on the Hall-Braille stereotype-maker. Hammock-netting was also a specialty of the place.

Perkins's Institute and Massachusetts' School for the Blind at South Boston, Mass., showed dissected wall maps of the United States and Europe, maps made in cushions with pins, cases of sloyd work, and several boxes of botanical and zoological models in clay.

From the Illinois Institution for the Education of the Blind at Jacksonville came a large metal map of the United States made on the stereotype-maker, wood sloyd, horse-nets, hammocks, paper flowers, examples of paper-folding and pasting, mat-weaving, clay-modelling, together with school exercises and examination papers.

The

The exhibit of the Wisconsin School for the Blind at Janesville was rather domestic in character, consisting of bread, cake, cookies, Saratoga chips, canned fruits and vegetables, and pickles. Hammock and tennis netting, broom and brush making, carpet, rug, and curtain weaving were also shown.

American Printing.

The exhibit of the completed product of the press was shown in the north-west corner of the gallery, and chiefly by American firms. Of all these displays the finest piece of work was a copy of the Bible, executed by Barbee and Smith, of Nashville, Tenn., agents of the Methodist Episcopal Church South Publishing House. The size of the book was 17 x 28 inches closed. It contained 836 pages, and weighed 80 lb. It was made expressly for exhibition at the Fair, and was of very substantial character. Vellum was used for the leaves, and the printing was done with gold-leaf, \$210 of the article being used. Each page had a tinted border, twelve different colours being used, running in regular order throughout the book. Six impressions were required to print each page. The different figures were executed in coloured leathers, inlaid and figured with gold. But the inside of the front cover was even richer in finish than the outside, being embellished with the interior view of a temple executed in the same work. The book was said to have cost \$1,500, and required three months of constant labour to complete it. Had the printing been done in good black ink instead of with gold the effect would have been much better. Taken as a whole the collective exhibit of the printing industry shown by America was satisfactory. All the appliances of the trade in each of its branches, from the making of the type to its impression on the paper by the latest pattern of presses, were exhibited.

German Book-printing Trade.

The German collective exhibit was shown in the German Government Building, and was very extensive. As to productiveness and ability the German book-printing trade has no superior; and, in fact, the German book-printing offices do a great deal of work in scientific editions for foreign countries, especially France, England, Italy, Russia, and the Scandinavian countries. In printing Oriental and ancient languages Germany, without any doubt, occupies the highest rank. The principal publishers represented were—D. Bruehl, of Giessen; Waldow, of Leipsic; and Maeser, of Leipsic. There was also a large and rare collection of chromos by Schottlinder, of Breslau; Drugulin, of Leipsic; Foerster and Borries, of Zwickau; Grumbach, of Leipsic; and Sittenfeld, of Berlin, and others; and the productions exhibited were works so artistic in print, paper, and binding as to excite the admiration of the expert. Lithography and photo-printing were exhibited by Klinkhardt, Roeder, and others in a perfection of art. The German Government had no fewer than seven large tables covered with representations of the most splendid and complete specimens of the progress of printing in our times. Type-foundry work of every kind was also shown, and there was a choice collection of finished books of all kinds by all the leading German publishers.

As regards the material for printing, the exhibit of the Waldhof Zellstoff-Fabrik, of Waldoff, near Mannheim, Germany, must be mentioned; it was very elaborate, and was placed in three rooms of the German building. The chief feature of the first room was a collection of transparent photographs on glass which showed German pine forestry. This was done to emphasise the claim that the products of
Waldhof

Waldhof have a distinct advantage in forests of regularly-grown pines cultivated for several decades on scientific principles, while all other countries are dependent on uncultivated trees, the cellular structure of which varies to an extraordinary extent. In the next room was shown, among other things, cellulose bleached for coarse and fine writing-paper, cellulose bleached for copper-plate printing, and cellulose ready for nitration in wood form and paper form. Beneath the various jars were specimens of paper prepared from Waldhof's cellulose and other materials. The third room contained rolls of stock spread out, with the electric lights behind them, so that everyone was able to judge their purity. There was wood cellulose, bleached and unbleached, cardboard from pure pulp, printing and writing papers from pure pulp. In the middle division were papers made from Waldhof cellulose showing the different watermarks. There were also stands supporting rolls of writing and wrapping papers made from this cellulose, with weights attached to the papers. The writing-paper weighs 30 grammes per square metre, and supports a weight of 850 lb., while the wrapping-paper weighs 90 grammes, and supports 1,260 lb. The manufacture of wood pulp, or cellulose, will be found described elsewhere in this Report.

Exhibits of Musical Instruments.

At the south end of the gallery of the Liberal Arts Building was the space, 67,000 feet, devoted to the exhibits of Musical Instruments. There was to be found nearly every instrument producing musical sound, from small mouth harmonics to large pipe organs. Independently of this special exhibit there were collections of instruments peculiar to individual nations in their various courts.

The piano was very largely shown both by foreign and by American makers, but there could be no doubt that the American instruments, whether as regarded musical quality or ornamental finish, equalled, if they did not surpass, the best specimens shown by European makers. One of the greatest novelties shown in the piano exhibits was a tremolo attachment, the invention of V. J. Hlavac, of St. Petersburg. It was of simple construction, and not so liable to get out of order as attachments of this kind generally do, while by means of it a variety of pleasing effects were produced. It could be put into any grand without interfering with the ordinary use of the action. Although a number of the best known American manufacturers were unrepresented, yet the piano exhibit of the United States makers was a very creditable one. Its peculiarity consisted in the fact that very few square-built pianos were shown, the American piano being now almost exclusively built of the grand and upright variety. Amongst other improvements and novelties, the following were described by an expert:—In the A. B. Chase upright piano was an octave coupler, which couples the octaves above and below in the same manner as in the organ. A harmony attachment in the Malcolm Love upright was an arrangement by which one or more notes might be sustained independent of the loud pedal until the next chord was sounded. For a double-sounding board with open-air chambers between the two in the Hardman upright it was asserted that it prevented the "breaking" of the tone when forced. A pedal attachment for pipe-organ practice in the Henry F. Miller upright differed from others in that it could be folded up so as not to be in the way when not in use. The Automatic Piano Company, of New York, deserved special mention for an excellent attachment, which could be applied to any grand or upright. Its simple yet very ingenious mechanism was set in motion by a perforated paper roll in a similar manner to that used in the automatic organs, and was arranged to be run by electric or hand power. It performed any kind of music, from the simple Waldteufel waltz to the most difficult Liszt rhapsody.

The

The M. Steinert loan collection of ancient musical instruments was a very interesting exhibit. It contained a number of old spinets and harpsichords of various sizes and shapes, as they were used from 150 to 50 years ago, and most of them in remarkably good condition considering their age. Nothing so much exemplifies the marvellous advancement made in the art of piano-building during the last fifty years as an examination and comparison of these forefathers of the piano, and that instrument as it exists to-day.

The organ exhibit was an extensive one and the various instruments shown by American builders proved that great progress has been made of late years by American manufacturers. The large collections of various musical instruments in the German and American Courts were very interesting.

Stained Glass Exhibits.

In the German Court there were some beautiful exhibits of stained glass, and in the north-west gallery there were four or five booths containing the stained glass and other similar work by some Chicago firms, amongst which were some very excellent exhibits. The ecclesiastical painted glass window, marked as sold to a church in one of the South American Republics, was very beautiful, and several of the other specimens shown were admirable representations of colour and tracing in this class of work.

American stained glass owes its artistic development to John Lefarge, an artist, who is said to have improved the method of manufacture. This new American glass emits a soft opalescent light, with rich internal fire, the tints and colours of which can be varied from sombre opaque to the most dazzling brilliancy. The jewels used are obtained from Hungary, where the best qualities are produced.

Sewing Machines.

As might have been expected there were a large number of exhibits in the American portion of the north-west section of the gallery devoted to every variety of sewing-machine and similar articles for which the United States have become famous. Several of these machines professed to be improvements, and doubtless they were so, but as far as I could judge they were improvements only in detail. The exhibit of Singer & Co. and others were most interesting.

Anthropological Building and Exhibits.

As has already been stated under the description of the exhibits in Liberal Arts Building, the Department of Ethnology was one of miscellaneous character, and although generally known as ethnology it virtually included the several groups of ethnology, archæology, and anthropological laboratory, history, and natural history, the Latin American exhibit included the special exhibit of the relics of the time of Columbus arranged in the convent of La Rabida, the reproduction of the ancient ruins of Yucatan, on the grounds immediately north of the Anthropological Building; and the ethnographical exhibition of native people of America, who lived in their native habitations on the stretch of land along the eastern side of the south pond between the Anthropological Building and the Indian schoolhouse, the Midway Plaisance, and many other exhibits illustrative of the customs and habits of the various races of mankind.

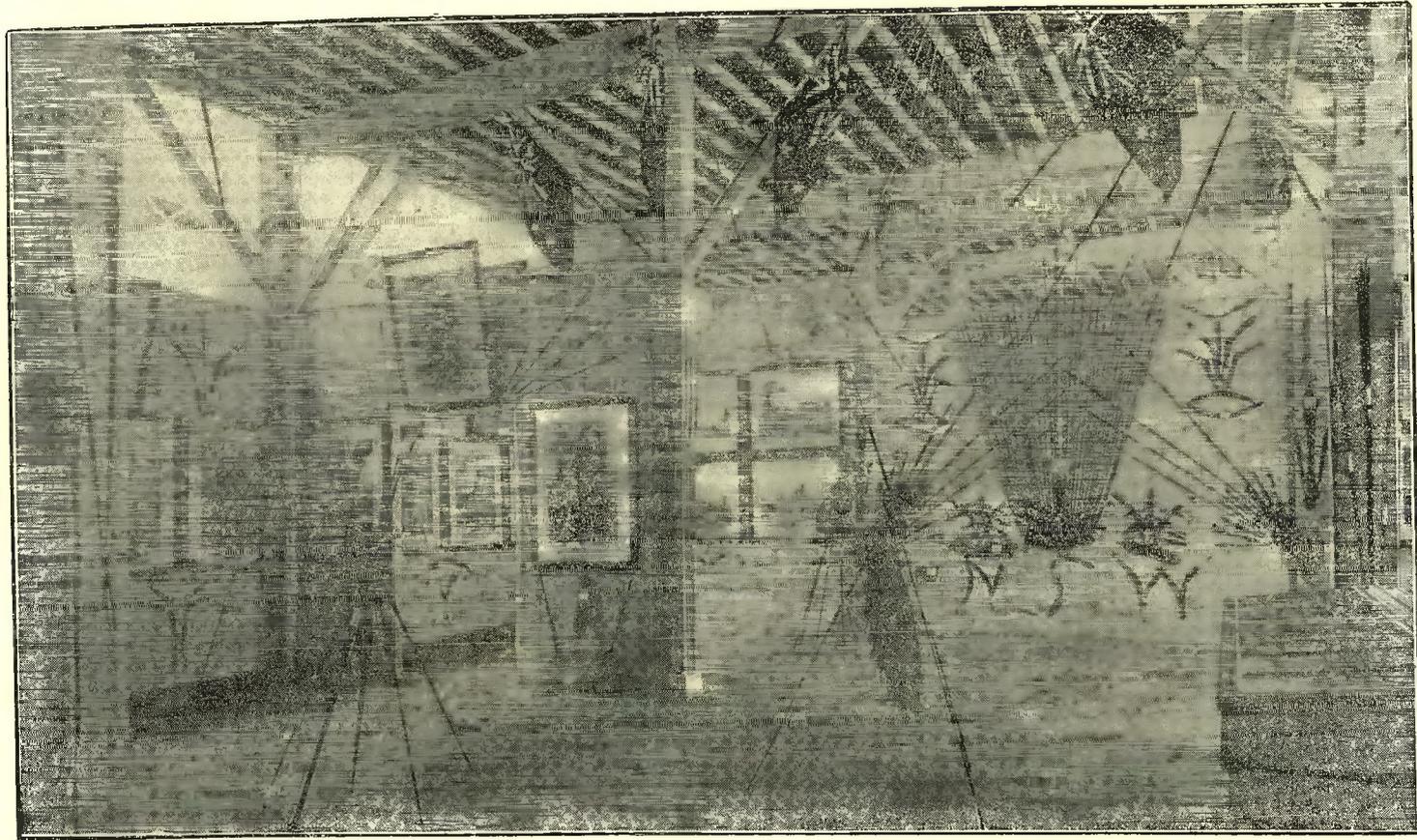
The building itself was quite incomplete at the opening of the Exposition; it was originally intended that the exhibits belonging to this section should have been placed with the liberal arts exhibits in the gallery of the Manufactures Building, but the educational exhibits were so numerous, and required so much space, that it was ultimately decided to erect an additional Anthropological Building. Hence the arrangement and classification of the exhibits in this building were delayed, and, as I have stated, were not completed till after the opening of the Exposition.

The Building.

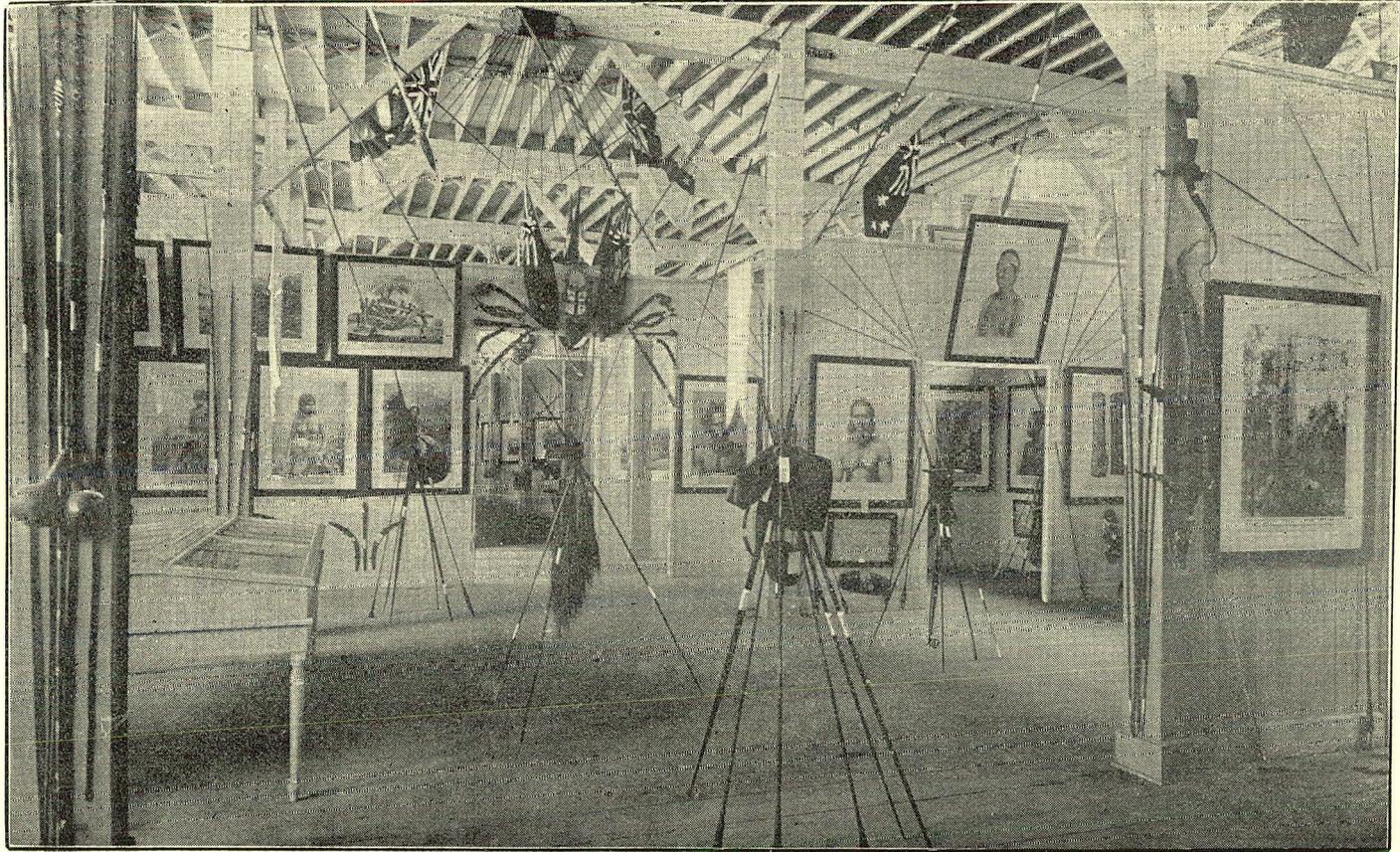
The building was 415 feet long and 255 feet wide, with a gallery 48 feet wide on all four sides. Thirty thousand square feet on the ground floor at the southern end were given up to the sections of hygiene and sanitation, and of charities and correction, belonging to the liberal arts. The remainder of the floor was occupied by the archæological and ethnological exhibits of foreign countries, States Boards and individuals, and the collections made by the assistants of the department who were sent to various parts of North, Central, and South America to make special explorations and researches under the direction of the chief of the department.

New South Wales Court.

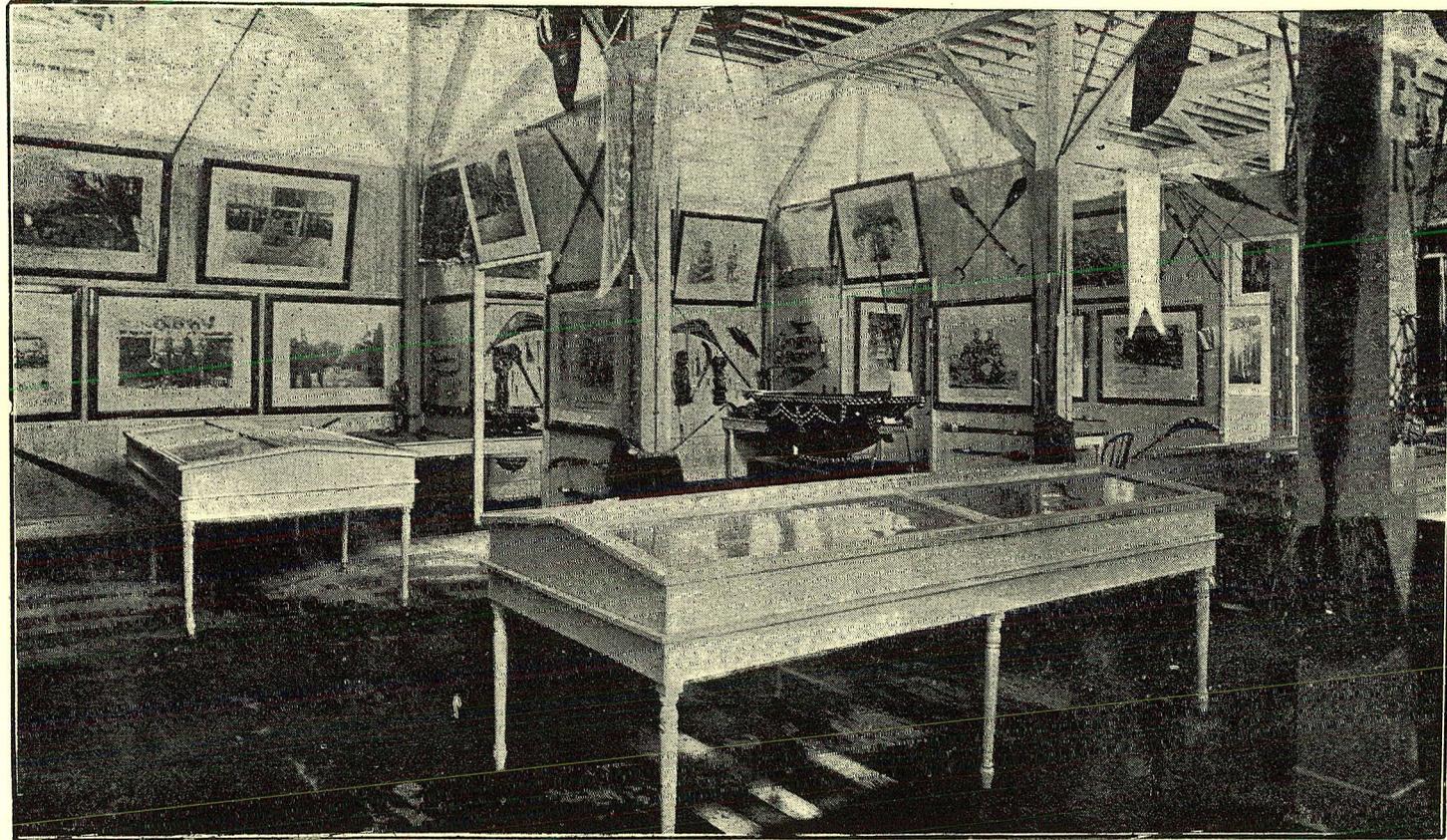
New South Wales was well represented in this department, and the large and well located space it occupied, 4,666 feet, was a constant source of attraction in the midst of the numerous curious and interesting exhibits contained in this building. The space was divided into two large courts intersected by an important avenue. In consequence of the numerous large and important photographs provided for this department I found it necessary to erect wall screens 12 feet high round all our space, as well as to make bays in the courts. The north court contained the photographs and exhibits of Australian aboriginal life, while the south court was devoted to those pertaining to the South Seas. For the valuable exhibits of a small character glass-covered cases on tables were provided. The trophies of spears and war-like weapons attracted considerable attention from their conspicuous position and excellent arrangement. The pillars and walls were also decorated with exhibits. It was a universally expressed opinion that these courts, as an educational exhibit in their peculiar sphere, were most



NEW SOUTH WALES COURTS, ANTHROPOLOGICAL BUILDING, AUSTRALIAN ETHNOLOGY EXHIBITS.

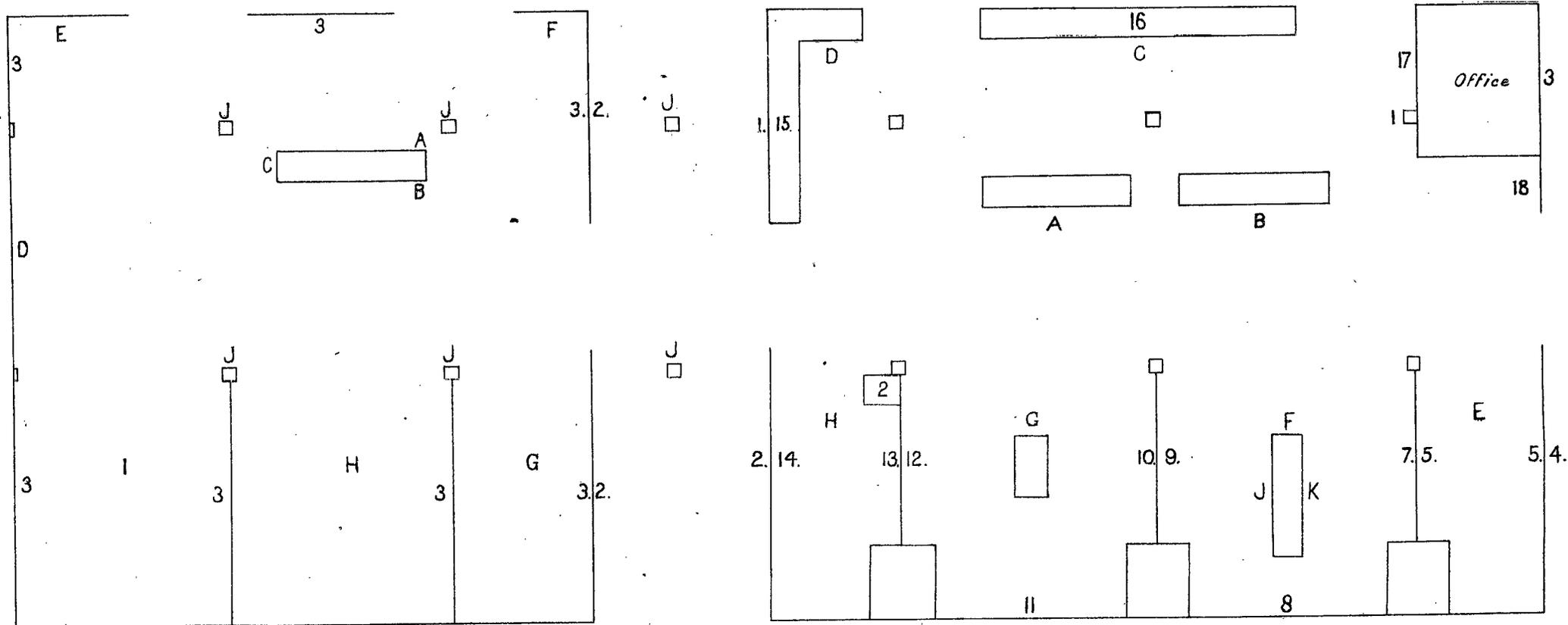


NEW SOUTH WALES COURTS, ANTHROPOLOGICAL BUILDING, AUSTRALIAN ETHNOLOGY EXHIBITS.



NEW SOUTH WALES COURTS. ANTHROPOLOGICAL BUILDING. SOUTH SEAS ETHNOLOGY.

ETHNOLOGY, OF N. S. WALES AND S. S. ISLANDS.



N. S. Wales Collection.

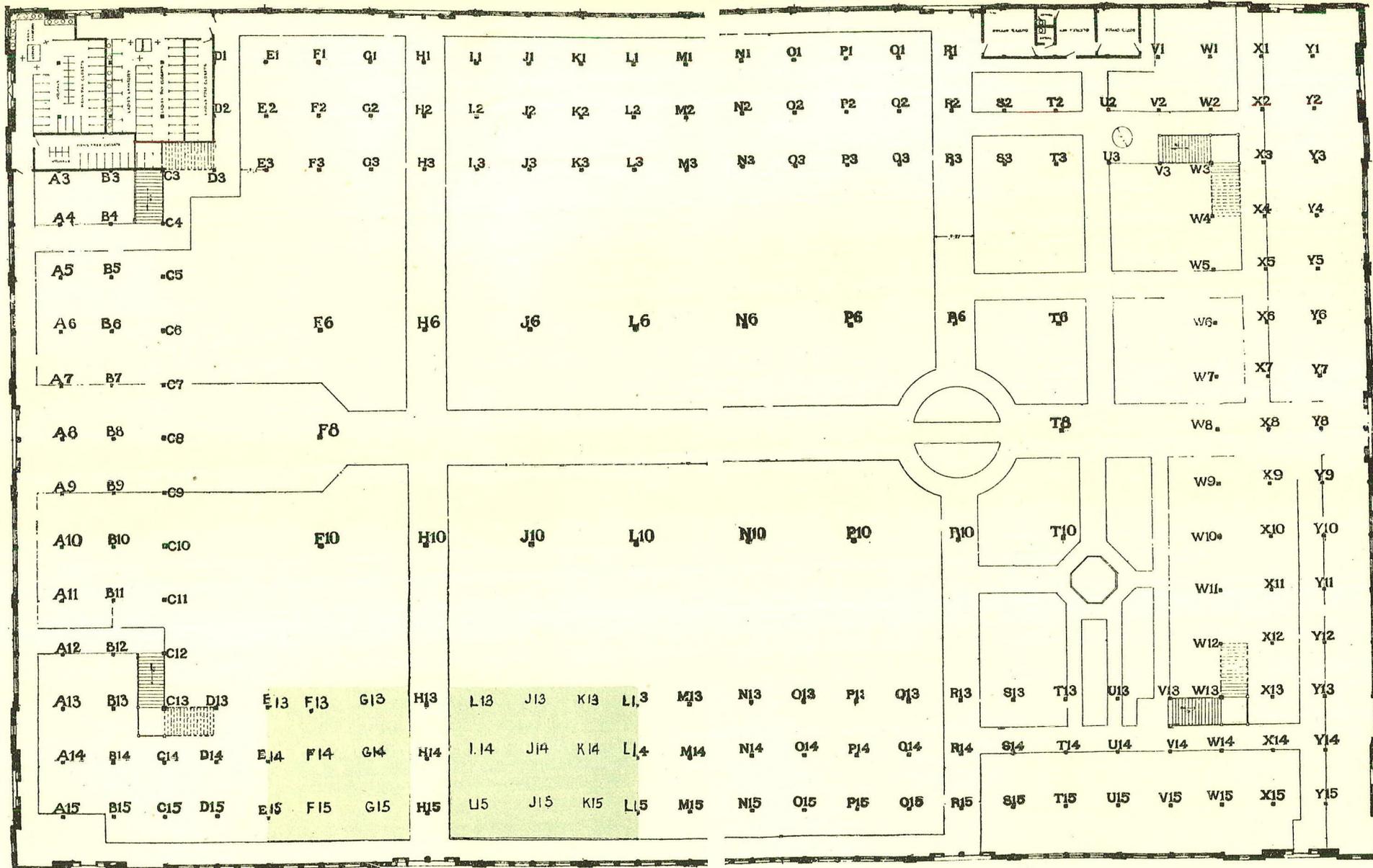
- A Prof. Liverside's Collection.
- B B. of Prot Schools Display.
- C Stockdale & Others.
- D Trophy Stockdale & Others.
- E Collins & Filton
- F Bundoock.
- G Hannay & Rainsford.
- H Hill & Jas. Woolf.
- I B. of Protection A.
- J CoSpears N.S.W. Com.
- K Photos of Jenolan Gaves.
- L Photos of Aborigines, of N.S.W.

S. S. I. Collections.

- A D^r Rickard & Jenkins Collection.
- B D^r Woolf's. D^o
- C Baskets & Clubs.
- D Clubs & D^r Woolf Mullen & Rickard.
- E Mullen's Collection.
- F Retaillic & Others. D^o
- G Lichner & Soloman.
- H D^r Woolf.
- I Armour Trophy Jenkins & D^r Woolf.
- J Jenkins Collection.
- K Mullen & Rev Rickard.
- L Attendants Table.

Photos.

- | | |
|--------------------------------------|----------------------------------|
| 1 Tonga. | 13 New Britain. |
| 2 D ^o " | 14 Port Moresby. N.C. |
| 3 New Britain. | 15 New Guinea & S.S. I. |
| 4 Fiji. | 16 D ^o D ^o |
| 5 New Guinea. | 17 South Sea I. ^s |
| 6 D ^o " | 18 Deboyne Group. |
| 7 Stacey I ^s New Ireland. | |
| 8 Milne Bay. | |
| 9 Fergusson I ^s & N.G. | |
| 10 Samoa. | |
| 11 D ^o " | |
| 12 D ^o " | |



KEY TO INSTALLATION.

The Department of Ethnology occupies all the space in the Anthropological Building except E and F in the southern end of the main floor. These are occupied by two divisions of the Liberal Arts Department—the Bureau of Sanitation and Hygiene and the Bureau of

(sig. 293)

FIRST FLOOR PLAN
ANTHROPOLOGICAL BUILDING,
WORLD'S COLUMBIAN EXPOSITION.

Charities and Corrections. The sections on the main floor are lettered from A to Y, and the columns on the main floor and in the gallery are lettered from A to Y, north to south, and numbered from 1 to 15, east to west. The letter and number following an exhibit in the catalogue marks the column nearest to the exhibit. The sign "Floor, J-6" indicates that the exhibit is on the main floor near the column J-6.

most instructive as regarded the habits and customs of the natives of Australia and of the islands of the South Pacific Ocean. The large photographs of native life especially attracted attention, and constant inquiries were made by visitors as to the purposes and history of the various implements and weapons, and especially as to the customs depicted; and the pamphlet circulated in this court, written by Mr. Frazer, was much sought after and highly appreciated. That portion of the cave scenery placed in this court was also the subject of much critical examination.

The collections in the Anthropological Building were of surpassing interest, and although it was remote from the centre of the park it was crowded from day to day by curious observers of the wonders it contained.

Village of Skidgate.

A most peculiar exhibit, occupying a very extensive space adjoining our own court, was the model of the village of Skidgate, Queen Charlotte Island, B.C., as it appeared in 1864, collected and arranged for the Department of Ethnology.

The most remarkable of all the Indians on the North American Continent, the Hydahs, of the Queen Charlotte Island, are haughty, dignified, proud, of fine physique and medium height, and superior morals. As a nation they are quite distinct from all the other Indians, and whatever their origin, whether Japanese, Egyptian, or Phœnician, it is quite clear that it has been quite distinct from that of the other Indians. Forming once a powerful and populous nation, they are now reduced to three villages, Massett, Skidgate, and Clew. They formerly numbered sixteen or seventeen large villages, now, with the exception named, all deserted and in ruin, marked by empty lodges and those remarkable totem poles for which the Hydahs have become famous. These totem poles are of all sizes, and are from a foot to 60 feet high, ornamented by carvings and painting, which are genealogical and symbolical, but in no sense of a religious character, and it is a common mistake to regard their carved figures as idols. These people are most skilful carvers in wood and stone and engravers in metals, which they work into various beautiful designs. There is a great deal of antiquarian, archæological, and historic interest connected with the Hydah Indians, which I cannot now dwell upon. Their traditions are especially interesting, and bear a strong resemblance to the cosmic theories of the South American Indians, and are not unlike in many respects to the sacred narrative itself; in fact many of them contain glimmerings at least of the Mosaic hypothesis.

The exhibit itself represented *Ilthcahgeetha*, the native name meaning Stony Beach. The people of the village were divided into three groups, living in separate parts of the village; first, the Western Group; second, the Large House people; and third, the Catherine's Point people. These people are divided into a number of clans, arranged in two groups or phratries, and are called from their principal crests the Eagle phratric and the Raven phratric. Custom requires that a man must not marry a woman of the same group. The members of the clans adorn their houses and their possessions with carvings of various birds, beasts, and fishes, representing their own crest or that of their wives. The houses are large square wooden structures, and with gable roof, and all placed facing the sea. The framework consists of four corner posts, which support the gables and outside posts of the roof; two pairs of inner beams are supported by posts in front and rear of the house. In the middle of the front of the house stands the carved posts representing the crests of the owner, sometimes also that of the wife, and the mythical traditions belonging to her family.

In

In the village of the Hydahs the houses of each phratry or clan stand grouped together. They consisted of the house of the Raven, the Moon house, the Owl house, and numbers of others with heraldic paintings, columns, &c. Some of these had totem poles, and all were decorated in characteristic animal representations.

Antiquities.

The Government of Greece furnished the central group in the collection, containing ancient Greek art and archæology chronologically arranged in connection with exhibits from Assyria, Egypt, and Rome. Russia exhibited illustrations of the habits and costumes of the various classes of her peoples. Spain had collections from the Madrid Museum. Japan, Palestine, Africa, the West Indies, the Argentine Republic, Paraguay, and Mexico were all represented. British Guiana contributed a very interesting collection of native jars, spears, articles of dress, and the fibres and palm-leaves used by the aborigines for their houses. Some of the warlike plumes were very beautiful. There were also some cases filled with stuffed but unmounted birds of lovely plumage. The native drums, with the heads made of wild hog or peccary skin, were also shown.

The Charnay collection, exhibited by the Minister of Public Instruction of France, contained remarkable representations and models of bas-reliefs, fragments of temples, sculptured inscriptions from temples. The "Paroi interieur d'une salle du jeu de paume avec essai de reproduction de peinture murale d'après les manuscrits Mayas et Astecs" was a very beautiful example of this large collection. Some of these wall sections, as well as the Yucatan mural specimens, were brilliantly coloured and appeared to me very like Egyptian work of the same character.

Perhaps the series of exhibits which awakened the highest curiosity and interest were those of the prehistoric American races. Exhumed from mounds which have remained undisturbed for untold ages, the large collection of relics, revealing the past, unravelling long-buried secrets of domestic life, business relations, and exhibiting even from the mouth of the grave, on the stone sepulchre, the fact of prehistoric heroism were very instructive. The fashions of the day, the industries, the favourite foods were all shown; what the primitive man bartered, and how he warred; how he worshipped, and what; how he lived; stories of his travels, where and how he summered and wintered; all these and many other particulars of prehistoric life as man lived it, enjoyed and employed it, were told in the exhibits presented in this section. Professor Putnam, one of the Harvard professors, in charge of this department, took a deep and practical interest in this collection.

It is believed that the most ancient evidences of man on the American continent were found in Ohio. The archæological exhibit of this State, largely collected by Warren K. Moorehead, abounded with specimens of the mound-builder, the prehistoric man of the continent and his works. Time allows no estimate of the age when he peopled the Muskingum and other valleys of the State, planted and harvested his corn, worked in his flint quarries, and bartered his skilfully wrought arrow-heads, stone-knives, and even copper utensils and ornaments with his less skilful neighbour for such raw material as he could make of avail.

Of the ancient races of America, the Aztecs of Mexico, the Chimus and Incas of Peru, and the Indians of North America, we have historical accounts and traditional stories. Among the Indians of all the continent there are supposed to be surviving descendants even at this day. Of the cliff-dwellers there are traditions; and the mesa homes of the Zuni, Moqui, and other Pueblo Indians of the far southwest are so like the abandoned villages of Mancos Canyon and other
Arizona

Arizona sites of the cliff-dweller's habitations that these peaceable husbandmen and farmers may possibly have been their descendants. But of the mound-builders there remains nothing to tell the story of their life and manners but their homes, the tumuli from which they are exhumed, together with relics of their domestic and economic life and intercourse with other people, of whose existence nothing is known, except by inference from what the mound-builders have left. In the Ohio collection of these pre-historic people who inhabited the Ohio, Mississippi, and Missouri valleys, there were skeletons well preserved, battle-axes of stone, spear and arrow heads, pottery and weapons made of copper, and ornaments of the same metal. Two kinds of graves have been found, and were here reproduced. One was that of a well-preserved skeleton found in a stone grave—a grave scooped out of the earth, and lined on the bottom and sides with stone flags, and covered with stone, as was the well-known custom in eastern countries. The other grave was the reproduction of the pit in the tumulus or mound, in which the true mound-builder was buried. A great necropolis of the mound-builders belongs to the "Hopewell Group," at Anderson, Ross County, Ohio; and here and elsewhere these cemeteries of the past have been explored, and hundreds upon hundreds of graves have been opened. The skeletons are found prone and in a sitting posture, and each grave has been made the depository of weapons, ornaments, and pottery. That religiously the mound-builder, primitive as he may have been, and slowly passing from the stone to the bronze age, had an idea of or a belief in the hereafter is evidenced by the fact that the pottery contained food to last him on his journey, that his weapons were buried with him to be handy in case of an emergency, and that his ornaments decked him to play his part in the new life beyond the grave. That he had traffic with other people is proved by the fact that splendid specimens of obsidian, spear-heads, arrows, daggers, and knives are found in the Ohio graves, while no ledge from which this hard crystal stone, so useful to the mound-builder, is found nearer the Muskingum Valley than the Yellow-stone Valley of Montana. That they sold corn or some other commodity susceptible of growth in the fertile valley of the Ohio is proved by the copper weapons, utensils, and ornaments they had, which must have been procured from nomads of Michigan, or by expeditions sent out to get it. Their religious life also, as well as their commercial intercourse with other people, is proved by the altars found. That they were warlike—perpetually at war—is demonstrated by the weapons found and the rude earthworks that were thrown up for protection among great areas of country which had salient points. These were marked by mounds for "conning towers," though their mounds ordinarily were the pyramids in which they entombed their dead. Distinction of rank and caste occurred among the mound-builders as it does among men to-day. A skull pierced by an arrow-head told of a heroic death. Like a Spartan of old, the warrior returned on his shield rather than without it. In one grave the skull of a skeleton, prone and stretched out to the full length of a tall and massive man, was found surmounted by a head-dress, a helmet of copper, from the crown of which rose two antlers fashioned out of copper. A chief, or perhaps a king, was disturbed when the sleep of this massively-framed man was broken. There were long-headed and short-headed men in those days among the toilers of the mound-builders, and in those primitive times the long-headed man was inferior to the short-headed. But a full account of these peculiar people and their relics will be found in Mr. Moorehead's works entitled "Fort Ancient, Ohio," and "Primitive Man, Ohio," both of which were shown with the relics.

In addition to the relics from Ohio there was a large collection of arrow-heads, bronze weapons, spears, and axes from the mounds of Michigan, as well as a large collection of ancient pottery from mounds in Arkansas.

Ancient

Ancient Life in South America.

Lying speechless, in an adjoining section, some ancient American people eloquently presented their story—a history antedating Columbus, and which was centuries old when Pizarro first fought the Incas of Peru. This collection of Peruvian antiquities was one of the largest and most complete among the various and curious exhibits which Professor Putnam had gathered from all parts of the world. There was a ghastliness about the display: the reproduction of an ancient necropolis, peopled by the very men, women, and children who were laid therein ages and ages for their last rest. The bodies, mummies, wrapped and unwrapped, and parchment skin-covered bones were placed, surrounded by pottery, ornaments, and weapons, just as they were found in the ancient Peruvian cemetery.

Peruvian Cemetery.

The necropolis of Ancon, Peru, is one of the most famous in America, both for its vast area and the good state of preservation of the contents of the graves. The burying-ground is on the rainless desert coast, 22 miles north-west of Lima. The surface is uneven and covered with a layer of sand about 2 feet deep. Beneath this is a hard cement-like gravel (the original ocean bottom). Where this gravel has been disturbed it remains loose, because it has not been subjected to the same conditions it underwent in geologic times. The graves are generally at a depth of 6 feet, although they have been found to be over 20 feet deep. There is no ridge or mound to mark the grave, nor do they occur at regular intervals; they must be discovered by means of a steel rod, which may be easily thrust into the loose gravel found in the graves. Two facts account for the almost perfect preservation of the contents of the graves: it seldom rains in the coast of Peru, and the gravel contains large quantities of saline material. The body is usually found in a sitting posture, with knees drawn up to the chin, and hands placed over the face. It is wrapped in various garments, and cotton is usually found over the face and breast. There was a large exhibit fenced in representing this cemetery and the contents. In addition to the bodies, which lay as found in their original position, there were clay vessels and calabashes containing food often found inside the wrappings of cloth, the whole made into a bundle and tied with rope or wrapped in a matting made with rushes. The bundles were sometimes further decorated by a false head placed over the real one. These false heads were made of various plants sewn up in a sack on which were placed eyes of shell, nose of wood, ear ornaments, straw headbands, and feather plumes. At the sides and in front of the bundle were placed vessels of food—maize, beans, fish, crabs, and various kinds of fruit; work-baskets containing hand-looms, cotton, wool, spindles, tubes of paint, &c.; agricultural implements, war clubs or sceptres, clay or wooden images, painted tablets, and other articles. There were two of these enclosures exhibited, containing graves from different parts of Ancon, and showing many different styles of burial. The graves shown did not occupy their original relative positions, but from want of space were placed much closer than they occur at Ancon. The ridges of gravel individualised the graves, and, as exhibited, often two or more bodies were found together. The skulls, the long bones, cloth, &c., lying loosely on the sand in the exhibit gave some idea of the extent of the surface of the Ancon graveyard, for thousands of graves have been despoiled by relic-hunters and the contents scattered about. The mummies and the relics were wonderful spoils, and were deprived of their outer rope-bound rush covering, and were swathed in vari-coloured blankets and richly-figured cotton-cloth, and, strange as it may appear, the red, white, and black of the blanket stripes were as bright as if the robe had just been taken from the loom. Beside each mummy were earthen jars and bowls, and the corn in the vessels was well preserved, while the skeletons of the animals intended to feed the traveller on his long journey were so intact that the animal could be reproduced. Dried
fruits

fruits, too, and the rinds of pumpkins were shown, while about every corpse there were tablets evidently bearing the epitaph of the dead, or telling in a heraldic way some deed or service of the long-departed one. These tablets, too, were not of enduring bronze (though copper ornaments were found in nearly every grave), nor was the history or the biography of the long-sleeping occupant of the grave wrought in marble. The tablets were of cloth, stretched over short willow or reed wands, and figures and cunieforn characters were painted on the cloth. Colouring and figures remained undimmed and unworn, though they, along with the body, have been earth-covered for ages. The antiquity of the necropolis cannot be estimated. It had been used by the Incas for thousands of years before Pizarro first saw it, for it was densely populated then; and since then it has only been spoiled for the sake of the gold it was hoped was treasured with the dead. Whole families are found together, probably taken off by an epidemic. Wrapped up, the knee against the chin and the arms plaited about the body, the mummy looked like a rope-bound bale of old rags. Unwrapped, the mummy was a fleshless yet skin-covered skeleton, and the hair was seen to have adhered to the skull in all its plentifulness. The bodies were tattooed, and beads and copper ear-rings (a pound and a half in weight each) were found to have been the fashion among the Incas women long before the Spaniards desecrated their graves in their mad search for gold. Sacrificial altars, stones, and weapons were found, but these last not so plentiful, showing that the Incas were peaceably disposed, or had nobody to fight before the Spaniards came.

Ecuador Cemetery.

Next to this cemetery were other relics of kindred people, who were interred on the island of La Plata, off the coast of Ecuador. The exhumations here consisted of mummies, cased like the Ancon dead, yet wrapped differently, though crushed into a sitting posture, just as the others were. The pottery of these people showed a high degree of ceramic art, while the copper, gold, and silver ornaments, heads, and idols exhumed displayed fine and skilful workmanship. Sombre or ghoulish as was the appearance of these dead, and the property of which their graves have been robbed, there was a valuable lesson taught by their examination. And when we compare these ancient American methods of burying the dead with that of still older Americans, and that of other countries, there seems a similarity that makes man akin the world over, ever since the music of the spheres was first heard.

The Cliff-dwellers.

The Cliff-dwellers buried their dead as did these people and the Aztecs. They mummied their dead, swathed them in cotton cloth, wrapped a feather robe about them, and twined over all a burlap covering, rope-bound and tightened. An Egyptian mummy is not unlike the American antique, excepting that it is fresher and a little more gorgeously got up and painted, because the embalmer's art had been improved upon in the modern days of Egypt far beyond the crude methods of the old-time American undertaker.

It would appear, therefore, that throughout all these burials, even down to the days of ancient Greece, when sculpture flourished as an art never since equalled, the despoiled tombs showed the conception of immortality. The dead king of the mound-builders was put into his grave armed cap-a-pie to combat such unknown enemies as he might encounter, and he was provided with food to strengthen him that he might not be caught unprepared. The Incas went away provisioned and armed; the Cliff-dweller was given a proper send off by his friends; the Egyptian was loaded with treasures to appease Osiris; and over in the Greek section it was shown that the Greek pugilist took his cestus along with him and a cruse of oil to limber up his muscles if he got into a pugilistic encounter in the brimstone country of Hades.

Yucatan

Yucatan Ruins.

Consul Thompson, of Yucatan, came specially to Chicago to arrange the exhibits he had collected among the ancient ruins of Yucatan, in which was shown the peculiar architecture of the people who lived in that country in the remote past. Tropical plants from Yucatan were brought and artistically arranged over and about these ruins. The structures reproduced were the protal from the ruined group of the Labna; the straight arch of the Uxmal, reproduced from the east façade of the so-called House of the Governor; the Serpent House; the west section, north wing, of the House of the Nuns; south-east corner, east wing, House of the Nuns,—all ruins of Uxmal. In addition to these were two monoliths and a collection of scriptural stones of scientific value. There were also casts from moulds, several monoliths or idols from the pre-historic city of Capan. The casts were taken by the Peabody Museum expedition.*

Pre-historic Designs of America.

A paper was read at one of the meetings of the World's Congress Auxiliary during the currency of the Exposition, by Miss V. V. Dodge, of Washington, D.C., one of the best-known American archæologists, who had just returned from a journey of discovery extending over several years in South America, where she had made many wonderful discoveries relating to the art of old pre-historic races. Pre-historic designs of America are of some interest in this connection. Miss Dodge's address was, in part, as follows:—

“As we pass into the charmed circle in which the artist conjures, we enter a fairy realm that has its own laws, its own usages. This is particularly true of the pre-historic artists of America, either of the southern or northern continent. Before the wealth of their productions we may well be awed and scarce know from what nation to gather. We have already proved with what freedom of thought and what originality of conception they lived and wrought. Note the infinite grace and variety of the races who peopled this latitude. From the burial-mounds of warriors come graven trophies and vessels placed there for the long journey to that far country. From the lone skeleton in armour on the bleak New England coast, whom Longfellow immortalised, to the tenants of those graves built in the shadow of the Cumberland—graves laid of stone, like unto the one over which Mary and Martha wept—to the unparalleled revelations which have opened for us within the boundaries of Ohio, all of which are abundant proof of the supremacy of the pre-historic mind in design.

“That most beautiful and historic valley in Ohio, the Muskingum, has opened up to us the art that neither Phidias nor Michael Angelo would have disclaimed. No history recounts the customs of this pre-historic race, their lives or the day of their doom; but their grave yields up after thousands of years such handicraft that tell us mutely much of the story of their lives. The renaissance yields nothing more graceful than the decorations on pre-historic clays and medals. The conception is vigorous. Some, it is true, are wrought in the image of primitive things, while many others reveal the elaborateness of the far East.

“In the south of our Continent, even to Panama itself, another conception reigned, a magnificence of architecture and design; of carving, sculpture, design, painting, and graving that is a proof of the original genius of these skilled artisans. In the pottery everywhere the mark of individuality shows itself, duplicated designs being unknown, proving that there was no such things as moulds used in the construction of their works of art. Realistic in some examples, pre-historic designs diverge into most lovely decorative effects, and all are fruitful for further consideration.

“Whether these designs had their birth in an Asiatic home before Babylon, as is declared, or in our own Continent wholly and originally, we can only conjecture by the types of ornamentation and mythological symbols. Whatever may have been the arts of our Continent, they were made in a new spirit, a creation bearing a strength and nobility that we must admire. In colossal figures, in idols, in adornment, in weapons, in utilitarian lines, in carving, in relief, and so on through the long catalogue of their works, there is no servility, no mere copying that would point to Nineveh, or Egypt, or to any land. The designs of America combine the delights of the arts of Araby, of Persia, of Egypt, and of other lands, but it is only a suggestion of these. A virile individuality reigns through them all. An element of splendid possibility comes to us out of the years and ages. Human faces and heads, animals of ages long past, as well as familiar designs of birds, flowers, the forms of rivers and seas, all combined with every form in nature to serve the artist of those pre-historic times. On these are founded conventionalisms really excellent and adaptable to many purposes.

“Of

* A full account of these relics will be found in Squire's work on Peru, and in the Report of the Smithsonian Institution for 1888.

"Of the uses of colour these races knew all, but time with its relentless hand has destroyed the first glory. Bits of colour on the walls and pavements of palaces show a refinement of tone that Turner or Paul Veronese would not have ignored. The pink and madder of the ancient walls are not the taste of a crude mind. The Assyrians, with their famed dyes, did not excel the black and red and white combinations of colours and design that the mummies of the South American pre-historic tribes were wrapped in. Even the Tyrian purples have been rivalled in our own borders. The colour secrets of our continent were not those of a barbarous or inartistic race.

In ecclesiastical design the archæology of America is rich. From the most insignificant mound of that chain trending north-east in our Republic to the mighty pyramidal structures or temples of the tropics of America we can decipher the forms of vessels, ornaments, signs, and even the belief in the immortal life. These things reveal to us the high ideal toward which our far predecessors wrought. Nor Roman, nor Greek, nor Mohammedan, nor Buddhist has a richer symbolism than that by which the belief of pre-historic Americans is revealed in their designs. There are conceptions fitting the impressive pomp of processional days. There were those of sacrifice, and on this they felt deeply, and wrought their images with great feeling. Long before Vincennes or any of the famous wares of Europe were known, America had clays wrought into such artistic shapes that we would do well to copy. Out of these pre-historic treasures let us take the special jewels that will reflect light on a new school in our own land, that shall be a copy of no other nation's thought. Many there are who disdain these precious inheritances of archæology. Murillo, Raphael, and Rubens they hold only worth their worship. The artist who will to-day go back to the fountain of pre-historic American art will reap the richest reward.

It was my good fortune in hunting for the typical American designs for my collection to watch an Isleta silversmith at work upon an ornamental band, wrought in relief in a most exquisite manner known only to him. Every square was worthy of Cellini. There were incomparable little figures joined by slender bands of graven silver. When I asked him where the designs came from, he said "Ah, from my fathers. They got it from the rain and the clouds. Each of us adds to it." This was the simple effort of the untutored to tell me that out of the mists of ages from pre-historic times his people had inherited that beautiful design.

Among the relics of American antiquity I have noted a stately design which would be adaptable to architectural forms and is of great strength and beauty. It is a procession of animals, bordered on either side with an intricate design of horns, locked and interlocked. It is unique. The altar carvings of Guatemala, the wondrous fronts of the palaces of the kings in Central America, the arches, the interior decorations, the plaques with their star-like edges in sharp relief and cameo effects, are all adaptable to the ceramic art, and to all art applicable in painting and sculpture. The pieces from the mounds of the north and the plains of Peru are highly adaptable shapes. Of the little that remains of the proud races who peopled our land we must acknowledge skill and genius. They sprang from the gods. They were great in their choice of simple truth. I urged their designs as a foundation, an element for a future school of American art. We need inspirations, desire something born of ourselves. We should perpetuate our American inheritances. We should build and mould for ourselves out of our own nationality. We must not be confounded with any other school. Let us rise to new things out of these old. Ruskin has told us all success depends upon knowing what to gather. Let us then be wise in our day.

SANITATION EXHIBITS.

The south-eastern end of the floor space of the building was occupied by apparatus for sanitation, disinfection, &c. Here also were large collections of anatomical models of various kinds, and collections of surgical instruments, showing the most recent advances of science in this direction. Near these were various booths containing the ivory points and the apparatus used in the operation of vaccination. The booth of the Lancaster U. S. farms contained a large collection of points loaded with heifer vaccine virus, and similar quill slips (the price of each being 10 for \$1 each) and lymph tubes (stated to be sold for \$2 each) and tablets or crusts (for \$1.50 each). There were also a number of interesting photographs showing the methods in use on the farms where the heifers are inoculated, and some coloured paintings representing the pock in various stages both on the teats of the heifers and the hands of operatives.

The western portion of the south end of the floor space was devoted to exhibits of the various departments of charity and correction. A remarkable series of charts was placed on the screen of one of the courts with circles divided into sections variously coloured representing the proportional numbers of the defective, the dependent, and

and the delinquent classes in the United States, for 1890, from the eleventh census. These representations showed, in variously-coloured sections, the habits, education, marital relation, and groups of crimes, distinguishing between native and foreign born persons. In the case of prisoners there was in the special chart representing this subject distinctions drawn as to the groups of crimes occurring in foreign-born, native, white, and coloured prisoners according to the population of the State. The classes of crimes were represented on these charts by differently coloured proportional parts as crimes against property, against the person, against society, against the government, and miscellaneous. The sentences of prisoners were similarly represented by large circles containing, as before, differently coloured sectors, showing the proportion of sentences in classes as of under one year from one to five years, over five years, for life, death sentences, and were divided also as occurring in the case of native white, foreign born, and coloured prisoners.

Similar particulars, in like form, were shown with regard to benevolent institutions, juvenile reformatories, asylums for idiots and the insane—and the whole series was most complete, and conveyed to the sight as well as to the mind correct relative information on all these subjects. There were also in the neighbourhood practical illustrations of the prison cells and other matters illustrating prison life. Amongst the various curious exhibits in this section was the original electrocuting chair, the first application of electricity to the purpose of capital punishment, in which the murderer Kemmler was executed at New York. At first this chair was open to the public, but with that infatuation which seems to be popular everywhere, so many people rushed to sit in this murderous apparatus and to remove portions as mementoes of their visit, that it was found necessary to put a fence round it to exclude the public.

Identification by the Fingers.

In the Department of Charities and Correction, in the Anthropological Building, there was a very excellent representation of the Bertillon system of identification of criminals. As is well known, the French system so classifies anthropometrical methods of record that each case falls into its own natural group. As a supplementary aid to this system a method of identification advocated by Francis Galton received attention. By means of it finger-prints are classified in a similar manner to the records of the Bertillon system. The test of the efficiency of the system lies, first, in the certainty with which different (instructed) persons assign the same index letters to the same set of prints, however indifferently printed; and, secondly, in the degree to which the sets are differentiated by their classification. One of the most extraordinary points about Mr. Galton's system was the unique and remarkable ability afforded by the finger-prints to the observer of determining the individual, irrespective of his age and growth, whether the clear impression, taken at different dates, were or were not made by the same finger. The result depends not on the general pattern of the print, which is the basis of classification, but upon the numerous forks and other details in the ridges composing the patterns. Mr. Galton is of opinion that no matter how early in life the first impression of a finger-tip with fully formed markings may be taken, and how late the second impression may be obtained, the similarity between them will not only be decipherable but unmistakable. The simplicity of the process of taking the impressions and the small equipment necessary are points very much in its favour. There is no undressing required, and nothing else of a humiliating character to be undergone during the brief act of making the prints.

Representation

Representation of the Games of Various Peoples.

At the northern boundary of this section there were a number of cases filled with the games of the principal countries of the world, which were for the most part exhibited by the University of Pennsylvania. These consisted of pyramids, wooden draughtsmen from Bavaria (18th century) and from Poland, ivory draughts from Canton, China, chess from various countries, European and Oriental curling, croquet, marbles, polo, baseball, quoits, lacrosse, jackstones, tops, puzzles, tip-cat, cricket, golf, football, bowls, and other games from all countries, with descriptions of games written and printed, and practical illustrations of every kind, as well as text-books of various languages on the subject. Another case contained the game of Eckha, strategy, Kerion, and other similar games. The ancient Greek games as represented on the vase paintings of Dactylon-Epallage (finger changing) were shown. There were also gambling-sticks from Alaska, fantan and other Chinese games and lotteries. A most interesting case contained a large number of exhibits showing the evolutions of the playing card, both Chinese and European. In another case were shown the dice and dominoes, ancient and modern. The University of Pennsylvania exhibited its publications on the subject, as did the Numismatic and Antiquarian Society of Pennsylvania.

Folk-lore of China.

A special feature of the folk-lore exhibit was the collection illustrative of the life and customs of the Chinese in the United States, made by the Archæological Museum of the University of Pennsylvania. The collection embraced shrines, religious and ceremonial objects, charms and amulets, implements for fortune-telling, musical instruments, games and amusements, utensils for writing, account books, scales and measures, implements used in the shop, cooking utensils and table furniture, articles of dress and adornment—everything, in fact, that is peculiar to these interesting people in the various settlements they form in this country.

North American Indians.

There was a very fine exhibit representing the Indians of Northern America and their modes of life. Least familiar, and, therefore, most interesting, to many were the articles brought from the aboriginal tribes on the Pacific Coast from Puget Sound to Alaska, including the model of the village of Skidgate, showing all its houses and their totem poles, already referred to, and a collection of "sure enough" totem poles from Alaska, with displays of the Thinkit art of carving the grotesque and grinning countenances used as ornaments to the building erections. There were collected on the banks of the lagoon, near the Ethnological Building, camps of aboriginal people from different sections of North America. Maine sent several families of civilised Penobscot Indians. New York was represented by an Iroquois village, with different styles of bark houses, including the long house and the palisade house. Canada contributed several families of Creeks living in bark wigwams. A skin tent was inhabited by an Esquimaux family. All these brought their boats, which were shown on the water near by. Among the other features of this locality were a mat and a bark house of the Winnebagoes of Wisconsin, skin tents, hogans, and other habitations of the Apaches and Navajos, a wooden house and totem poles from Vancouver Island, thatched house from British Guiana, inhabited by Arawak and Savannah Indians, and a pioneer house.

Mexican

Mexican Exhibits.

In the Mexican Court there was a model of Teocalli, the principal temple of the city of Mexico, on a scale of one centimetre to the metre, representing it as it was before the conquest. On the flat roof of the great edifice were shown some of the ancient religious ceremonies of the sun-worshippers, as well as a representation of the sacrificial rites and the mode of disposal of the dead. Another excellent model represented the meeting of Montezuma, Emperor of the Aztecs, and Fernando Cortez, at his entrance into the city of Mexico, while a third represented Cortez receiving Cecanthemoc as a prisoner in one of the great flat-roofed buildings of the period. The famous Mayer Stone of Mexico was also shown, and books explaining its symbolism, published by Dulan & Co., of Soho, London. There was also the large and splendid work of Antonio Penafiel, "Monumentos del arte Mexicano," published at Berlin by Ascher & Co.

Palæontological Exhibits.

The large and extensive galleries of the building contained most interesting displays, and were always filled with crowds of visitors, whose attention had been specially attracted when on the floor space by the display of immense fossil remains and animals shown by the celebrated American firm, Ward & Co. The south-east and half of the west galleries were filled with Natural History exhibits, including stuffed birds and animals, birds' eggs, fossils, and taxidermic work. The largest and most splendid collection was that of Ward, of Rochester, N.Y. It contained among the exhibits Palæontological and Natural History exhibits of all kinds, collections of minerals, ærolites, and geological specimens. In fact every form of past and present life was exhibited in the collection evenly and comprehensively through the entire course of life on our planet; and, in order to render it complete, where natural specimens were not obtainable, casts, accurately made, were provided. Very remarkable were the restorations of the immense animals of the Miocene Period, such as the Colossochelys Atlas, &c. There was shown the actual skeleton on the Mastodon Giganteus, of the Quaternary Period, from Michigan, and the Megacerus Hibernicus, of the Pleistocene Period, from Limerick, Ireland, and the Hydrosaurus Foulkii, an immense fossil reptile, from the Upper Cretaceous, of New Jersey. There was also shown the Mammoth (*Elephas Primogenius*), which was a reconstruction upon the bony skeleton (one entire natural tusk was present in the specimen) found in a deposit of the Quaternary Age, near Stuttgart, Wurtemberg, and preserved in the Royal Natural History Museum of that city. The outer covering (skin and hair) was copied from the great Siberian Mammoth in the Museum of the Imperial Academy of St. Petersburg. I ought to state that the bones used for this reconstruction were those of an individual of extraordinary size, a mammoth among mammoths, and hence this specimen was regarded as one-fourth larger than the average size typical mammoth.

Nevada Prehistoric Footprints.

Perhaps nothing shown in this department was more interesting than the prehistoric footprints reproduced from the quarry of the Nevada State Prison, at Carson, Nevada. The prison is situated at the north end of a low ridge of sandstone, the termination of a short spur of the Pine Nut Mountains, which is only three miles east of and parallel to the Sierra Nevada Mountains, and is placed at an altitude of 4,950 feet above sea-level. In quarrying the stone required for the penitentiary, at a locality about a mile and a half east of Carson, the capital of the State, where the foothills border the valley, there was found the bed of an ancient sea. In carrying out the work of quarrying there was found, overlapping the usual country rock, another
of

of grey slate colour, very similar to chalk in substance. The formation, probably in volcanic days, consisted of lake or sea-shore mud. How the Pliocene beach had piled on it a wall of rock 30 to 50 feet in thickness it would be difficult to tell, and still more difficult to explain the extraordinary impressions found under it. As soon as the overhanging rock was removed there were found the unmistakable footprints of man, of the mastodon, the wolf, the horse, and some extinct species of bird, very large in size, and divers other prehistoric remains. The most interesting track or print was that of a man, the footprints measuring no less than 18 inches in length by 8 inches in breadth. The age of the strata has never been fully ascertained with absolute certainty; the deposit is supposed to be either quaternary or upper Pleiocene for no true horse or elephant is found in the American Miocene (Joseph Leconte). As regards the elephant footprints, Professor H. W. Harkness says, "there is no doubt about their 'character.'" Portions of a tusk and fragments of teeth found in the sandstone resemble those of a mammoth, and make it probable that these were the footprints of the *Elephas Primogenius*. (C. Drayton Gibbes, C.E.) B. B. Redding asserts that the Carson footprints carry the mind back to the Glacial Period, and if it is ever proven they are human relics they will entirely upset all the scientific theories as to the age of man upon the earth. Professor Harkness, who has taken a deep interest in this matter, says, "that the only evidence that can be adduced in favour of an earlier age than the quaternary is the lithification of the strata—the partial, or in some cases of plants, the complete fossilisation of the organic remains and the tilting of the strata."

There was in this exhibit a very large plan, about 30 ft. x 10 ft., exhibiting the footprints and the marks, and a number of the actual specimens of the elephant's teeth, some of the stone with the original footprints, the jaw-bone of a horse, the original hip-bone of a mastodon, as well as a number of human relics found 18 feet under the sandstone. Several charts and diagrams, prepared by Charles Drayton Gibbes, C.E., represented the exact size, to scale, of the marks, the footprints, and the mammoth tracks.

Psychological Exhibits.

The north gallery contained a number of courts or bays devoted to anthropology, neurology, and psychology. Here skulls abounded, and casts of the head and features of the natives of every clime. There was also a very large collection of photographs illustrating Indian (American) life in all its various phases, as well as coloured cartoons showing the games and occupations of the race. In this section was a large collection of all the various instruments used for craniology, belonging to the University of Chicago. Head spanners were shown by the Scientific Instrument Society of Cambridge, England. On the walls were tabular statements noting the various scientific classifications of the different heads of different peoples, the length and the breadth index, and the facial index, as well as the connection between stature and the length of the head, and a vast amount of similar information relative to cranial development. Models of the brain were exhibited by Professor Cunningham, of Dublin, and others, exhibiting the localization of the motor region of the cerebrum, the weight of the brain, its structure, its development and its pathology. The organs of sense were also fully represented. Illustrations of the latest discoveries in these various departments were made by models and charts, chiefly given as the result of French and German research.

The psychological laboratory was under the direction of Professor Joseph Jastrow, of the University of Wisconsin. The strictly psychological apparatus was very complete, and was contributed by a
number

number of American and European Universities. The exhibit made in the section of Psychology was contained in two rooms, one of which was devoted to a collection of apparatus used in the experimental study of the mental phenomena and the other was arranged as a laboratory. Modern psychology comprises several divisions and makes use of many methods. The main divisions of this interesting study may be enumerated as experimental psychology, including the study of sensation and movement of the relations between body and mind, of the forms of judgment, distinctions, memory, attention, association, and all other elements of the mental faculty. Comparative psychology embraces a study of animal life, development of the mental powers in childhood, variation of thought, and culture in different stages of civilisation. Abnormal psychology may be characterised as the study of the different forms and degrees of divergence from normal mental manifestations, including the study of illusions, hypnotism, sense defects, mental defects, &c. These divisions of psychology necessarily overlap, some being characterised by method and others by subject matter, and serve merely to indicate the general nature of the subject. The science also has very intimate and practical relations to education, medicine, and a general guidance to thought and action. It has special relations to anthropology, which, as the science of man, necessarily deals with the human mind. In the working laboratory at the Fair such tests and experiments as were most in line with modern anthropometry have received special attention. The tests made by Professor Jastrow and his assistants covered a wide range of mental and physical real conditions. The great object was to obtain a series of normals of sense capacity, &c., by which a man's position as compared with that of his fellows could be determined, so that the order of development might be shown, and, on a basis of this, average questions of growth and divergence from the normal could be determined.

The number of people who applied at the laboratory and offered themselves as subjects for testing, depositing therefor a nominal fee for examination, proved that a very considerable percentage of mankind are anxious to know something about themselves. The blank which the applicant for test was required to fill up provided in the first group for data of a personal character, all of which had a direct bearing on the value of the final deduction. The basic information thus required included the applicant's age in years and months, his birthplace, and also that of his father and mother; his general health, past and present; his occupation, as well as that of his father; the educational institution at which the applicant was in attendance or at which he had completed his studies, and whether he was his mother's first, second, third, or subsequent child. These questions were all supposed to have a bearing on the question at issue.

The various tests were divided into five different groups, and when the investigator had gone through all of them there was very little left in regard to his personal history required to be known as to his judgment in the matter of lengths, weights, and surfaces, accuracy and equality of movement, accuracy of aim, sight, memory, sensitiveness to pain, and in fact his quickness of perception in a dozen different ways. The first test consisted in the application of a kinesiometer, an instrument for determining the sense of movement upon the skin. With this the smallest perceptible differences of movement were determined. Another instrument measured the time necessary for impressions to announce themselves, while the compass *æsthesiometer* determined the distance at which the two points of the kinesiometer felt as one. The pressure was made on the inner surface of the index finger, because the sense of touch is more highly developed at this point than elsewhere on the surface of the body. The normal distance at which distances are noticed is one-twelfth of an inch. On the

the back of the neck, for instance, the points must be 2 inches apart before the subject could tell whether one or two points were applied. The next was a pressure-test to determine sensibility to pain, the lower limit being the one desired. In this case the fore-finger was placed in a tube to keep it immovable, and pressure was applied by means of a spring. In men the normal was 6.6 kilograms, or about 14 lb., and in women 5.2 kilograms, or 11 lb. The subject was next tested by being required to arrange five small boxes in regular order according to their weight. These boxes were in two series, coarse and fine, the ration of the first being 1.15, and the latter 1.30. The percentage of persons making no errors in the lifting test was sixty-five. The touch was further tested by passing the finger over small coils of wire of varying size.

Another test determined the equality of movements. On a strip of white paper 15 inches long the subject was asked to make five dots equidistant. In this equality of movement test the average deviation was 10.4 per cent. Accuracy of aim was tested by attempting to strike a designated spot with a lead pencil, the point of which was secured by a disc 2 inches in diameter. In this test the normal average of correctness was 4.8. One of the optical tests consisted in the reproduction of lengths, the subject was shown (separately), three blocks on which there were lines of different lengths. After looking at each block he undertook to reproduce the line on a paper before him. In the reproduction of the short lines the normal average was 25.6, two-thirds of those tested failing between 22.5 and 29.5. The normal average for the middle lengths was 49.7, and for the long lines 76.2. The lines were afterwards reproduced from memory, the normal average on this test being on the short line 27.2, and on the middle line 50.4, and on the long line 76.7. Accuracy of movement under the guidance of the eye was also included in this test. A sheet of white paper about 14 inches square was provided. The centre of the paper was indicated, and exactly opposite the middle point on the edges of this sheet were four small crosses. The effort in this case was to draw a straight line from the centre of the sheet to the designated point on the circumference. Rapidity of motion and right and left handedness were determined by an apparatus attached to a wall which consisted simply of a plate of ebony 4 inches wide and $2\frac{1}{2}$ feet long, having an indicated centre on either side of which were the movable upright strips which moved simultaneously to the right and left. A scale at the back, not visible when the test is made, determined the correctness of optical judgment. Another test of the quick perceptive faculty lay in one's ability to correctly indicate by a pencil mark the number of similar printed characters in a sheet containing 215 characters resembling each other just sufficiently to make one hesitate a moment and refer to a guide line at the top of the sheet. The percentage was strictly determined by placing over the marked sheet a skeleton from which the correct figures, as they appeared at different places, had been cut out. A somewhat similar test consisted in looking at a series of circles, very slightly open at different positions, some at the top, others at the bottom or sides; and reproducing them as nearly as possible from memory. Quickness and accuracy of eyesight were tested by a special apparatus, and were used in connection with the special training which usually precedes pugilistic and similar matches. At this point the examination ran into a colour test, in which a large black disc was used, containing twenty-eight patches of colour consecutively numbered. In the centre of the disc was a circular opening. A smaller disc underneath showed the same colours lettered instead of numbered. If the subject of the test was colour-blind he was very apt to insist that "A" on one wheel matched with twenty-eight on the other. The first was a very pronounced green and the other a subdued grey. In the matter of determining colours it was found that women make a better average than

than men. As a result of the experiments the department had no accurate figures on the averages, but it was stated that all the colours had been frequently matched correctly in one minute.

The central idea of the fourth group was the measurement of the quickness of the mental process. The right hand was placed over a telegraph key. As soon after the left hand was touched with any substance so that the subject could determine the sensation he struck the key with the forefinger of his right hand. The time necessary for the nervous impulse to travel up the right arm was announced to the brain and in turn was transmitted down the left arm averaging $\frac{1.5}{100}$ of a second. Ear perceptions or reactions were taken by striking a bell, while a dropped shutter furnished a similar test to the eyes. Time in these instances was measured by the distance through which a hand had turned, and its amount was read off directly from graduations on the dial in hundredths of a second. The next test was that of the combined faculties of memory and association, the object being to secure a pure sense memory. A straight line was drawn, and after a lapse of about two minutes the subject reproduced it as nearly as possible. The memory span, or extent of memory, was determined by the number of words one was able to recall after reading them as they appeared for a moment in an opening behind which a printed list of words passed. There were nine words in the series, and the average man could remember but five or six of them. The last test was a complex one, and required the association of words.

A large number of curious and interesting instruments, which were not brought into requisition in the tests ordinarily conducted at the Fair, were shown in cases in one of the rooms. There was a peecimeter by which the sensibility to form and colour in different portions of the retina was mapped out. The subject looked with one eye at a brass button, termed a fixation point. While staring at this point he attended, in indirect vision, to a pair of points or patch of colour held in a slide. By a movement of rack and pinion this test object was moved along the arm, and the arm itself moved about the central point. In this way all the meridians of the eye could be examined, and the result automatically registered. A photometer was used in studying the sensibility to intensities of light. There was a large number of tests also for the colour sense, one of which consisted of a series of wheels with attachments for changing the proportion of colours while the disc was in motion. For the same purpose a set of ground glasses covering coloured ones were used. Another test for colour-blindness was a series of black letters printed on coloured paper. When these were covered with tissue paper only the complementary colours showed, and the person afflicted with colour-blindness could not see these letters, although they were distinct to the normal eye.

One of the most ingenious pieces of mechanism was employed for testing the sense of hearing, and for determining the appreciation of the difference in musical pitch. The sound was produced by a closed organ pipe, the pitch of which was varied by changing its length. An automatic arrangement was adopted by which the sound was continued during one second, then there was silence during another second, then sound was produced during a third second. During the interval of silence the length of the organ pipe admitted of being varied by a known amount. The instrument was used in the following manner:— A scale was adjusted to fix the amount of movement that could be given to the sliding plug in the organ pipe. This allowed two notes to be sounded, differing by any number of hundredths of a semitone. When the scale was at zero the note sounded was 1,024 single vibrations per second, and when at a hundred it was 966.45 single vibrations per second. That is, each division on the scale corresponded to a change of 0.575 complete vibrations per second. If a person to be tested could, after several trials, distinguish the notes either by saying they

they differed or by knowing which was the sharper, the interval between the two notes was reduced. As will clearly be observed, the practical application of all these experiments was directly educational, and there can be no doubt that the science of education is, to a large extent, founded on psychology.

At the north-east corner of the gallery the Boston Normal School of Gymnastics displayed a very curious series of charts containing statistics, the result of actual examination of the weight, height, and age of boys and girls in the Boston schools, together with the length of the head, its breadth, the breadth of the face, and the proportion of the breadth of the face to that of the head in school children (boys and girls) of Massachusetts and Toronto and of St. Louis. These experiments were made on a large scale for the purpose of making a relative comparison in regard to the physical development of school children of various cities with that of the average American child.

There was also a development booth, in which were models, life-size, of the average American student, and a number of charts exhibiting the system of measurement tests adopted by Harvard University.

Out-door Exhibits.

To complete the representation of anthropology there was an out-door exhibit composed of live Indians from the northern portion of Vancouver Island, a few from the Iroquois tribe, an Esquimaux family, three families from Penobscot, with their wigwams, and also Navajos and Apaches. The mat house of the Winnebago, the buffalo hide tepee of the Sioux, the sod house of the Omaha, and several other types of habitations were set up on the grounds. There were representatives of the Flatheads, Blackfeet, Pen de Oreille, Nez Percés, and Tootenai, all of whom appeared in their tepees. From South America three tribes from British Guiana. All these tribes were engaged in their native manufactures of pottery-making, basket-making, and other occupations illustrative of their customs.

The Count Rumford Kitchen.

The Count Rumford Kitchen at the Fair was a little unpretentious cottage, very near the south door of the Anthropological Building. Benjamin Thompson, the "benefactor of humanity," was born in Massachusetts in 1753, studied medicine upon arriving at manhood, and devoted his life to scientific and economical cookery and the invention of stoves and ranges for cooking with the best utilisation of heat and the production of the best flavours, as well as to the combination of materials and method of preparation which would give the most wholesome and palatable food for the least service. For his services to mankind in bringing all known science to bear upon the problem of feeding the poor of Munich at the least cost he received the title of count, and chose the name of his New Hampshire home, Rumford (now Concord), for his title.

The Rumford Kitchen, therefore, was an application of the principles of chemistry to the science of cooking, and was an exhibit of the Massachusetts Board of World's Fair managers in connection with the bureau of hygiene and sanitation. The exhibit consisted, in part, of samples of food served at the tables to illustrate the effects of cooking by the methods used, samples of food prepared for the very sick, *menus* giving the composition and food value of the dishes thus cooked and served, charts and diagrams illustrating methods of teaching important facts in connection with food, and a kitchen laboratory table with indispensable apparatus. Samples of this scientific cooking were served daily from 12 to 3, but nothing was cooked for the

the sake of being sold, as the enterprise was wholly a scientific and educational one. Ten standard luncheons were served—for example, one consisting of baked beans, brown bread, roll, butter, and apple sauce; another of escalloped fish, rolls or bread, butter, and baked apples; another of beef, broth, rolls or bread, butter, and gingerbread. The bill of fare gave the number of ounces and grams of each portion served, its food value in grams of proteid, fat, and carbo-hydrates, and its calories. An astonishing showing on the same bill of fare was the actual cost of the raw materials of these ten standard luncheons, at a fair market price, averaging about one farthing for each luncheon.

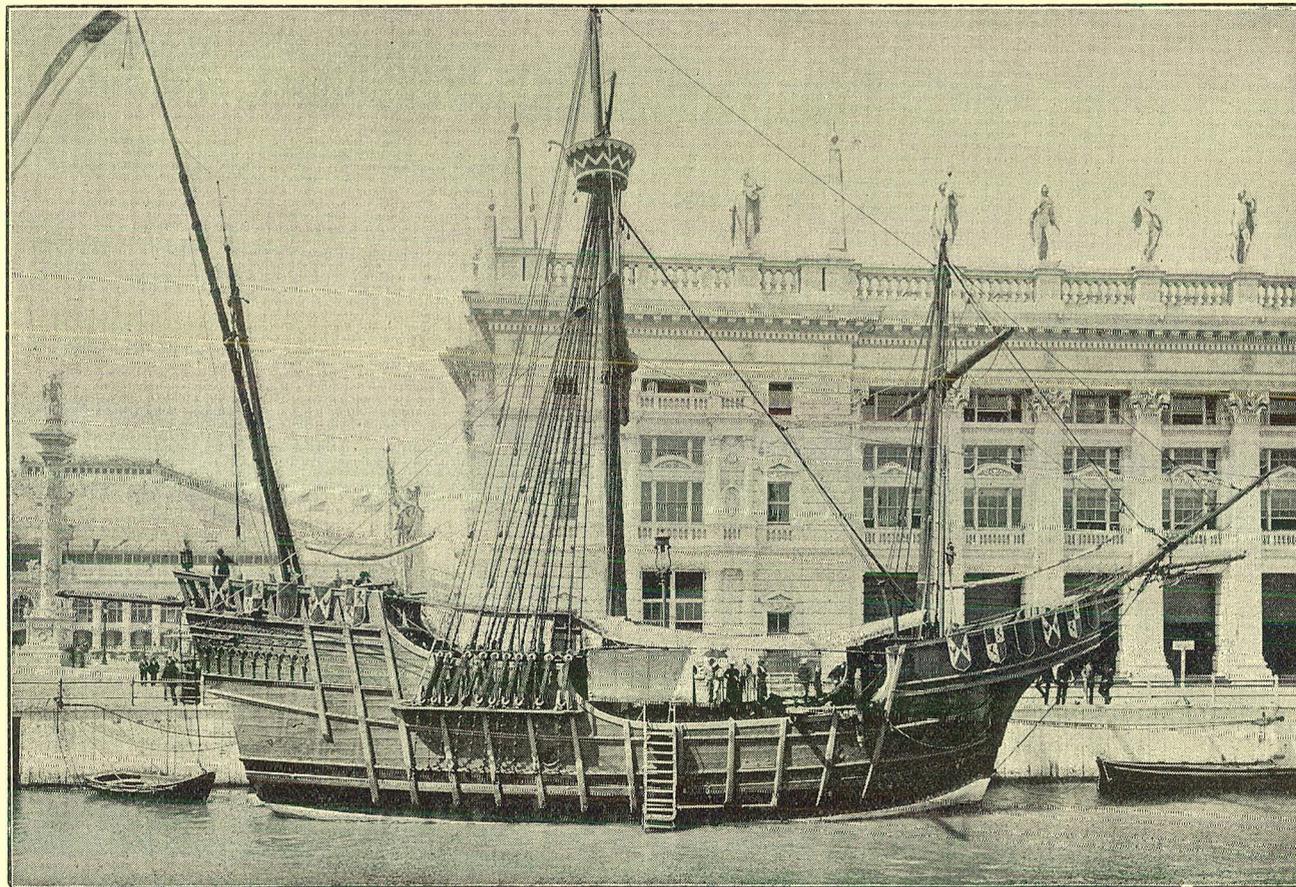
The cooking here was a revelation. But a comparatively small portion was served; but after one had eaten his appetite was satisfied, and he felt as if he had risen from a satisfactory dinner—the best possible proof of the claims of scientific cooking. Everything was delicious, and it was served in an atmosphere of genuine courtesy and old-time hospitality, which fully compensated for the cramped quarters of the little kitchen and its out-of-the-way location. The walls were covered with pungent mottoes pertaining to the science of eating and of cooking. The Boston ladies in charge cared for the patronage only of those who were honestly interested in the science of healthful and economical cookery and were seekers after knowledge. Probably no exhibit of the Fair was of greater practical value to mankind, or of greater interest to the masses, than the modest little Rumford Kitchen.

As a branch of this department the contents of the Midway Plaisance were catalogued.

It would occupy too much time and space to refer to all the curious representatives contained in this by-show of the Exhibition; in one word, it was a great national promenade, and in its space the world at large was represented in miniature. As a branch of ethnology it was perhaps the most popular portion of the Exhibition. It contained many characteristic illustrations of the life and customs of various countries—as for example, the Irish industries exhibit, under the patronage of Lady Aberdeen, with Blarney Castle for its prominent feature; the Irish Village and Donegal Castle, of Mrs. Hart; the Japanese Bazaar; Dutch Settlement; the Panorama of the Bernese Alps; the Javanese Village; Original Vienna Bakery; the German Village; the Turkish Village; Street in Cairo; Egyptian Temple; Persian Palace; Moorish Palace; Model of the Cathedral of St. Peter; Vienna Café; Algerian and Tunisian Village; East Indian Bazaar; Volcano of Kilauea; Austrian Village; and Old Vienna; Chinese Theatre; Dahomey Village; Lapland Village; Hungarian Café, and many others.

The Convent of "La Rabida."

The full-sized model of the Convent of La Rabida, near Palos, in Spain, was an historic lesson as well as a beautiful feature of the Fair. As is well known, Columbus was sheltered in this convent before his departure for the west of discovery. The building was filled with the relics of Columbus, gathered from all the countries of the world in which he had sojourned, and these were considered of so valuable a nature, and in the case of many which had been lent were surrounded with such injunctions as to their security from their owners, that the building was placed under the special police protection of the United States Government. Within the building were found the tombstone of Columbus, and the gates around the tomb in *fac simile*. There was also the room in which he rested at the invitation of the head of the order. On the upper floors were the cells of monks, now occupied during the currency of the Fair by the guardsmen. To give them an ancient look sulphur and charcoal had been burned, and the walls and ceilings were begrimed with smoke. In the centre of monastery was the walled-in courtyard, in which the monks sat and rested safe from all



THE "SANTA MARIA"—FULL-SIZE MODEL OF COLUMBUS' FLAGSHIP.

all intrusion from the outside world. Those who wished to follow the fortunes of Columbus could in this building observe a vast number of articles bearing on the geographical knowledge of the day, as well as on the science of navigation. Maps, charts, and globes, nautical and astronomical instruments, and models of the vessels of the period, were exhibited.

The histories of the discoveries in America by the Norsemen, Welshmen, and Phœnicians preceding the era of Columbus, was illustrated. Relics of the court of Ferdinand and Isabella, including portraits, autographs, and other remembrances of the personages who aided Columbus, manuscripts, printed volumes, charts, maps, armours and weapons of the times, and oil paintings of Pedro Gonzalez de Mendoza, Grand Cardinal of Spain, who introduced Columbus to the Queen, and of Juan Perez de Marchenta, Prior of the Convent of Santa Maria de La Rabida, who did so much to help the sailor, were hung upon the walls. A model of the house in which it is said Columbus was born, and a number of portraits of Columbus, the authenticity of which, however, could not be guaranteed, were exhibited. An assortment of articles used by Columbus for barter with the natives, such as beads, coins, metals, knives, cloths, mirrors, and nails, were there, proving that the discoverer was something of a trader.

In the same way pictures representing the reception at the Spanish Court, and the scene on his return from his first voyage, were presented, as well as the representation of his return from the third voyage in the Letters, which he said he would preserve as the relics and memorials of the record of his services. Relics of Columbus and his family, consisting of his armour, equipment, autograph letters, and the early publications relating to him and his works, as well as the original authority under which he sailed forth in quest of the Indies, and the will of Queen Isabella in the original, were also shown.

In the lagoon adjoining the convent, after their arrival from Spain, the full-sized models of the Columbus Caravels, consisting of the "Santa Maria," the "Nina," and the "Pinta" were moored; these models were built at the conjoined expense of the Spanish and American Governments, and formed an interesting supplement to La Rabida and its treasures.

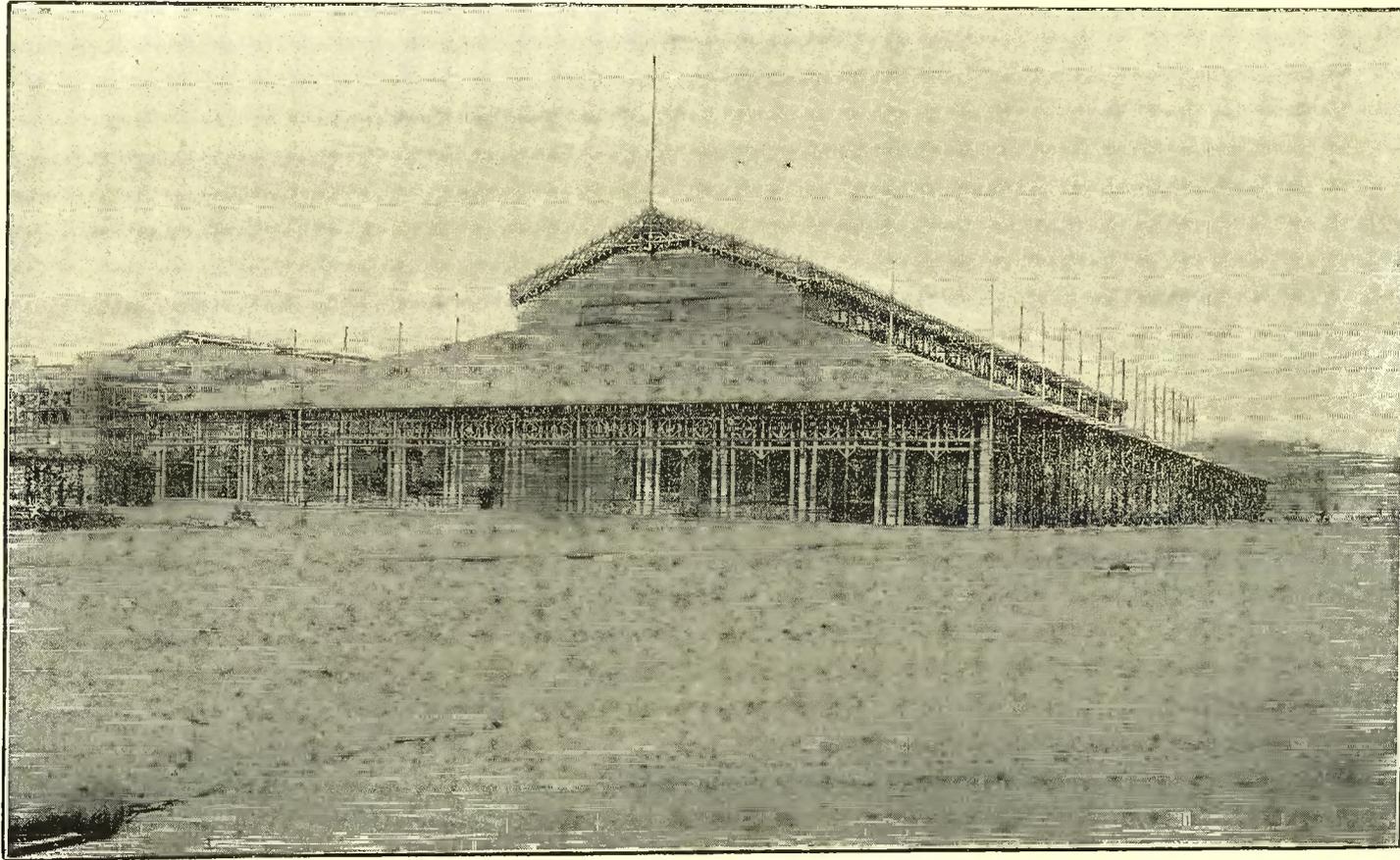
Forestry Building and Exhibits

Description of the Building.

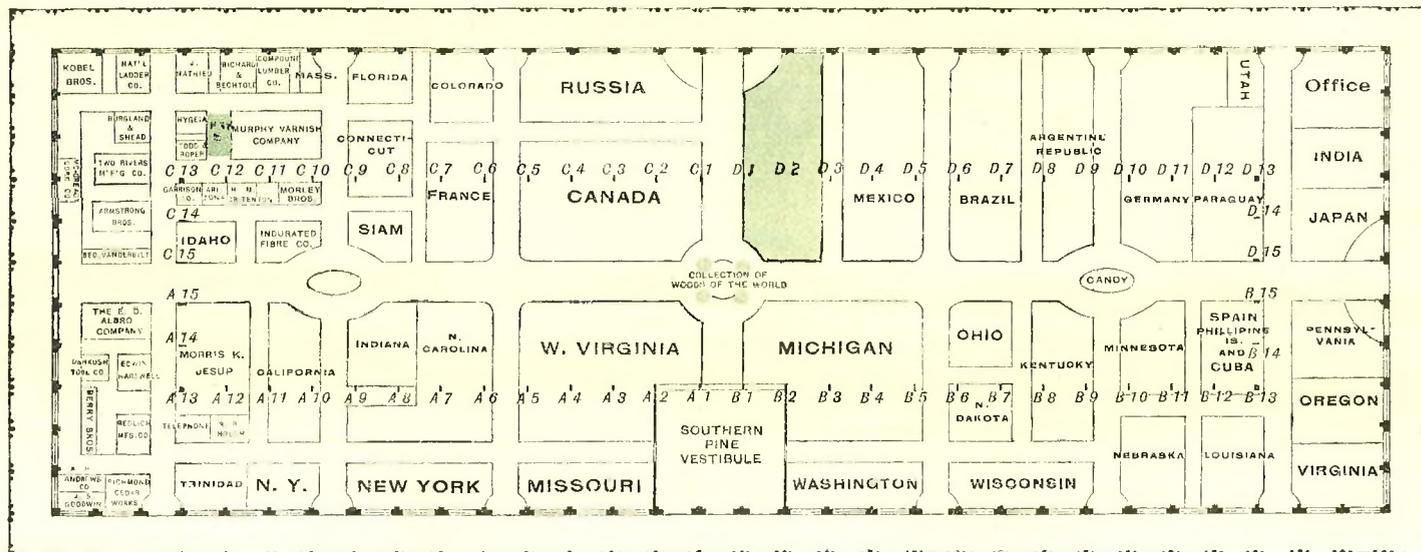
THE peculiarity of the Forestry Building consisted in the fact that it was entirely constructed of wood, the fastenings of the timbers and other structural portions not being of iron, as usual, but of wood. Round about the building was a colonnade, composed of tree trunks sent from almost every State in the Union. The vestibule at the main eastern entrance was of very handsome appearance and spacious dimensions, and was constructed of yellow pine beautifully polished. The building was situated at the south-eastern portion of the grounds. In dimensions it was 200 feet by 500 feet, with a central height of 60 feet. Its side walls, window frames, and roofs, being all of wood, it presented a very rustic and unique appearance. Four hundred trees are native to America, and specimens of most of these were employed in the colonnade just referred to, and formed of themselves a remarkable exhibit. The exhibits comprised in Group 19 of the Official Catalogue, which were contained in this building, embraced a variety of forest products, including samples of wood and timber, ornamental woods, dye wood, barks and vegetable substances, gums and resins, medicinal roots and herbs, wood-pulp, paper and wooden ware, seed collections, statistics of the lumber trade and of Forestry, &c., the whole being of great interest, and nearly every section being fully represented. Among the many innovations introduced in exposition methods at this World's Fair the idea of presenting forestry exhibits in an individual building, and of making that subject a separate class, stands without a parallel. At previous International expositions, forestry exhibits have consisted largely of specimens of curious woods of little interest, except to those practically acquainted with the subject, and even such exhibits have heretofore been engulfed in the infinities of agricultural departments. There could be no doubt in the mind of any thoughtful visitor that the innovation adopted in this case was of great practical value, more especially to those interested in the timber trade of the world. The comparisons exhibited between the timbers of the various countries of the world by the presentation so fully made in this building was of special interest. Many of the courts were beautifully arranged, and their distinctive exhibits most instructive, both from a scientific and a utilitarian standpoint. On the Wooded Island, but connected with this department, there was a typical American log cabin, contributed by the State of Michigan, furnished and prepared in a characteristic manner, and New South Wales, in the same locality and near it, erected its bark hut. It was one of the rules of this department that no finished wood products—only the raw material—should be exhibited in this building. When it was considered desirable to show the special uses or adaptations of certain kinds of wood, these could only be shown by pieces of disjointed furniture or other partially finished product.

New South Wales Court.

Our space in this department contained 3,000 feet, and was well situated in the centre of the west side of the building, bounded by the main aisle on the east, and with the principal western entrance to the building at the south-west corner. The space of Mexico was situated
to



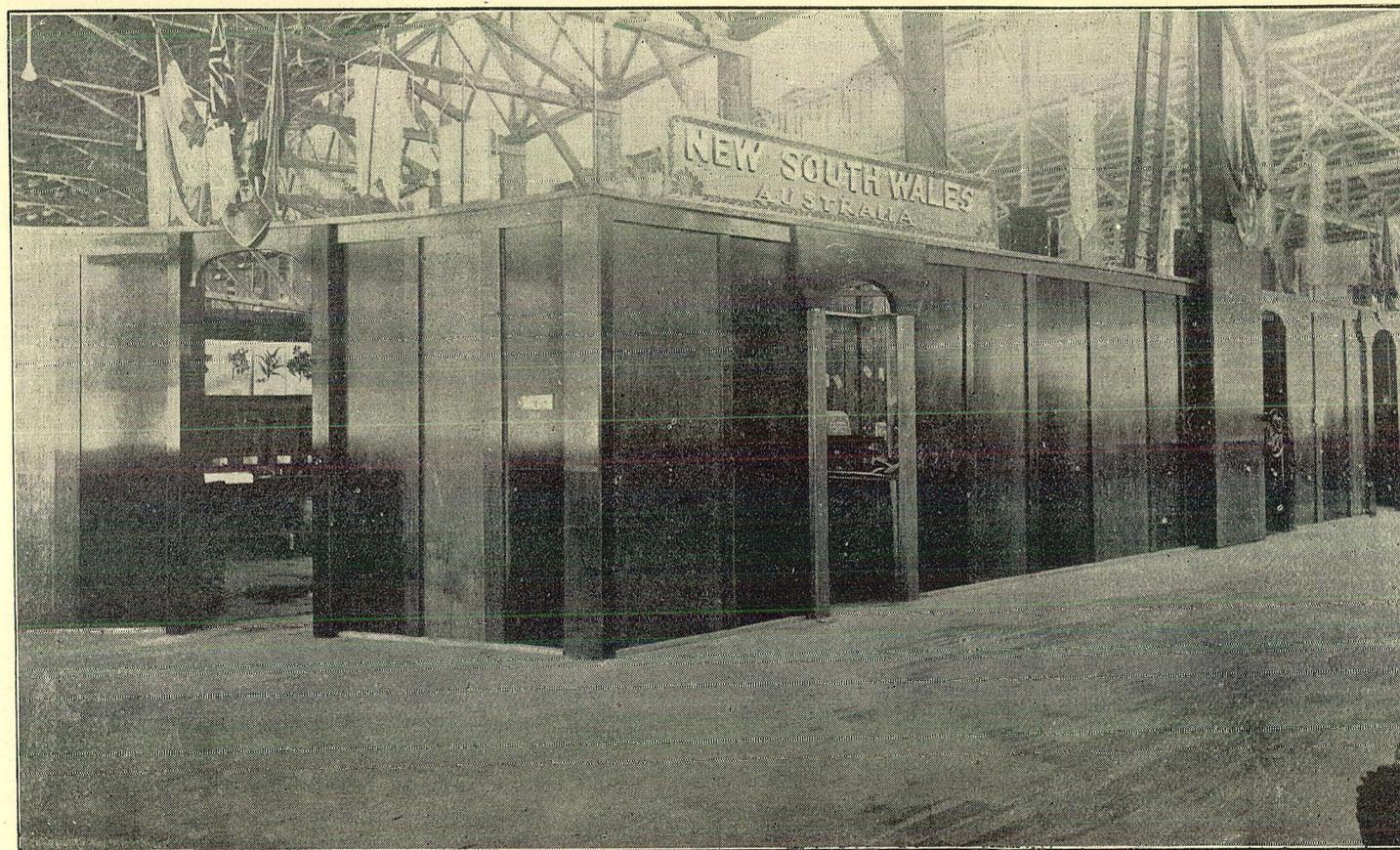
FORESTRY BUILDING.



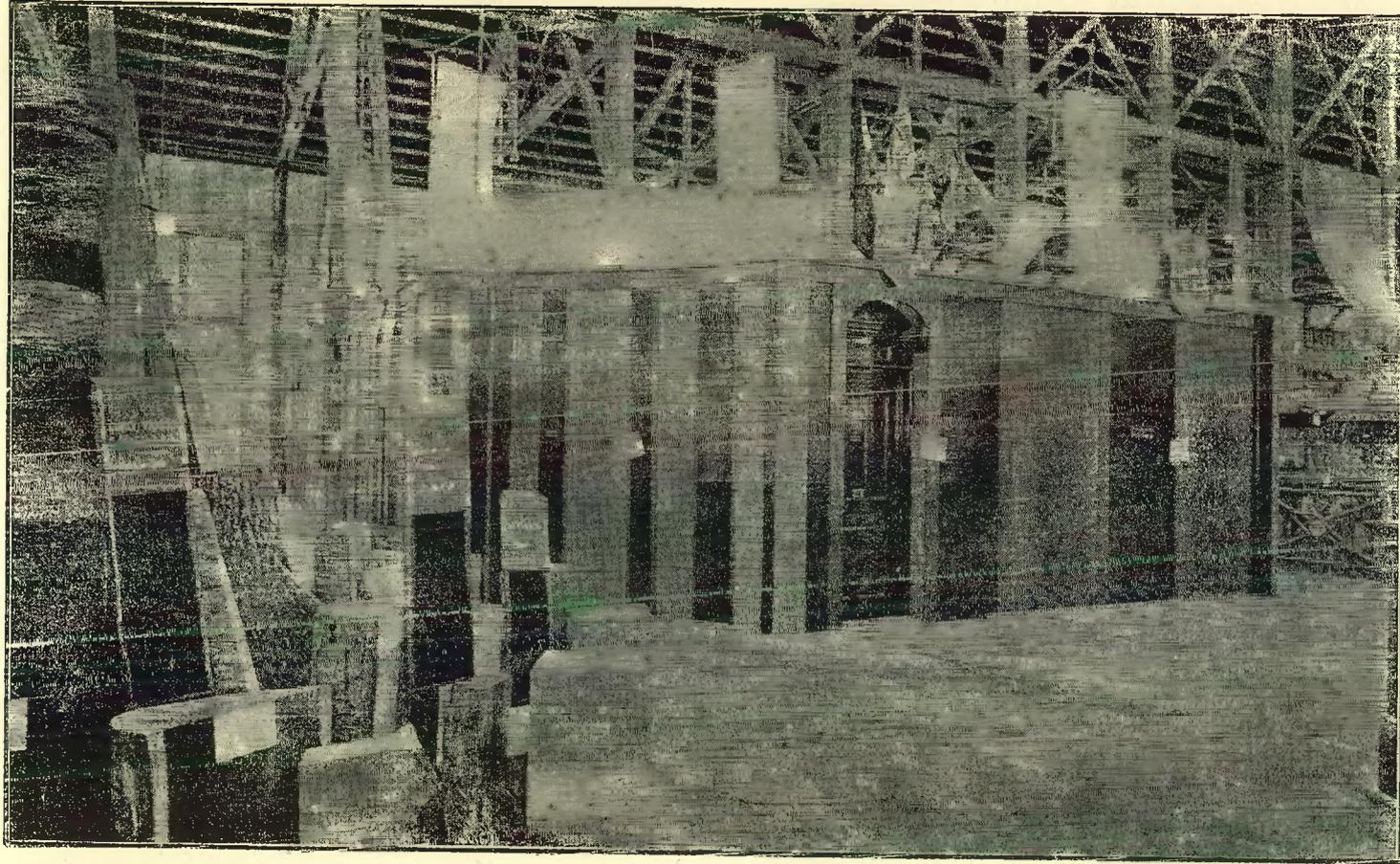
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World's Columbian Exposition. Forestry Building.

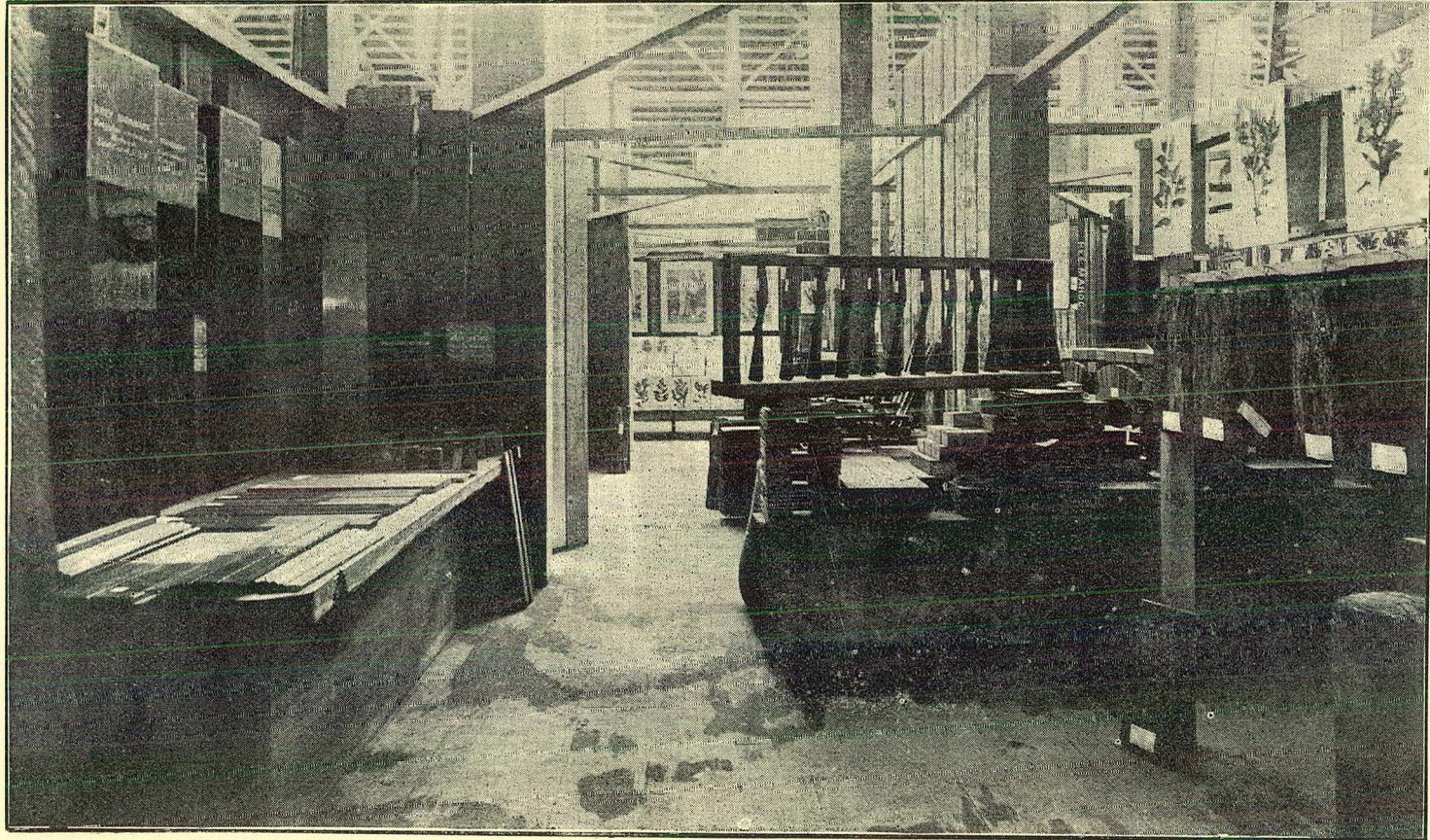




SECTIONAL VIEW, NEW SOUTH WALES COURTS, FORESTRY BUILDING, SOUTH SIDE.



SECTIONAL VIEW OF NEW SOUTH WALES COURTS, FORESTRY BUILDING.



INTERIOR SECTIONAL VIEW, NEW SOUTH WALES COURTS, FORESTRY BUILDING.

to the north of us, and the allotments of Canada and Russia to the south. Our court was a leading feature of the department. The logs of timber sent from Sydney in the rough were all sawn up at the saw-mill on the grounds into large planks, and used as a wall for the court, the outside of the wall being planed quite smooth and polished in a most beautiful manner, showing the grain and texture of the wood, by the Murphy Varnishing Co. of Chicago, while the interior was left merely planed and smoothed without polish, so as to exhibit the natural section of the wood. The show of timbers, thus exhibited, was most remarkable, and drew forth the highest encomiums from the experts. The inside of the court was decorated with the photos of the New South Wales timber trees. A division ran through the centre of the court, and on tables and trophies were placed the resins, gums, wattle-barks, and similar exhibits. The dried botanical specimens of plants were placed near the trees to which they belonged. The gunstocks made of New South Wales timbers, highly polished in part, showed to great advantage. The shingles were placed on a piece of roofing to show clearly how they were used. A trophy of the wooden blocks used for street paving was made, and the collection of timbers was placed so as to catch the eye of every visitor. The seeds and seed-vessels of timber trees and shrubs were placed on tables made for them, and the various barks forwarded for this department were supplemented by a portion of the collection from the Technological Museum in order to complete the educational character of the whole exhibit. The bean-tree door was made a portion of the front wall of the court, to show this variety of timber in its finished state. It looked very handsome after treatment by the Murphy Varnish Co. Our representative photos of forest trees attracted universal attention, and on the whole this court was one which greatly surprised the American and Canadian visitors, in view of the fact that the principal portion of the timber of their countries is of the soft-wooded character. I anticipate that the advertisement by our exhibit in this section will in the near future originate important trade relations between America and Australia for this abundant product of our country.

I obtained a special space in the building for the large block of cedar, part of the surface of which I had planed and smoothed and then polished to exhibit the grain of the wood.

The bark hut sent by the Commission, as I have already stated, was placed on the wooded island, at its southern end, a privilege granted at my request. In its immediate vicinity was the hunter's log-cabin of America, a roadway and shrubbery separating them. As illustrations of the early habitations of the settlers of both countries, and as a marked contrast to each other, they attracted considerable attention.

In the centre of the Forestry Building there was a large and attractive trophy of selected specimens of timbers of all the best kinds exhibited. In the middle of the trophy was a large section of a Californian red-wood log, 14 feet in diameter. On either side of this were two Japanese bamboo trunks, their tapering ends reaching to the roof of the building and placed crosswise on the red-wood slab. These were flanked on either side by great slabs of spotted gum and rose-wood—half polished and half merely smoothed—from New South Wales. Arranged on the front of the trophy were sections of plain and polished specimens of the woods of Argentine, Canada, Brazil, Mexico, Trinidad, Siam, and Russia, as well as those of Oregon, West Virginia, Minnesota, Illinois, Missouri, and other States. A conspicuous object in the trophy was the celebrated axe of the Hon. William Ewart Gladstone.

The Booth of Michigan, like most of the United States Courts, was a very handsome one. In it there was a very useful table containing a large amount of information on the lumber trade of the States.

The

The following particulars from it, with reference to the United States generally, conveyed, in brief compass, a useful summary:—

VALUE of annual Forestry product of the United States by groups, Census of 1890:—

White Pine Group—Mich., Wis., Minn.	\$115,699,014
Eastern Group—Me., N.H., Vt., Mass, R.I., N.T., N.I., Pa., Del.	62,087,984
Hard Pine Group—Md., Va., N.C., S.C., Ca., Fla., All., Miss, La., Tex., Ark., Mo.	54,747,266
Central Group—Ohio, Ind., W. Va., Ky., Tenn.	49,433,293
Pacific Coast—Cal., Wash., Org.	24,192,367
Atlantic States and Territories	16,974,095
Total product for United States	\$323,134,019

Michigan leads all other States in value of forest products. Michigan, Minnesota, and Wisconsin furnish one third of the country's output. Michigan alone one fifth; she leads all the States in both pine and hardwood products.

There was a large and valuable collection of seeds and medicinal plants in glass jars in the North Carolina exhibit. There was also, in this court, the largest and most interesting collection to be seen in the building of enlarged photographs, something like those of New South Wales, but a little smaller, and by a different process, illustrating the forest and large trees of the State.

The largest plank in the world was exhibited by a lumber firm. It came from Humboldt County, Cal. Its dimensions were 16 ft. 5 in. wide, and 12 ft. 9 in. long, by 5 in. thick.

A booth built of cork, and exhibiting cork in all its various and numberless forms and applications, was shown by the Armstrong-Gilbert Cork Company.

Some remarkable fine and valuable exhibits of timber were shown in the south verandah of the building. The first was an immense log of mahogany from Mexico, about 41 feet in length and 42 inches square, and contained 5,986 superficial feet, and was valued at £250. The other was a walnut log from Kansas cut in April, 1892. The main trunk of the tree from which it was cut was 48 feet in diameter at the base and 48 inches at the top. This log was valued at £200.

Roadway Construction.

In connection with this Department it was originally intended to have a practical demonstration of the various styles of construction of roadways used in different countries in order to exhibit the material and methods employed, and a strip of ground at the north-east corner of the Ethnological Building was devoted to this purpose. The Commission in Sydney sent over several thousand of our wooden blocks for this purpose, and I caused them to be laid down in the approved plan and according to specification. Beside the roadway was placed a large section of this roadway on a stand, so that it could not be overlooked by the passer-by, exhibiting the various layers, &c., of the roadway, and in the adjoining wall was placed a large distinctive signboard, coloured blue and white lettering, announcing that this was a specimen of the roadways laid in Sydney, New South Wales, the metropolis of Australia, and in all the principal cities of the Australian colonies. As soon as the road was constructed I took the opportunity of writing to His Honor the Mayor of Chicago and the Council of that city, calling attention to the importance of this matter in the interest of the ratepayers, and in view of the wretched character of the streets there and in America, taken generally. As a matter of fact the soft woods, although sometimes so used, of America are unfit for the purpose, and both our sleepers (called "ties" here) exhibited in the Forestry Building and in the Transportation Building were a

source

source of surprise. It was only after careful and critical examination, supplemented by the certificate on the sleepers and the evidence of the pamphlet on timbers containing the statement of the results of the testing examinations made by Professor Warren, that the hardness and durability vouched for was properly appreciated.

Polishing and Varnishing of Wood.

Elsewhere I have referred to the fact that an American Varnish Company polished our timbers with very successful and very surprising results. It is a curious and interesting fact that the method of polishing employed in the United States and that which obtains in Europe, are quite different from each other. In the United States the material used is varnish, which is put on the wood to be polished with a brush in successive coats until the pores of the wood have been thoroughly filled. The varnish, when sufficiently dried, is then (in first-class work) rubbed to a smooth surface with pumice stone and water, and brought to a bright polish by rubbing it with the palm of the hand. In European countries the process is different. The workman uses gum shellac dissolved in alcohol and polishes the wood by rubbing the liquid shellac into the pores with a pad made of cotton or soft woollen rags. Under these circumstances the question is, not as to which workman does the best work but rather which method produces the best results. The exhibits furnished an excellent test of this question. For weeks previous to the opening of the Fair, and up to its close, the exhibits of fancy woods used in furniture of all kinds, in musical instruments, in the construction of passenger coaches, and the interior finishing of houses was exposed to every change of temperature, to heat and cold, to dampness and to dryness, and to all those atmospheric conditions to which a wood polish is peculiarly susceptible. In fact the polished woods, as exhibited at the Fair, were subjected to a severer test during the six months the exhibits were on the Fair grounds than would be imposed during a period of several years when housed in private dwellings, the purpose for which the majority of them were intended. Consequently only those exhibits which possessed the requisite qualities of good material and good workmanship stood the strain, and the difference in the methods used in America and in Europe was brought out in a singular and striking manner.

In the work of polishing fancy woods the first principle is that the wood shall be properly seasoned, and that the pores of the wood to be polished shall be thoroughly and completely filled with the material used in the polishing. Unless this is done, atmospheric conditions affect the wood—it shrinks and expands with changes of temperature—and, as a consequence, the polish cracks and scales and gradually disappears. I have made a comparison of this class of work in the two styles of finish, taking as examples of the American work the exhibit of the Brunswick and Balke Co., in fixtures and billiard-tables; the furniture and pianos of the collective exhibit of the Grand Rapids Firm, and several other pianoforte firms, in all of which there was shown careful and excellent workmanship, and compared them with the exhibit of the London and North-western Railway Co., an exhibit containing, perhaps, the best polishing work on the natural wood, shown by any European country of the Exhibition, and as far as my judgment would lead me to form an opinion I am inclined to believe that for appearance and permanence of results the American was the superior article.

I have been informed that in the best classes of varnish used in the United States kauri gum is largely used, and it is considered to be a great improvement to add gum copal; a mixture of one part of copal to six of kauri is a favourite one with polishers.

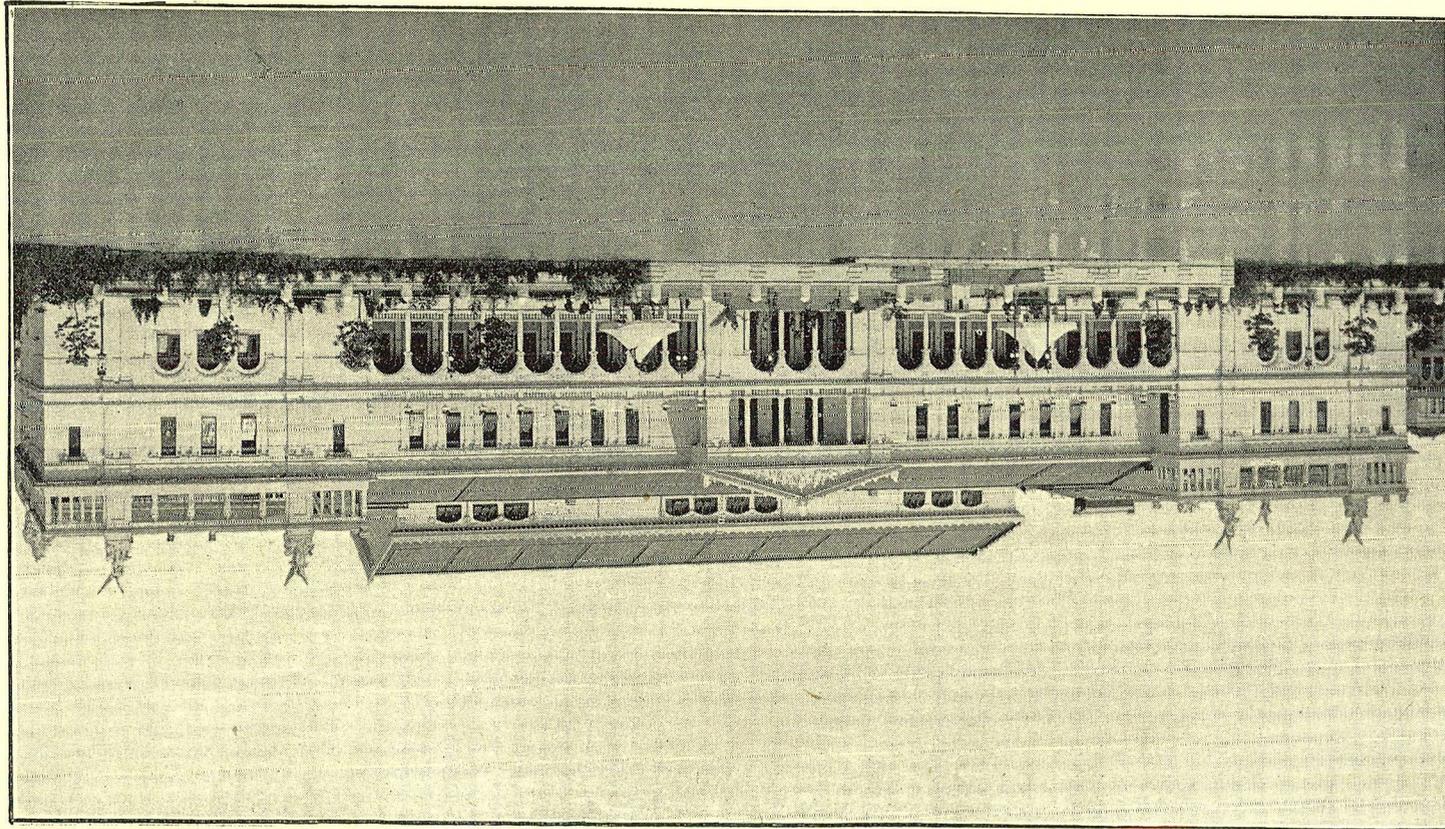
Woman's Building and Exhibits.

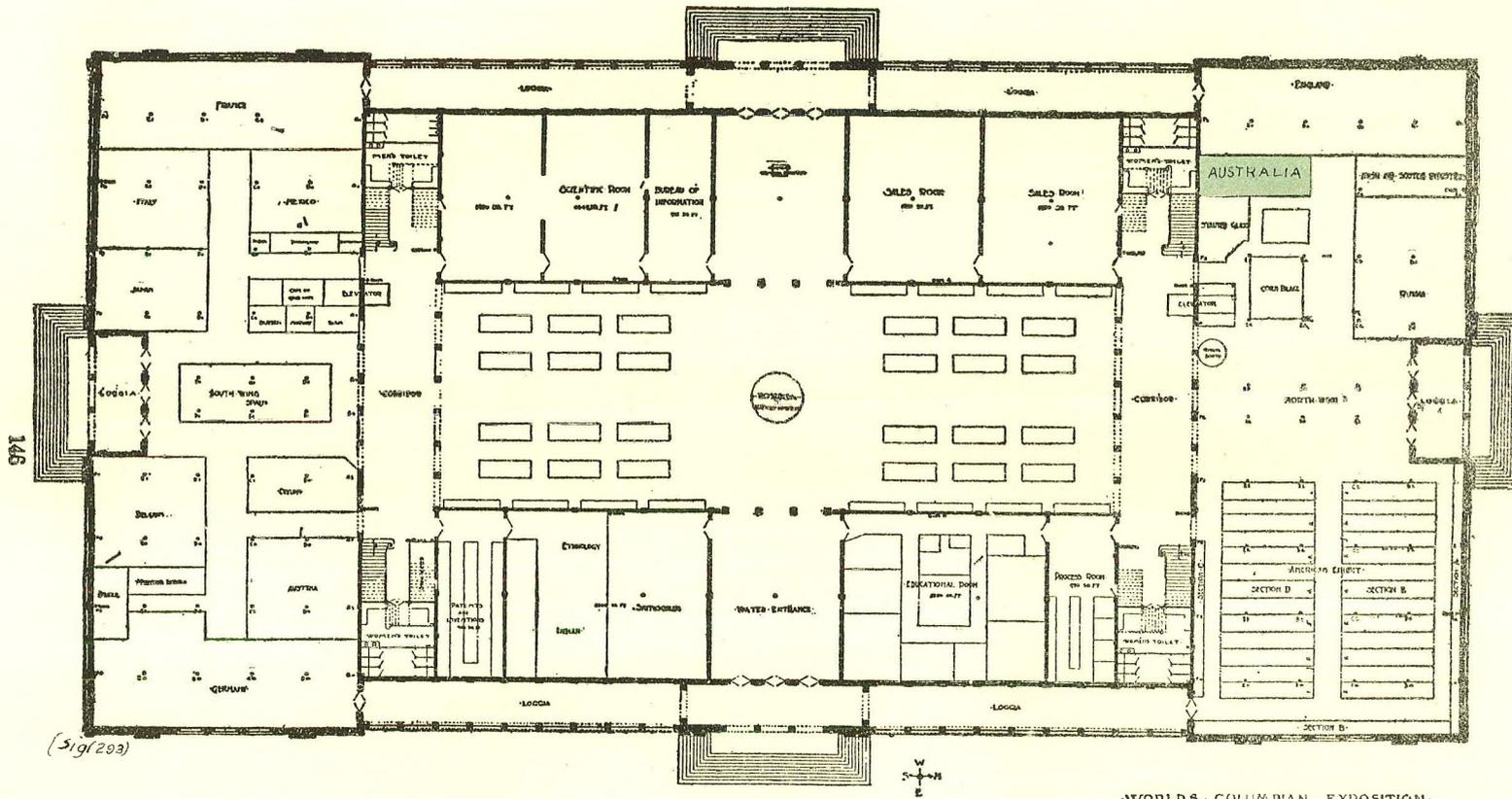
THIS was the second time only in the history of exhibitions in which a large building was set apart for the exhibits of woman's work, the first instance having occurred at the Philadelphia Centennial Exposition of 1876. The building was situated on the north-east corner of the lagoon and opposite to the entrance of the Midway Plaisance. The architecture was of a somewhat more severe style than that of the other Exhibition buildings. The architect was a woman, Miss Sophia S. Hayden, of Boston, Mass. The building covered an area of 400 feet in length by 200 feet in width, and was in the style of the Italian Renaissance, consisting chiefly of two rectangular wings at each end, connected by longitudinal galleries, covered by a pitched roof. In the front between the two wings there was a colonnade with open arches supported by pillars. The chief entrance was in the centre, fronting the lagoon, and was approached from the water by a broad flight of steps. The view of this stately building seen from the water was impressive in the extreme. Few, judging by conventional standards, would have supposed the design to have sprung from a woman's brain. Conventionality, however, would be at fault, for women have as fine a sense of symmetry and the value of proportion as men, whilst their artistic perception is beyond question. It is only because they have lacked technical instruction that they have not produced any school of fame, a fact strongly supported by the competition for the Woman's Building at the World's Fair. "Designs," we are told, "were invited from women architects, and the result was awaited with somewhat uncertain expectancy. Women were not known in this craft, and the President of the Board of Directors confessed an apprehensive sinking of the heart when summoned to assist the Chief of Construction in examining the plans submitted. There were some thirteen of them. Some were poor whilst some were excellent, and the principal difficulty was to decide which was best. To three of the designs prizes were awarded, and then, after the award was made, the interesting fact was disclosed that all the plans were the work of young girls, ranging in age from 20 to 29. Miss Sophia Hayden, of Boston, won the first prize, and was at once summoned to Chicago to perfect and elaborate the design."

Paintings and Decorations.

At the end of the Gallery of Honor were two mural paintings, the one representing modern women and the other primitive women. On each side of the main walls were two panel paintings, and these, like the former, were by women artists. The drapings between the panels and the end paintings were of gold-coloured cloth and formed an effective background for the canvas. A broad gold frieze surrounded the gallery, and on the panels between the arches were inscribed the names of famous women, from the earliest Bible heroines to the latest modern belles. The ceilings of the library and the carvings about the cases and friezes were all done by women. The pediment and statues on the roof line were by Miss Alice Rideout, of California. The first group represented women's virtues; the central figure typified women's spirituality, with the pelican—which symbolises love and sacrifice—at her feet. A nun, laying her jewels on the altar, typified sacrifice and "charity" to the left of "virtue." The second group represented
woman

WOMAN'S BUILDING.





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--PLAN OF FIRST FLOOR--

WORLD'S COLUMBIAN EXPOSITION
WOMAN'S BUILDING

woman as the genius of civilization, with a figure at her right representing a student; on the left was a woman groping for the light, as yet in mental darkness. At the feet of the central figure was the bird of Minerva, the owl representing wisdom. The pediment represented women's work in the progress of civilisation, and the figures typified charity, beneficence, literature, art, and home life.

The interior arrangement of the building comprised a series of spacious galleries running round the four sides at the height of above 25 feet above the ground. The galleries were divided into a number of courts devoted to different sections of industries in which women are more especially engaged or interested. The rotunda was 70 feet by 65 feet, reaching through the height of the building and covered with a skylight. On the roof of the pavilion were open areas, covered with Oriental awnings, one of which served as a *café* and the other as a tea garden. These resorts were very popular and highly appreciated, especially by the ladies.

While a selected class of exhibits was placed in this building its main purpose was to provide accommodation to the lectures, assemblages, and official meetings of the lady managers and other similar purposes. The general exhibits of women's work were placed throughout the departmental buildings, but small Special Courts were provided here for foreign countries and some of the United States in which to exhibit their special women's industries; and in the Great Hall space was provided for a large and valuable display of fine art pictures by women artists of England, France, America, and other countries.

The floor space of the building was occupied by about forty cases, in which were displayed the choicest examples of women's work of various countries. The north and south wings of the building were appropriated to the special exhibits from foreign Governments and from America, which latter country occupied the eastern portion of the north wing.

There were two sale-rooms provided for the disposal of all articles not catalogued in the north-west portion of the building, and these were daily thronged with persons wishing to obtain souvenirs of various kinds. Further south were rooms provided for the Bureau of Information and for scientific purposes. The Board-room and the offices of the lady managers were placed in the south-east corner of the gallery, and in these rooms were many works of art, open to the public when not officially in use. The Organisation room occupied the remainder of the south gallery, and in it there were more than fifty philanthropic and religious societies, church and educational establishments located. In this room was a large display of the statistics of the societies and similar matters. Other rooms in the gallery were provided for the British Nursing exhibit, for Records, for the New York Library, and for Committee purposes. It would be impossible to give a full list of the decoration and furniture of these rooms, which in some cases were not only beautiful and useful but also characteristic either of periods or of the peculiarities of States. One example will suffice: In the room furnished and decorated by the women of Cincinnati there was a splendid show of the fine porcelains of that State; beautiful carved bookcases and cabinets were placed about the room; massively carved chairs, upholstered with soft silks, and divans of leather, helped to complete that long parlour. The parti-colour of the side walls was a dull, soft shade of terra cotta, which was varied as it reached the wide frieze, which was a charming conceit of bunches of crush roses. Below the frieze was a conventionalised border of "buckeye." The walls were hung with oils, water-colours, and engravings. The decoration of the porcelains in this showing was exclusively painted over the glaze, with the exception of

of a few specimens in the historical collection, which were under glaze. These porcelains were considered the best in the country. The scope of these artistic decorations was broad and comprehensive; good colours had been used and laid on with judgment. Vitrified crayon work was exhibited by the Cincinnati Pottery Club. The gold work was also excellent. In the display were many lovely dinner sets. One set of plates was especially fine. It was in highly luminous porcelain, with a border of metallic green, picked out with gold. Another set of plates in portraiture decoration. Among the subjects were Madame Lamballe, Madame de Montespan, Charlotte Corday, and Madame de Grigan. In the same room there was a case of daintily decorated glass; it followed in embellishment the Rouen, Persian, Egyptian, Japanese, faience, and rococo styles. Etching on metal was another of the exhibits of these clever women. Beautiful art needlework, ranking among the oldest accomplishments of women, is one of the pleasantest still to attribute to her, and it will always remain a fascinating branch of the accomplishments of a gentlewoman. The delicate designs and exquisite textiles used by the women of Cincinnati in their needlework were very beautiful. Artistic wood-carving by American women was first cleverly done by these women of the buckeye State. Their schools have had far-reaching influence, and women from all parts of the United States have received instructions in them.

The Record rooms were filled with interesting statistics of the progress of woman throughout the world. The library contained most of the books and literary work exhibited in this building. A very interesting portion of the gallery was the model kitchen in the north-west corner, where daily lectures in the art of cooking were delivered. In the Assembly room of the gallery lectures on all kinds of subjects were given by women almost daily on all kinds of subjects during the Exposition. Dressing and other official rooms were located in the east gallery. The furniture and decorations of the State rooms were contributions from the women of the different States, one room, however, being decorated by Japan. The general public were admitted to the entertainments held in several of these rooms, and no fee was charged for admission under any circumstances.

New South Wales Court.

Our court in this building contained 384 superficial feet of floor space, with 1,200 feet of wall space, and was situated in the north-east corner, adjoining the space of Great Britain. From the peculiar position and size of the court, as well as from the peculiar views of the lady managers as to decoration, &c., I had some difficulty in arranging the numerous exhibits sent by the Ladies' Committee in Sydney. Finally, I made two walls 11 feet high to bound the sides of the court and to provide as much available screen space as possible. Two decorated moulded pillars, festooned with cloth of our national colour, were placed at the entrance of the front end of these walls, and about them were hung trophies of our flags, and a coat of arms with a small stuffed kangaroo on either side. The name New South Wales, both on the side, front, and at the back of the court, was emblazoned in silver letters on a blue ground, and various trophies of flags were placed at the back of the court, sufficiently high to catch the eye of the visitor and attract his attention. Three pyramidal cases with glass sides were placed lengthwise in the centre of the court. Two tables of half-oval shape were placed against the walls on either side in the centre of the court, and the whole of the back wall was covered with a glass-fronted case on a table and reaching to the height of the court, so as to exhibit without handling the dresses and fur exhibits. I was thus enabled to place under glass all the small and the valuable articles. Amongst the exhibits the needlework, embroidery, and fancy work formed an attractive and
 much



NEW SOUTH WALES WOMAN'S WORK EXHIBITS.

much admired exhibit. The taste and skill exhibited in the hand-painted screens, the fans and china, emu mats, the beautiful fur cloaks, rugs and muffs, extracted commendatory remarks from the crowds of fair visitors from all parts of the world. The exhibit of cow and calf and others of a similar kind were much admired, not only for the exquisite modelling but also for the artistic finish in the application of the natural hair. There was also great attention paid to the stuffed birds and animals, and, in fact, to every exhibit in this court. Lady Abbott's exhibit of Australian woods I placed in the Forestry Building, as well as that of Mrs. Kelly, on account of want of space and in order that these exhibits might be more completely brought under the notice of visitors and the Awards Jury. The excellent exhibits of invalid mattresses of Mrs. Guille and Miss Fox Harding were for like reasons placed in the Manufactures Court.

General Description of Exhibits.

The exhibits in the Woman's Building were not only numerous but in some cases priceless in value and exquisite in beauty. Many Royal families sent the personal work of the ladies of their families and heirlooms (in the form of laces, silks, silver and gold ware, and jewellery) which had been in their possession for centuries.

British Exhibits.

In the British Court work of members of the Royal Family were exhibited; six original sketches from nature by Her Majesty were exhibited in a frame. A Welsh girl was employed weaving in one section, and a Scotch woman in another. There was a large number of specimens of women's work in various handicrafts, consisting of cameos, carvings in wood and ivory, designs, fan-painting, goldsmith's work, leather-work, marqueterie, modelling, repoussé work, upholstery, lace, both of English and Irish make, and an immense number of specimens of needlework of various kinds. The exhibit of the Baroness Burdett Coutts contained representations of the charitable work of that lady, together with type-written reports on the philanthropic work of women, classified under the following subject headings:—Childhood; Girlhood; Women; Help for Poor Ladies; Home Mission Work; Amelioration of the condition of the Working Classes; Women as Poor Law Guardians; Working Guilds and Work Societies; Blind, Deaf and Dumb, and care of the Helpless; Nursing; Work among British Soldiers and Sailors; Technical and other Educational Work; Philanthropic Work of Women in Ireland, and Philanthropic Work in the Colonies and abroad.

There was also a large number of models and specimens of handicraft work from the English Ladies' village classes, and specimens of work from various industrial institutions affiliated to the society for promoting female welfare. The Irish Industries Association and the Scottish Home Industries Association also had a large representation, as had the Women's Industries from North and South Wales. The court contained a very large and most interesting series of portraits of eminent British women, classified according to the periods of history, as Mediæval, Tudor, Civil wars, and early half of the sixteenth century, pioneers in philanthropy and general advancement of women, pioneers in education, in science, history, general literature, poetry, fiction, the drama and music, and in art, and in a central group Her Majesty, as taken in 1837 and 1887, and as Princess Victoria in 1830, was shown, together with the Empress Frederick, the Princess Alice, and the Princess Christian.

A large number of the famous Windsor tapestries were on exhibition at the Woman's Building—114 in all. They came from the rooms of the Royal Windsor tapestry works, which were started in 1876, with the late Duke of Albany as president. The aim of the management was to combine the broad effect of the "Arras work," or style

style of the old Flemish school, with the delicate detail and fine elaboration of the Gobelins, and in this endeavour it is regarded as having been fairly successful. Among the earliest productions were the panels illustrating the "Merry Wives of Windsor," from designs of E. M. Ward, R.A. These panels, it is said, obtained marked distinction at the Paris Exposition. Her Majesty the Queen has purchased a number of Windsor tapestries, among them "The Idylls of the King," while Mr. Vanderbilt's house in New York is decorated with a series of panels illustrating English sports and pastimes.

After the death of the Duke of Albany the presidency was accepted by the Prince of Wales; but owing to the cost of production of these tapestries the limited demand for them, and the absence of all subsidy from the British Government, the works became unremunerative, and had to be closed. The principal artists and workmen of the Windsor tapestries were French refugees from the Gobelin and Beauvais manufactories, who fled to England during the Franco-Prussian war.

Unfortunately for a proper appreciation and true criticism of these tapestries, they were hung too high on the walls of the Woman's Building, and the light fell on them so poorly as to make it next to impossible to get a clear and comprehensive view of them. However there were two panels, one representing a "Boar Hunt" and the other a "Stag Hunt," each 9 feet by 11 feet 7 inches, designed by E. M. Ward, R.A., which were splendid pieces of tapestry, full of vigour and expression and worthy the highest commendation. Besides the above there were a suite of tapestry coverings of charming design and beautiful execution, for five armchairs and eight small chairs, which would make a set of furniture fit for the palace of an Emperor.

Windsor tapestries are thoroughly English in conception and execution, and are in marked contrast to the French style. French tapestries are light and airy and full of brightness, while the English are heavy in design and quiet, almost sombre in colour, yet not without an excellency of their own. The widely different temperaments of the two races find expression even in their tapestries.

The Royal School of Art needlework at Kensington had on exhibition a large collection of choice and artistic work, conspicuous among which were panels of pale fawn satin, exquisitely embroidered after the French school, with Louis XVI bows, scattered over with flowers in delicate tints, and handsomely mounted in gilt. Similar to this was a Louis XV screen, also decorated with flowers and bows, but of another design. A bed-spread of cream silk had a Florentine pattern of roses and tulips, outlined with gold thread. There was also a Bible which formerly belonged to Queen Elizabeth, and now owned by Queen Victoria, covered in red plush, and decorated with Tudor roses, in gold bullion, with leaves in shaded green silk, the design of the border being partly wrought in seed pearls. This was quite a gem in itself, and deserved special mention for its beautiful design and execution.

Russian Exhibits.

Russia had no woven tapestries, but its embroidery works were both abundant and choice. The Imperial Ladies' Committee exhibited many beautiful specimens of women's work. The show excelled chiefly in bullion work; a magnificent and remarkable specimen of this latter style consists of a dress designed by the Duchess of Moscow. It was a white satin dress with yellow brocaded train, worked in silver and pearls, and bordered with white ostrich feathers—the design was massive, and would at least take six pages to carry it. The other was a purple violet robe, completely covered with bullion embroidery, and was remarkable for the quantity of work and richness of design. Many shades of gold and quite a variety of stitches were used.

French

French Exhibits.

The exhibit of France was an excellent one. There was a large and beautiful collection of Sèvres work by women, chiefly from the celebrated national manufactory at Sèvres. There were many reproductions of costumes of periods in France by dressed dolls with exquisite work. Fans, embroideries, artificial flowers, gloves, screens, statuary and painting, and a number of articles of similar character, were shown in addition. The Liberal Arts were numerous, containing representations of nursing and hospital work; exhibits from the various charitable and philanthropic societies of France, school work from all the leading ladies' schools of Paris, illuminated missals and manuscripts. A large number of these exhibits were installed in the record room of the west wing of the west gallery of the building, and consisted of the statistics of the various societies of France for charitable purposes, as well as collections of musical compositions by women.

Japanese Women's Work.

The women's work of Japan was represented in its court by many exhibits of the Japanese Ladies' Committee, consisting principally of silk in the raw and worked conditions; of which a beautiful exhibit was that of the figured silk fabrics, lent by the household of Her Majesty the Empress Dowager of Japan, as well as lovely silk braid made by the ladies of the Court. Embroidered panels and pictures and beautiful feather work were also shown. The characteristic chrysanthemum was also a feature, and there was a poem composed and written by Her Majesty the Empress, as well as manuscripts in the handwriting of Court ladies and the Japanese Ladies' Committee.

In the Japanese Court was a woman's boudoir, showing the surroundings of a Japanese woman in her house. Her wardrobe was conveniently hung on a rack in the room, the dress hanging on the upper bar of the rack and the sash on the lower. Adjoining the boudoir was a study or reception room, with the customary mat in the centre of the room, on which were placed musical instruments and little low reading tables, as well as a brazier for fire.

German Exhibits.

In the German Court the bent ironwork made by the women of Germany, one of whom sat at a table and manufactured it before the wondering eyes of the visitors, was exhibited in hanging lamps, candle-holders, inkstands, &c. In one corner was a beautifully mounted lyre, unstrung, the centre filled with swinging leaves, containing photographs of the noted women musicians of Germany. There was a fine embroidered wall hanging done in long stitch representing "Louis XI of France receiving a Hunting Party," after John Eyk; designs and colours chosen by Barbara Wolf, and executed in the art school of Frl. Torres. This beautiful and artistic work took years to accomplish. A portierre by the same artist, renaissance style, is remarkably good and deserving of the highest praise. A table-cover in macrame work, by Frau Gerson, is a fine and striking illustration of macrame embroidery, and comes from the school of art of the Lette-Verein. The school of industry of Reydt and the school of art needlework of Reutlingen have many exquisite pieces on exhibition. But what is most worthy of note is the system of teaching in these schools. Children are given instructions from the age of 6 to 14, and the work is graduated during those years from the simplest sewing to the most exquisite embroidery.

Spanish

Spanish and Other Exhibits.

In the Spanish Court were wonderful priestly vestments, embroidered with gold and jewels. A representation of the cathedral, where the King attends Divine worship, was shown worked in fine thread embroidery, of most delicate pattern. Pillow lace-work was shown, in process of making, with the bobbins hanging to the pillow, as if the worker had just left off work. There were also wonderful medallions, embroidered with the priest thread, made by Spanish women, showing the features distinctly, just as if they were cut in marble.

Ceylon's exhibit here, as elsewhere, throughout all the places where it was represented, was Tea, Tea, Tea.

In the Siamese, Norwegian, Swedish, and Danish sections splendid examples of needlework and embroidery characteristic of these countries were shown, many of them historically interesting.

The exhibit of Mexican embroidery was very large and very fine. Its drawn work was superior to any of its kind, with the exception of the Turkish women's "Yassap Work." There was also a number of pieces of photo-needle work which show remarkable artistic ability, in fact there was nothing like them in any other part of the Fair. The work is done with black sewing silk, on a white silk ground, and the stitches are so fine as not to be discerned with the eye. Among these pieces of photo-needle work were portraits of Presidents Carnot and Diaz and fac-similes of the World's Fair Buildings.

The shading in these photo-needle pictures was as fine and artistic as that we see in photo-gravures or steel engravings.

The exhibits of the women of the United States were very excellent and the decorative art schools of the different States were well represented, but "the Society of Associated Artists of New York," managed by Mrs. Candace Wheeler, deserve special mention. Three panels, "Psyche," "The Fighting Dragons," and "Twilight" were exquisite gems, splendid in design and superb in execution.

The exhibition of embroideries by the Turkish Compassionate Fund was one of the features of the Building. The special branches of the work were draperies for various sorts of house decorations — hand embroideries, ball dresses, worked on foundations of crêpe de Chine, mousseline, chiffon and other gauzy materials, doylies that look like frost work, with the faintest tinge of colour in green and gold, and pink and gold.

The different stitches used in these embroideries were the Yassap, or drawn thread work; the Tsmidt, or surface stitch; the Gaelzed, a stitch similar to the Tsmidt, but done on both sides; the Dival, or raised gold work, and the Souzeni, or chain stitch, similar to the old tambour work. These different embroideries are done by Mahomedan women. The only ornamental work done by Christians is the raised Armenia work. This work, like that of the Tsmidt, is capable of beautiful artistic effects in colouring and design, the only difference being that it is raised work, while the Tsmidt is flat or surface work.

Fans.

The most interesting collection of fans in the Exposition was that placed in the Woman's Building by the women of New York. It might justly be called a historical record of this light implement used for giving motion to the air. There were in this display of feminine possessions fans of modern French workmanship, Italian decorated kid leaf, with sticks carved by the hand of a Chinese, also solid ivory examples relieved by an infoliate design in gold to ornament the top of the sticks. A fan shown was said to be the one presented

presented to the wife of Alexander I of Russia as a bridal gift. One old Chinese specimen was in ivory with silver filagree work outlined in enamelled colours. An excellent and unusual fan was Spanish in its decoration and was called a mourning fan. It was in tones of gray and black. A pen and ink drawing of the battle of the Amazons was skilfully done on vellum and arranged into a fan. There were in the same collection carved fans in the time of the first Empire, Directoire, Vernese, Martin painting on ivory; fans painted in the days of Louis XVI, and many lovely examples in horn, shell, and lace. The fans from Paris were exquisitely lovely, especially those painted on skin. The varieties of designs were endless and they were mounted or unmounted. One dainty unmounted example showed a pretty woman sitting on a stile; her arms filled with spring flowers. At her feet was Cupid with his offering of roses.

Lace.

I have already referred to various forms of woman's art in textile work, but the collections of lace, &c., were so full of beautiful specimens and so extensive, that further reference to this subject may be made, founded on the remarks of a very able expert.

The authentic date of lacemaking is not known, but examples made in the thirteenth and fourteenth centuries are still found in public collections. In the sixteenth century lace was known in Italy as "punto a maglia quadra" and in France as "lakis." The patterns then were stiff and only geometrical, a kind of design traced to Grecian origin and taken from Greece to Italy. When the making of lace was fairly established in Venice the designs quickly grew in beauty and variety of pattern and complexity of stitch. The making of the important variety of Venetian needle-point attained unqualified perfection in the middle of the sixteenth century.

Italy's display of lace, in the Woman's Building, was the largest. It was composed of ancient and modern examples. There were in it complete sets of antique bobbins to illustrate the making of pillow-lace, and needles and threads showing the way in which the early "punto in aria" (needle-point) was made. The revival of this industry at Burano (and the exquisite specimens sent from there to the World's Fair) proves conclusively that the artisans of Italy have not lost their delicate execution. Some of the heavier pieces of Venetian point resembled fine bits of carving in ivory: some of the old patterns, geometrical in design, were like the intricate weavings of a spider's web. In laces of a flat character the brides (links) were interspersed between the various details of the patterns with exquisite skill. The examples of "rose point," "caterpillar," and bone point and the bold designs done in relief were very lovely. All sorts of minute embellishments, like little knots and stars, were used; specimens in a honeycomb pattern, which was much used in the seventeenth century, were interesting bits of that time. The delicate Venetian point, which is made with a ground of meshes, and usually known as "Point de Venise à réseau," is very beautiful. There was a flounce of Venetian point, made in the seventeenth century, in this showing that was a superb example of the work then accomplished. The baptismal veil of Queen Caroline of Naples was the most exquisite example of lace shown by the Italians. The modern pieces of guipure were excellent; also the bits of veticella and Spanish of the sixteenth century, in which the heraldic arms of Charles V were intricately wrought into the webby meshes.

The brilliant French artisans are never disappointing, either in their handicrafts or in their arrangement of them. Their collection of laces, both in the Liberal Arts Building and in the Woman's Building,

adds

adds one more proof of the artistic ability of these clever people. Lacemaking was introduced into France by the Venetians and it attained its greatest excellence there in the early days of the Renaissance, through the great and untiring efforts and influence of Louis XIV's minister, Colbert. Even the earlier specimens of "Points de France," or Alençon, were more fanciful and floral in their designs than the Venetians. The French laces resemble the foam that floats on the crest of a wave; they are so soft and filmy that their existence seems necessarily transient, but on the contrary they are enduring. Alençon and Point d'Argentine are very like Point de Venise. They have the hexagonal brides which distinguish that lace from Italy. Almost every variety of needle or pillow lace ever made is woven in France in perfection. A lovely example was in old Gênois. It represented the crowning of the virgin; the relief effect in this piece was exquisite. A most beautiful flounce of artistic guipure, a design of the eighteenth century, was perhaps the most effective large piece of lace shown. The Flemish point in the pattern known as Louis XIII, and the babe's lace of Louis XIV, were incomparably charming. Valenciennes, which was made in perfection during the reign of Louis Philippe, were well represented. This variety of lace is essentially French, and has a cobweb delicacy which is exquisite. A perfect piece of Robat Angleterris Point of the seventeenth century was displayed; and two figures of angels, in Colbert Point, which were masterpieces of lace workmanship.

The making of this delicate and beautiful article by the women of Belgium is an old inheritance, for the invention of pillow lace is said to have existed in Flanders as early as 1495. The Belgians have imbibed the brilliancy and daring of their lacework from the French, and in the making of the Valenciennes pattern are equal to them. A dress of Point d'Angleterre shown by them was masterful. In many examples the coats of arms of the different provinces of Belgium were wrought. A quaint and lovely veil of the virgin, made in the last century, had woven in its viseaux or meshes a lovely Flemish design. These people work garlands of fine flowers exquisitely; in fact their lace can be easily distinguished from that of other countries by this peculiarity. The showing was composed of beautiful specimens of Mechlin, round point, Point de Bruges, Duchesse, Point Appliqué, and the beautiful lace called Dentelle Louis XV.

The Irish laces in Jackson Park were extremely beautiful. The display of them was one of the most comprehensive shown in the building. The Irish point does not equal in fineness of texture the laces made in other countries. The Honiton made by the Irish is exquisite. Their crochet lace, both in cotton and silk, is beautiful. Examples of Carrickmacross, Limerick, and other laces found in handkerchiefs, fans, and trimming laces were very pretty.

Spain is considered a lace-making country and no doubt a great deal of lace is now made in Spanish convents, but it has no distinctive character. The Point d'Espagne made in the seventeenth century was much esteemed by the Spanish, and was much used in France. No lace pattern books have been found in Spanish publication—the patterns followed by them were either Venetian, French, or Flemish. The silk pillow laces and "blondes" shown in the Woman's Building by the Spaniards were daintily attractive. There were examples of Malta thick pillow lace shown, chiefly in geometrical designs, in which circles, wheels, and radiations of shapes resembling grains of wheat were a principal feature.

The unusually large display of modern hand made laces at the Fair proves conclusively that the machine-made laces, which for a time threatened the existence of real laces, have now to some extent been abandoned.

Of all the collections of laces in the Woman's Building, the one that was the recipient of the greatest admiration was that made and lent by the women of New York. It would be impossible to state the monetary value of this massing of beautiful laces. In one corner was arranged a valuable lot of laces or darned netting made between the years 1468 and 1576. The oakleaf and geometrical designs were to be found among them; also, the favorite embellishment of the Paschal Lamb. Many pieces of punto tirato or drawn work, punto tagliato or cutwork, and rectecella were shown, both in the white and with yellow and red silk and linen threads introduced. Beautiful examples of Venetian laces were in the collection; also lovely bits of Point de France, guipure de Flandres, Brabant, Spanish blondes, Mechlin, Lille, Tondren, Valenciennes and American, all of which were deeply interesting. One unfinished piece of darned lace was the work of Susannah Vaughn, and was accomplished in the year 1730. A cobweb-like handkerchief was made by Elizabeth Brinkerhoff, of Albany. All the examples of American lace told historically interesting stories.

NURSING EXHIBITS.

Nursing being essentially woman's work, part of the required space was provided for the purpose in the Woman's Building, and over the door of an attractive room in the first gallery, the sign "British Nursing Exhibit," told where England, the "pioneer" in this particular field of work, had her very complete display.

The room, which was arranged under the supervision of two celebrated English nurses, contained many glass-cases which were filled with models of almost all appliances needed in hospital or any other kind of nursing. Models of beds were shown, with newest improvements, for the treatment of various injuries. Also the latest ideas of instruments, surgical dressings, bandages, and all articles needed for operation. One case showed the most recent mode of treating medical patients. In this was a model of a portable bath which could be wheeled and raised to the level of any bed; also one great improvement in hospital work, not shown anywhere else in any exhibit, of every utensil needed in the treatment of typhoid fever. Each article was clearly marked in large letters "typhoid," thus doing away with the danger of having it used for any other patient.

There was noticed also a watch, with a strongly magnifying crystal, for use in a dimly-lighted room, besides many other useful articles for the sick, such as modern medicine glasses, droppers, measures, &c.

Another case contains the outfits for the different English district nurses. Especially interesting is that shown by the Queen Victoria Jubilee District Nurse Association, which society was founded from the pennies collected by the poor women of England during Her Majesty's jubilee year.

One very large case shows between sixty and seventy dolls, dressed (very prettily the greater part of them) in the indoor and outdoor uniforms of all the larger hospitals in England. In connection with this was a model nurse's trunk and a display of sanitary and ventilated clothing.

In the English exhibit was also a cabinet containing many interesting mementoes, such as a case of medals presented to different nurses for bravery in war time, and the pincushion, scissors, chain, and other souvenirs of the celebrated Sister Dora. Sister Dora's picture, with that of Elizabeth Fry, Florence Nightingale, and many famous heads of English training schools hung on the wall of the room, in company with portraits of Queen Victoria and other English-women of high rank interested in the encouragement of the profession of nursing.

The

The Woman's Building contained, also, that portion of the very large American nursing exhibit sent by the hospitals and charities of New York, Brooklyn, and Philadelphia. The most noticeable part of this display was a fine model, shown by the Presbyterian Hospital of New York, representing a ward furnished with every necessary appliance in the latest antiseptic style. It contained six white-painted iron beds, each so arranged as to present a very perfect object lesson, for the treatment of various injuries and diseases, the methods of dressing and bandaging wounds, of lifting a fever patient into a portable bath, and of using a steam inhaler for diphtheria, with an exactness of detail which made this display one of the most perfect in the whole nursing exhibit.

Bellevue Hospital's Exhibit.

Bellevue Hospital of New York shows a model of a bed and a doll dressed in the uniform of a nurse, with a label pinned to its apron, on which is written "I am the grandmother of all," Bellevue being the pioneer training school in America. The Mount Sinai and New York hospitals both showed many photographs of the interior and exterior of their buildings, with groups of the nurses at work in the wards. Besides models of hospital beds there were several of special methods of preparing such surgical dressing and medical supplies as splints and pneumonia jackets; also dolls dressed in the uniforms of nurses. The rest of the New York hospitals showed only photographs.

CHILDREN'S BUILDING.

A large building, called the Children's Building, was provided under the auspices of the Board of Lady Managers, which was truly an educational exhibit. One object lesson was to be found in the crèche or nursery, a department provided for the reception of babies and young children, by means of which parents were enabled to visit the Exposition without being encumbered by their little ones, and I can state from personal observation that it was well patronised. On an average 50 to 60 little ones were received daily for this kind of protection, and the room was found inadequate for all the applications made. Many mothers who visited the Fair office to check-in their babies were obliged to turn away in disappointment, and a sign, "No more children received to-day," was affixed to the office-door by the matron not unfrequently.

Twenty-five cents was the modest fee charged by the managers of the crèche for the care of a child daily, and in addition the little one was fed bountifully in the nursery dining-room, morning and afternoon. Sterilised milk was the diet for babies in arms, while the older children were given plain, wholesome food that included all the staple necessaries of life. The meals were nicely served on low tables, at which the little ones sat supremely happy, and feeling far more comfortable than if they were being dragged about in the hot sun to look at a lot of buildings and exhibits in which they took not the slightest interest.

The greatest attention was paid to the reception of the children. The secretary of the crèche entered on her register—first, the child's name, permanent residence of the parents, temporary home while in Chicago, occupation or profession of the father, and brief description of the little one's clothing. A round (brass) numbered check was then handed the parents, or whoever brought the child, and a correspondingly-numbered check was attached to the dress of the youngster, generally at the back under the collar, where it could not easily be detached. A third check was placed with the child's outer clothing. It was almost impossible to mix the babies up, and the mother had no timidity about leaving her baby on this account.

When

When the crèche was ready for the reception of the little ones the windows opening into the body of the building from the nursery were besieged by crowds of curious visitors, who took keen delight in watching the children at play.

It is almost unnecessary to state that the 25 cents fee charged for the care of a child by no means reimbursed the management for the expense incurred in maintaining its obligations. Nor was such return contemplated. The crèche at the Fair was not a money-making venture; it was an object lesson for the study of thinking people. The hope was entertained that its teachings would so impress the many thousands who became interested in the crèche that on returning to their widely-scattered homes the desire to establish like institutions would be so firmly inculcated that useful results might follow.

The crèche, in the Children's Building at the Fair Grounds, occupied the entire west wing on the ground floor, and consisted of office, nursery, children's playroom, dining-room, kitchen, laundry, and drying-room. Numerous closets and retiring-rooms were arranged for sanitary convenience, and the entire wing was well ventilated by large low windows that flooded the rooms with light, and admitted plenty of fresh air. On the second floor, in the south-west corner, was the Kindergarten portion of the crèche, where the older children were taken every morning to be pleasantly instructed and entertained. The airy room contained all the best appliances known to Kindergarten work, and the children thoroughly enjoyed the morning hours passed in this attractive retreat.

On the ground floor admission to the nursery was gained from the office at the north entrance, where the matron's assistant sat with her register to receive the children. Babies of two years and under were retained in the large nursery adjoining the office, where numerous pretty white and gold cribs were arranged around the walls. In the centre of the room was an enclosure known as the pound, where the good wide-awake babies sat upon a soft mattress, furnished with a white coverlet, and smiled and crowed at the youngsters. In spite of several loud-keyed infants, who refused to be consoled by doses of sterilized milk, half-a-dozen babies slept peacefully in adjacent cribs with just as much comfort as if they were alone. Baby-jumpers, dolls, and rubber balls were in evidence to amuse the tiny occupants of the cots, and the trim appearance of the competent maids lent additional attractiveness to the scene.

In the playroom beyond upward of forty children had a good old time under the watchful eyes of three or four rosy-cheeked lasses in white caps and aprons. Toys of all descriptions littered the floor, while small chairs and tables flourished everywhere. Bright pictures, calculated to please the infantile mind, adorned the walls, and smiling faces largely predominated. Only one or two tearful visages were to be seen in the room, and these were due to temper, so the maid in charge declared. Half-a-dozen little girls had a tea-party in one corner, a buffalo-bill show was improvised by four young ruffians in another, and bull-fights, horse manœuvres, ball-playing, racing, singing, shouting, laughing, and block building elsewhere proved the merit of the venture.

Viewed as a public convenience the crèche was a great success, and represented a great underlying principle. Of the fifty-seven babies and children gathered in the nursery on the occasion of my visit only six were permanent residents of Chicago, the remainder came from all parts of the Union, and, with only two exceptions, all seemed very happy in their temporary quarters.

The World's Fair Hospital.

THE Medical Bureau and Emergency Hospital was one of the few places of interest in Jackson Park that was not open to general inspection. It was not a public exhibit, so to speak. If a visitor got inside the hospital he or she had to come in an ambulance wagon or under escort of a Columbian guard. It was cool and breezy; its main corridors and reception parlors were decorated with potted flowers and vines; cool rattan furniture greeted the eye on every hand, and in two of the larger apartments were long rows of brass cots clad with snow-white linen. Flitting about the halls were quiet and soft-stepping nurses in cool linen garments and snow-white caps. There was an air of stillness about the whole place which invited rest and conduced to peace of mind.

The Medical Bureau and Hospital were established by the World's Fair managers to supply quick and prompt medical attention to all who might need it among the vast throngs who entered the gates. When large gatherings of people assembled there was plenty to do in the Medical Bureau. The world's Fair Hospital was especially designed for prompt but temporary attention. It was not intended for cases involving serious work of physicians, nor was it established with a view to continued treatment; it was simply a place for the application of quick remedies for immediate relief. Of course patients not fit to be removed were kept there until they could be taken elsewhere.

The hospital was situated in the southern end of what was known as the Service Building. Entrance was obtained through the main gateway opposite Festival Hall, thence through a wide court to the southward, where, through a doorway decorated with potted plants, one was ushered into the corridors of the cool retreat. There were four or five reception-rooms divided by a wide hall-way running the length of the wing; at either end of the main hall-way were the two wards, each fitted with twenty-four brass beds. Both these wards were models of cleanliness, and were very inviting to the eye. In the corridor between the two hospital wards were the officers and consulting rooms of the physicians, a ladies' reception-room and parlour, a diet kitchen in which was a gas range, two pretty cooks ready at any moment to supply any article of diet that might be ordered for the sick. In the kitchen was a dainty china closet filled with blue china, a neat little refrigerator always filled with ice and cooling drinks on ice, and all, of course, delightfully sweet and clean. Then there was a surgeon's operating-room provided with a large glass table, a splendid glass case of surgical instruments, and every other appliance that could be needed in a surgical emergency.

Sanitation System of the Exposition.

The Engle Crematory.

THE sanitation system adopted at Jackson Park was one of some interest to our municipal authorities in Australia. When the plans for the World's Columbian Exposition were made, and it was found that about 600 acres were to be occupied with buildings which would be thronged with multitudes of people for six months of the summer season, it became apparent that one of the most serious questions was that of sanitation. The situation to be met was that of a concourse of strangers to the city amounting, practically, to an improvised city or encampment of at least about 80,000 inhabitants, including constant residents to the number of 20,000, and a possible average of ten times that number of visitors every day during the season, besides the extensive live stock exhibit, from all which extensive concourse of men and animal the excreta, refuse, and garbage of every kind resulting from their presence and sustenance on the grounds must daily be received and disposed of, entirely within the crowded space of the Fair, there being no legitimate outlet on land or water, nor any aid to be obtained from the city for such purposes. The plan adopted reflected the highest credit on the ability and good judgment of the authorities. The solution of the problem may be expressed in the one word "fire"; and the scientific principle of duplex combustion, as adopted in the Engle Cremator, after an exhaustive and impartial comparison of all the various systems of garbage disposal, was employed for the purpose. A contract was made with the Engle Sanitary and Crematory Company, of Des Moines and New York, for the erection of two garbage cremators, guaranteed to destroy utterly 100 tons per day of garbage, miscellaneous combustible waste, sewage sludge, and stable refuse. At the same time the "Shone Hydro-Pneumatic" system of sewerage was adopted in connection with all the larger buildings of the Exposition to convey the sewage from the closets and drains and to deliver it in the form of compressed precipitates to the cremators.

The furnaces covered a space of ground, including the chimney, 42 feet long by 18 feet wide. There were two furnaces placed back to back, with a brick stack 50 feet high. They were surrounded by platforms with inclined approaches, which allowed the collection carts to discharge their loads directly upon iron slopes leading down to the feeding-holes of the furnaces. The furnaces and slopes were covered with a protecting house, 45 feet square, of corrugated iron, with large doors on each side admitting the collection carts for the deposit of garbage. All of the waste collected was discharged within this covering house. There were four feeding-holes for each furnace, connecting at the bottom of the iron slopes, through which the garbage was discharged, with the interior of the furnaces. The capacity of the slopes was 20 tons, which was equal to the capacity of each furnace for one charge. The garbage was received inside the furnaces on grates made of interlocked fire-clay brick, through the spaces of which the ashes passed into the lower chamber.

The fuel (as required to be used on the Exposition grounds) was crude petroleum oil, which was conveyed through three burners, two of which, for the initial fire, were placed at the rear or stack end of the furnace, and one, for the secondary or perfecting furnace, at the front extremity. The form of the hydrocarbon burner adopted was the "S.C.T. Burner," largely used by the Standard Oil Co. for the production of large temperatures at their pumping stations. Air for atomising the

the oil was driven from a Root Positive Blower by an electric motor of twelve Kilo-watt power. The pressure of only 8 oz. of air to the square inch furnished the best result for the combustion of the oil. The flame from the rear or initial burners passed over and through the garbage, swiftly licking up its moisture and volatilising and inflaming its combustible elements. This blazing mixture of gases, vapour, and smoke then entered the flame of the second burner at the other extremity of the chamber, turning downward into a return flue beneath the grating, through which the whole product, in a state of perfected combustion, was driven back to the smoke stack, filling the space beneath the grating and the entire mass of garbage upon it with all-consuming heat. Every particle of the vapours, smoke, and gases was annihilated before reaching the outlet, and issued only in an aerial residuum, thin, colourless, odourless, and innocuous as the atmosphere itself, in which it is dissipated unperceived. This operation was maintained continuously without limit of time, the charging and removal of ashes being carried on without interference with the work of combustion.

In the earlier weeks of the Fair the daily collection of waste was about 15 tons, which was destroyed in about six hours' time by one furnace, using only about one-third of the capacity of one furnace, and that for about one-fourth of each day, although the sewage sludge and garbage often contained 20 to 50 per cent. of liquid, which required a degree of heat realised from no other principles of combustion to overpower it with the unimpeded swiftness witnessed in the work of the Engle Cremator. When the furnace was first fired the three burners quickly raised the temperature to a height in which the material to be consumed was compelled largely to sustain its own combustion, aided only thereafter by two burners with the smallest amount of oil which could be used. The labour employed was that of three men running the furnaces, while others subsequently removed the ashes.

The Engle Cremators were placed in the extreme south-east portion of the Exposition grounds, within 100 yards of the power-house of the intramural railroad, within 150 yards of the forestry exhibit, and 120 yards from the sewage cleansing works. Thus to destroy dangerous and offensive waste in great quantities, in the immediate neighbourhood of the Exposition buildings, under the noses of multitudes of people, under the critical observation of sanitary officials, engineers, and experts perfectly familiar with all forms of furnaces and modes of combustion, and to perform this work in a manner universally satisfactory and beyond criticism, entirely sanitary, speedy, economical, thorough, and pleasant, was undoubtedly the most exacting test and the most conclusive demonstration of the supreme advantage and utility of the destruction of waste by fire that has ever been seen in America or any other country.

In the city of Chicago the dust and dirt bins placed in the lanes at the rear of the residences are divided into two portions, the one containing dry refuse, the other moist. These are cleared away as provided by the municipal authorities, and carted to distant parts of the city for filling in or similar modes of disposal. Last year the Mayor gave instructions for the employment of a number of travelling cremators, as they were termed, in which was burned the refuse of the district, and these cremators moved about whilst performing their work in the district. Just before I left Chicago the establishment of a large fixed cremator was determined on, and the following article from the *Chicago Tribune*, 22nd December, 1893, will be found interesting in this connection:—

TO BURN THE GARBAGE OF THE CITY OF CHICAGO.

THE new garbage crematory erected near the intersection of Huron-street and the river commenced operations on 22nd November, 1893. It is estimated to consume 100 tons per twenty-four hours, or about one-fifth of the quantity of garbage now produced

produced in the city. It will do this with the use of 500 gallons of petroleum, costing little more than \$8 per diem, and the labour of three shifts of seven men in each. The estimated cost of the reduction in labour and material is 47 cents per ton, and the city will pay 70 cents per ton for all that is consumed while the test is in progress. There should be a considerable saving in the cost of transporting the garbage, which is paid for by the city, owing to the much smaller distance the stuff must be carried to the crematory as compared with the ordinary dump.

The new apparatus promises well. It is said to generate a heat sufficient to melt down scraps of iron and glass, while a supplementary furnace consumes the smoke and stench. Its merits as compared with the perambulating crematory have to be decided by actual trial. It is claimed to be capable of producing a far greater degree of heat than the perambulator can do, and therefore more completely reduces the material submitted to its action. Hence it is preferred for its avoidance of emissions of smoke and stench. But it is feared the cartage accompaniment may be far from agreeable. The long line of garbage waggons passing through streets and alleys will be both unsightly and unsavory, and in the latter respect may be a terrible nuisance to thousands of citizens. On the other hand it is claimed for the perambulator that while it emits some smoke and stench the discomfort caused by it in any one spot is of short duration, as the machine can go through a whole block in about twelve minutes, after which the place is free till the next visit. Of course it has the advantage of taking up the garbage directly from the boxes into which it has been emptied by residents, and thus does away with the nuisance of the garbage waggon, which takes the freshly stirred up stuff long distances through densely populated sections to poison the air all around. The perambulators are proved capable of doing good work, and it is claimed they can do the same amount of cremation at less cost than needed by the stationary crematory. This fact is cited as sufficient reason why the contractors are "down on it." If the perambulator were adopted their occupation would be gone.

A great reform will have been achieved if the garbage of the city is disposed of by burning instead of being dumped all around us to fester and rot near residences of the people. The fact that the persons thus afflicted under the old time arrangement belong to the poorer classes does not mitigate the wrong. They are entitled to protection from nuisances originated by others as well as are the richer members of the community, and the latter are in danger in case of disease breaking out amongst those directly exposed to the contagion. So either method will be a vast improvement on present conditions, but both should be watched carefully by persons competent to judge, and the best chosen in the interest of all the people, since all have to pay their share of the cost. If after careful examination it be found that the perambulator is preferable on the whole to the stationary crematory no opposition by contractors should be allowed to stand in the way of its adoption for every ward in the city. The fact that those gentlemen get a large share of the million dollars appropriated yearly for the removal of filth may form a strong argument with them, but it should be of no force with the great majority, those who foot the bills.

Meeting of World's Congress Auxiliary.

THE World's Congress Auxiliary, as I have already stated in an earlier part of this Report, held its various meetings during the currency of the Exposition, in the Art Palace on the lake front, in the city of Chicago. The Government of the United States, recognising in the congress auxiliary the proper agency to conduct great international conventions, invited other nations to send as representatives their most eminent men and women in the various departments of human progress. Unprepared discussion or miscellaneous debate would obviously have been inconsistent with a plan of which the chief object was to procure the maturest thought of the world on all the great questions of the age, in a form best adapted to universal publication. The time at disposal, after the delivery of a discourse, was therefore given to the most eminent persons present, who spoke at the call of the presiding officer. The summaries of progress presented and the problems of the age stated in the congress were not to be submitted to the vote of those who happen to be present, but will be offered for subsequent deliberate examination by the enlightened minds of all countries, for unrestricted discussion in the forum, the pulpit and the public press, and finally for the impartial judgment of that exalted public opinion which expresses the concensus of such minds. With this end in view, remarks of leaders, in elucidation of a subject, took the place of ordinary debate.

The World's congresses were held, as I have stated, in the permanent memorial Art Palace on the lake front, that use being granted for the gift of \$200,000 by the Exposition company to the art enterprise. The building had two large lecture-halls, each capable of seating 3,000 persons, and twenty smaller rooms to accommodate from 300 to 700 each. It was thus possible to have two general and twenty special conventions in session at the same time.

This undertaking was of a most elaborate and extensive character, and a distinct assignment of subjects was provided for different periods, as follows :—

MAY.

- I. Woman's Progress,
- II. The Public Press.
- III. Medicine and Surgery.

JUNE.

- IV. Temperance.
- V. Moral and Social Reform.
- VI. Commerce and Finance.

JULY.

- VII. Music.
- VIII. Literature.
- IX. Education.

AUGUST.

- X. Engineering.
- XI. Art, Architecture, etc.
- XII. Government, Law Reform, Political Science, etc.
- XIII. General Department.
- XIV. Science and Philosophy.

SEPTEMBER.

- XV. Labour.
- XVI. Religion, Missions, and Church Societies.
- XVII. Sunday Rest.

OCTOBER.

- XVIII. Public Health.
- XIX. Agriculture.

The ambitious aim of the promoters of these congresses was a presentation of the intellectual and moral and religious progress by the World at large, and the assistance of men, recognised as leaders in the several departments of human knowledge, was asked for, in order to give practical effect to the proceedings. In Appendix O will be found the general programme of this department of the World's C. E.

Several papers written by persons in New South Wales were read at these congresses, and I prepared several also, for the information of those attending the meetings, on subjects connected with our country's history and resources. As far as my other engagements would permit, I attended some of those congresses, and was impressed by the enthusiasm of many of those taking part in the proceedings. Many of them were very largely attended and others but sparsely. As a matter of fact it required very attractive matter to allure the public to congresses on abstract matters, in view of the wonderful objective and highly picturesque rival installed at Jackson Park. It seemed to me, also, that in order to produce a completely satisfactory result from the congresses their number might have been greatly reduced without any loss of efficiency, and that the selection of persons who prepared the papers read and participated in the discussions might on many occasions have been characterised by a fuller possession of the qualifications of speakers clothed with responsibility, sound judgment, and defined learning.

The number of sessions of these congresses that will be ultimately successful and useful to the world at large, or that shall have provided some advance in our knowledge of their special subjects, will certainly not be as extensive as the official programme. Certain of them, however, will certainly be of public advantage, such as the engineering, the electrical, and other similar congresses, and the papers read and the opinions given by the eminent men who took part in them when published will be interesting and beneficial. I have already quoted from some of the papers read in the course of this Report, and when ultimately a judiciously collected publication of the proceedings is made, a much larger value will attach to the work performed than could possibly be the case during the actual course of the congresses, when, in consequence of the large numbers of persons present and the necessarily rapid consideration of papers, dealing in some cases with questions of supreme importance, requiring mature and deliberate thought, it was impossible to estimate aright, either the true value of the theories and principles enunciated or the relative importance of questions treated in the various congresses.

Special Items of Interest in connection with closing of Exposition and New South Wales Courts.

Closing Day of the Exposition.

THE Exposition closed, as appointed, on 31st October. A very extensive programme had been prepared for the celebration of this event; but a great calamity intervened. Instead of the closing day being marked by rejoicing and the great enthusiasm characteristic of such occasions, there was sorrow and sadness at the final meeting in the Great Music Hall, in consequence of the death of the Mayor of the city of Chicago, Carter Harrison, one of the most vigorous and enthusiastic projectors of the Exposition, by the hand of an assassin. A short address by President Palmer and prayer completed the proceedings on the occasion.

Attendance at the Exposition.

THE attendance at the World's Columbian Exposition, although not so great as was originally estimated, was very remarkable. There can be no doubt that it would have been much greater had it not been for unforeseen circumstances. Not only had Chicago at the commencement to experience the long and bitter struggle for the honour of celebrating the Columbian anniversary, as I have already stated in an early part of this Report, but it had, subsequently, to sustain the envy of the unsuccessful cities—a jealousy which only subsided when the hour of triumph for Chicago and America had arrived—as well as the unjust and damaging criticisms of the Eastern press (especially of New York), only too readily adopted and endorsed by European newspapers and circulated all the world over in the most unfavourable form. The silver crisis in the United States, the war of tariffs, the financial difficulties of the country (for these were not confined to Australia, but were simultaneously very widespread in the United States), and the high rates for railway carriage to Chicago in the early months of the Fair, as well as the wretched weather in the months of April and May, all added to the difficulties of the matter. Yet all these difficulties were surmounted, and the indomitable energy of Chicago was crowned by a success which was undoubtedly as complete as it was well deserved.

The number of visitors present on the opening day was 137,557. On the 4th July (Independence Day) the attendance numbered 330,542; but the most remarkable total was that of Chicago Day, when 761,942 persons passed the turnstiles, and of this number 683,742 were paying adults and 33,139 children, 45,061 being admitted free, and the money taken on this day was not far short of 375,000 dollars. This was the highest total hitherto reached at any Exhibition. The greatest day at the Great Paris Exposition of 1889 was little more than half of this number—397,000; while at the Philadelphia Centennial Celebration Exhibition the highest total was about 275,000. During Chicago week the attendance approximated $2\frac{1}{4}$ millions, and the sum taken as entrance fees was about 2,050,000 dollars. The paid admission exceeded 100,000 on 92 days; 200,000 on 24 days—once in July, once in August, four times

times in September, and eighteen times in October; while 300,000 was exceeded on four occasions—on the first three days of Chicago week, October 9th, 10th, and 11th, and on Thursday, the 19th of the same month.

The attendance and its growth will be observed in the following table:—

	Total Paying.	Grand Total.	Per Day.
May	1,050,037	1,531,984	54,714
June	2,675,113	3,577,834	119,271
July	2,760,263	3,977,502	132,583
August	3,515,493	4,687,708	151,216
September	4,659,871	5,808,942	193,631
October	6,816,435	7,945,430	264,849
Total	21,477,212	27,529,400	153,800

The average daily total was 153,800—and this includes Sundays, when the attendance usually was very small indeed.

The only other Exhibition with which comparison can be made in this respect is that of the Paris Exposition of 1889. It must be remembered, however, that the Paris Exposition was open for two days longer than the World's Columbian Exposition, and that on Sunday the visitors to the French Exposition were usually more numerous on that day than on week days. At the French Exposition there were about 600,000 more visitors than to the American one, but this is more than accounted for by the circumstances just referred to.

In this comparison some consideration must be given to the entrance fee. At Chicago each of the 20 $\frac{1}{4}$ millions of adult-paying visitors had to pay 50 cents, or 2s., while the 1 $\frac{1}{3}$ million children paid 25 cents for admission; the only concession made occurred during the Chicago week, when school-children were given a holiday and the charge was reduced to 10 cents for children under 18 years of age. During this week 316,066 children visited the Fair. At Paris, on the other hand, the visitors paid a nominal sum of 1 franc each in the daytime and 2 francs in the evening. Owing, however, to the peculiar lottery system adopted in Paris, the entrance cost on an average not more than 5d. in the morning and 10d. in the evening; in fact, on account of the great supply of tickets, the price fell even below this, and on one occasion the entrance fee was as low as 2 $\frac{1}{2}$ d.

As has been said, at the World's Columbian Exposition 20 $\frac{1}{4}$ million adults each paid 50 cents, representing about £2,314,924, and 1 $\frac{1}{3}$ million children each paid 25 cents, equalling £69,681; while the children who attended during the week ending 21st October paid only 10 cents each, equal to £6,585. So that the entrance receipts amounted to £2,391,190.

The sum obtained from various concessions helped also to swell the income. These were estimated to amount to over £800,000, as compared with about £160,000 received from the same source in Paris in 1889. The total receipts at the latest date of information was about 5 $\frac{3}{4}$ million pounds, while the expenditure was put at nearly 6 $\frac{1}{4}$ million pounds.

The

The following table supplies interesting particulars in connection with some of the leading International Exhibitions:—

Held in.	Year.	Acres of Build-ings.	Days.	Attendance.		Cost.	Receipts.	Exhib-itors.
				Total.	Daily.			
London ...	1851	21	144	6,039,195	41,952	\$ 1,460,000	\$ 1,780,000	13,937
Dublin ...	1853	...	170	1,150,000	6,765	400,000	230,000	7,000
New York ...	1853	6	150	1,250,000	8,334	640,000	340,000	4,100
Paris ...	1855	24 $\frac{3}{4}$	200	5,162,330	25,812	.....	644,100	23,954
London ...	1862	23 $\frac{3}{4}$	171	6,211,103	36,316	2,300,000	1,644,260	28,653
Paris ...	1867	37	217	10,200,000	47,007	4,000,000	2,103,675	50,226
Vienna ...	1873	40	186	7,254,687	39,003	.....	2,963,421	70,000
Philadelphia ...	1876	60	159	9,910,966	62,333	8,500,000	3,813,724	30,806
Paris ...	1878	100	194	16,032,725	82,644	8,000,000	2,531,650	40,360
Sydney ...	1879	15	216	1,117,536	6,300	.....	202,180	9,345
Melbourne ...	1880	29	143	1,330,279	9,302	1,201,025	332,000	12,792
" ...	1888	38	160	1,963,436	12,271	1,141,366	481,160	10,240
Paris ...	1889	75 $\frac{1}{2}$	185	28,149,353	153,821	8,300,000	10,000,000	60,000
Chicago...	1893	207 $\frac{1}{2}$	183	27,529,400	153,800	32,500,000	.....	.....

New South Wales Awards.

IN Appendix AA will be found the revised list of awards to New South Wales, numbering over 800. The results thus obtained, and deservedly obtained, by our exhibits, has never before been equalled. When the diplomas issued by the United States authorities are received, particulars of the reason for award and degree of excellence by the expert judges will be found inserted for the information of exhibitors and the public.

The medals and diplomas will, in due time, be forwarded by the Government of the United States to the Honorable the Colonial Secretary for distribution.

Seizure of Exhibits by Sells Brothers.

ON Thursday, 2nd November, 1893, three days after the closing of the Exhibition, the Sheriff of Chicago attached the gold and other mineral specimens belonging to the Government of New South Wales, at the instance of Sells Brothers and another, circus proprietors, of Ohio. It was stated by the Sheriff that 100,000 dollars security had been given by these persons in connection with a claim for 50,000 dollars in the action Sells Brothers and another against the Province of New South Wales for certain alleged injuries to their horses, &c., three or four years ago, while the circus was in operation in New South Wales. The Sheriff served on me a writ of summons as a witness in the case, and the day for the trial was stated to be 4th December proximo, in the Superior Court of Cook County, Chicago.

The facts of the case were cabled to Sydney to Sir George R. Dibbs, Premier, and subsequently I had the assistance and advice of Director-General Davis, the United States Attorney (Mr. Walker), the British Consul at Chicago (Colonel Sadler), the Collector of Customs at Chicago (Mr. Clarke), and, lastly, the British Ambassador at Washington (Sir Julian Pauncefote). The case gave me considerable anxiety, as I anticipated detention in Chicago in consequence of the proverbial delays connected with procedure in American Law Courts. The New South Wales Government finally gave instructions to Mr. Walker to proceed with the removal of the injunction obtained in the case as to removal and sale of the attached exhibits as a preliminary measure, and at this stage the Judge gave an opinion against Sells Brothers, declaring that "no action of a citizen could lie against a friendly

friendly power." Against this decision Sells Brothers appealed; but in the meantime, under legal advice and with the official sanction of the United States Customs' authorities, I sent the exhibits to Sir Saul Samuel, our Agent-General in London, so that they might be forwarded to Sydney, with all the precautions as to safety and insurance adopted when they were forwarded to Chicago. The curious part of the case was that the officials of the Court in Chicago continued to watch the safe in which the gold specimens were kept for security for some time after their removal, unconscious of their disappearance.

I may state that this procedure of Sells Brothers was regarded generally with extreme displeasure in the United States, and every assistance and sympathy under the circumstances was afforded me by the officials, the public, and the press.

Visits of New South Wales Commissioners and Others.

DURING the currency of the Exposition several members of the Sydney Commission visited Chicago. There were present at the opening of the Exposition Messrs. Skarrett and James Martin and Miss Windeyer. At a later period Mr. Joseph Marks, Mr. Peabody of Boston, Dr. Carl Fischer and Mr. Saddington of Sydney, and Sir Roderick Cameron of New York, visited the Exposition. Mr. Skarrett rendered most valuable practical assistance in the arrangement of the wool fleeces and otherwise, during the time he remained in Chicago. Dr. Fischer assisted us with advice regarding the placing of our fine art exhibits. I regret to state that this gentleman, after a very short illness, died at Chicago on the 21st June. Every respect was paid to his memory; the flags of Australia House and of all the foreign buildings in the neighbourhood were lowered half-mast, from the time of his death till after his funeral, at which I and several members of the New South Wales staff attended. Dr. Fischer was buried at Oakwood Cemetery, Chicago, a short distance south of the Exposition. Miss Windeyer, as I have stated elsewhere, was, on my recommendation, appointed a judge in the artistic section of the manufactures exhibits, and in this and in various other ways rendered very valuable service during her stay in Chicago. Lord Jersey visited the Exposition in June, 1893, and was good enough to accompany me through our various courts. His lordship expressed himself as highly gratified with the display of our country, and the satisfactory impression we had created in Chicago and the United States. Our visitors' books in Australia House and in the various courts contained the names of a vast number of visitors from all parts of the World, as well as a number of Australian visitors from all the colonies. As far as I am aware, every attention was paid to these visitors as soon as they introduced themselves at Australia House or our various courts in the Exhibition.

The New South Wales Officials.

It affords me great pleasure to place on record the high appreciation of the services rendered by the various members of the official staff engaged in the work of our representation at the World's Columbian Exposition. Every officer during the whole course of the exhibition acted to my satisfaction in the various departments, and all were animated with an anxious desire to promote the best interests of our country.

Mr. Hudson, as general superintendent, supervised our traffic arrangements, both on their arrival and their return, and assisted materially in the installation, more particularly of the heavy exhibits, where his great practical experience was found of special value. In the arrangement of the courts under his charge, and more especially in the display of our timbers in the Forestry Building, his work was very

very successful. Mr. Pugh's display of our wines, our pictures, our fish and our ethnological exhibits, evinced remarkably good taste. Mr. Carne, from his long experience in exhibition work, made undoubtedly the best and most impressive display of our mineral resources ever produced. Mr. Bruce's labours with the wool exhibits were rewarded by a show unrivalled in the exhibition. Mr. Terry, both in the Liberal Arts and the Manufactures Department, gave me great satisfaction by his continuous and enthusiastic labours for successful results: As accountant and clerk, Mr. McGuinness was painstaking, reliable, and punctual. To my private secretary, Mr. H. J. Renwick, I am indebted for much of the information contained in this report. The assistants in the various courts, whose names and duties will be found elsewhere, were remarkable for their good conduct. I am pleased to report that during the whole course of the exhibition, notwithstanding the excitement and temptation of the occasion, I had no reason, in any single case, to find fault with the conduct or the observance of the rules by these gentlemen.

One painful circumstance must be placed on record. I refer to the death of Mr. Thos. Ford, assistant to Mr. Carne, in the Mines Court. Mr. Ford, in the early stages, rendered great assistance in the display of the mineral exhibits, and subsequently, from his long experience at various Exhibitions, was enabled to give valuable and reliable information to visitors of the court, and perform services of various kinds on behalf of our representation. His death was a serious loss to us. Every respect was paid to his memory, and he was buried in a grave adjoining that in which we had placed the remains of Dr. Fischer a few weeks previously.

Harmonious Co-operation of Commission in Sydney.

It is a matter of supreme satisfaction to me that the harmonious and mutual action taken on behalf of the country by the Commission and myself has never, on any single occasion, been disturbed.

The work of this Commission was unquestionably the most arduous ever undertaken on behalf of our country, and the excellent results obtained were due in no small measure to the continued and well directed efforts of the various committees appointed for the purpose.

I consider it proper here to acknowledge the invaluable services rendered to the Commission by Mr. Secretary Cumming, who has also rendered me great assistance by correcting the proofs of this report as it has passed through the press.

Dr. Fischer and Mr. Ford.

THE deaths of these gentlemen afforded me an opportunity of observing the practice adopted in the larger American cities in connection with the interment of strangers. In both these cases the corpse was removed to an undertaker's establishment; in the one case, from the hotel, at which death had occurred, and the other from the hospital. Provision is made at these establishments for placing the body on ice for preservation until the desires of the relatives as to the mode of interment and ultimate disposal are ascertained. Facilities for embalming the body in various ways are provided. The coffin has its cover or lid in two sections, and the upper one is not fastened down till the friends up till the last moment have had an opportunity of seeing the face of the deceased person. A large room, in which the funeral service can be performed, is attached to the establishment; and here the friends can meet and observe the usual service for the dead. As it is not the universal custom to have services for the dead at the grave, the advantages of this provision must be obvious. At the grave the coffin or casket is placed in a plain pine case, and contained

contained in this covering is lowered into the grave. Everything done in connection with this sad business is conducted in a very decent and decorous manner. In the case of the sudden death of visitors or of strangers the provision was most necessary and useful.

Contrast of this with Former Exhibitions.

FOR the first time in the history of Exhibitions an attempt was made at the Columbian Exhibition to provide a scientific classification of exhibits in departmental buildings independent of country. There were some few unimportant exceptions to this rule, but on the whole it was carried out as far as was possible. It would be difficult at this stage to give a decisive estimate of the value of this plan. To the visitor and to the critical inquirer, and perhaps as far as the production of comparative results is concerned, this system would appear to be a great advance on the arrangement whereby the exhibits of each country are distinctively displayed. In the case of countries showing a small number of exhibits it is a system attended with considerable disadvantage, such representation being completely overshadowed by the larger and more complete ones of countries possessing higher civilisation and greater resources. It also prevents the presentation of the aggregate exhibits of a country, and thus shuts out of view its special characteristics. But for the purpose of the special inquirer and for the promotion of critical investigation it is undoubtedly the best system. In all probability the final outcome of this special classification, in view of the extension of civilisation, will lead to Exhibitions of a special nature. In fact the Fisheries Exhibition and the Mineral Exhibition held in London, and similar special Exhibitions held elsewhere, are practical illustrations of this conclusion.

Another question that arises in connection with this Exhibition is, as to whether the great size of the World's Fair, or of any succeeding large Exhibition is not likely to cause failure, to a large extent at any rate, in the general results which ought to accrue from them. Since the inauguration of Exhibitions the advances of knowledge of all kinds of all the races of mankind have become so extensive, the range of the sciences and the arts so advanced, and the progress of civilisation so universal that in order to obtain anything like an adequate representation great expanses of space are necessary, and, as a consequence, immense and imposing buildings demanded. But the resources and powers of the individual are strictly limited. It was impossible, for instance, in the case of the White City of great distances for any individual to grasp completely even any one great section of the whole. With the unrevealed possibilities of the future before us how much more difficult must such a task become. Confined to a single object, the matter, although in some branches even then not divested of difficulty, becomes somewhat more easy of solution.

Position of New South Wales at Chicago.

AT this Exhibition New South Wales occupied a unique position. Represented as our country has been—and well represented—at former Exhibitions, she never before occupied such a distinguished place as at this great World's Fair. In the midst of the greatest Exhibition the World has ever seen, among the most complete representations of the World, New South Wales appeared in her proper *rôle*, as the mother Colony and the gracious standard-bearer of Australia and the South Seas. As was confessed by every visitor, the exhibits were worthy of her great resources and representative of her advancement in education, science, and art. Her flag floated on the great buildings and over her special State building; her beautiful national blue colour on the walls of the spaces throughout the departments attracted attention
and

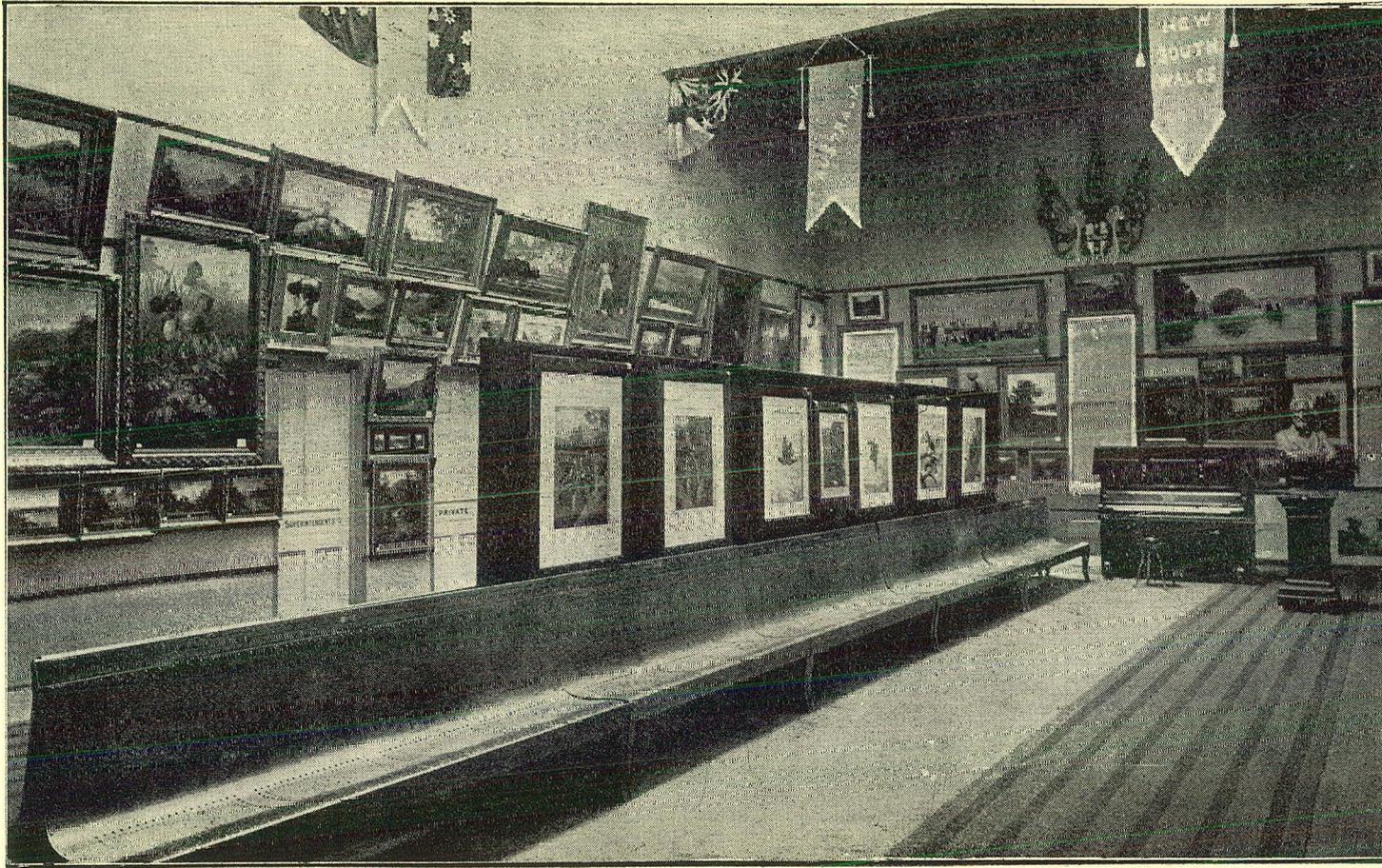
and made the visitor conscious of her presence; and her early presence at the Exposition, her extensive presentation, and her characteristic and well-arranged courts were the theme of universal commendation.

As a British Commissioner has said: "Many of the colonies of the British Empire helped to make good the deficiencies of the mother country, and two of them, New South Wales and Canada, may be deservedly accorded places in the foremost rank among the nations which exhibited. No such opportunity has previously been afforded for British colonies, rising rapidly into the importance of rich and powerful nations, to show to the World the extent and variety of their resources. In almost every department the distant Colony of New South Wales has been conspicuous; in more than once her exhibits occupied a front rank. New South Wales must occupy a leading position in the future records of the World's Columbian Exposition, the exhibits in her numerous courts having been both actually and by comparison of the first order."

One effect was produced by our display: The people of the United States are of a most inquisitive nature, and the large display we made, especially in our natural products, led to inquiries by visitors on almost every subject connected with the exhibits. Foreigners, also, from the great nations of Europe and elsewhere examined our representation. Australia was to most of these a *terra incognita*, and the name of New South Wales was, on our first appearance in Chicago, imagined to be representative of some portion of Great Britain. The remembrance, however, of the existence of Indians, as our aboriginals were called, in our country rather confused this generalisation. Before the conclusion of the Fair, New South Wales and Sydney (generally spelt "Sidney" up to this time) were well known. Outside of the exhibits of our natural resources two things greatly assisted the general effect of our representation. The large number of enlarged photographs representing our scenery, our great public works, our hospitals, our schools, trade and commerce, our architecture and our social life, was a most important factor as an educational medium, and I must confess that had I not been an eye-witness of the effect of these photographs I could not have believed in its great importance. The constant expression was one of surprise that such things could possibly be in a country so remote and of which so little up to that time was known by the average American citizen or the foreign visitor. The fact that these representations were photographs, and not mere pictures of the cunning artist's imagination, was a matter which appealed at once to the observer, and took away all hesitancy as to the credibility and accuracy of that which was represented. The other great factor was the pamphlets and other literary matter forwarded for distribution. It often appeared to me that these were perhaps the most useful of all our exhibits. There was a steady and constant demand for all these pamphlets, not only from the general public but also from learned men of all countries. They have now been distributed not only in the United States but in nearly every civilised country of the World by the accredited representatives of these countries at the Exhibition, to whom collected sets were sent for that purpose.

Every great newspaper represented (foreign and American) received some of them in Chicago. Long after the White City has been reconverted into Jackson Park, and its great palaces have passed away, these publications in public libraries, and in the studies of the literary men, and of the reading public, will remain a permanent legacy of our representation at the World's Columbian Exposition. No country at the Fair had such a collection of useful literary matter, and it was universally allowed that our catalogue, with its bold clear type, its lucid explanations, its comprehensive index of the exhibits, and its general information, was not surpassed by any other.

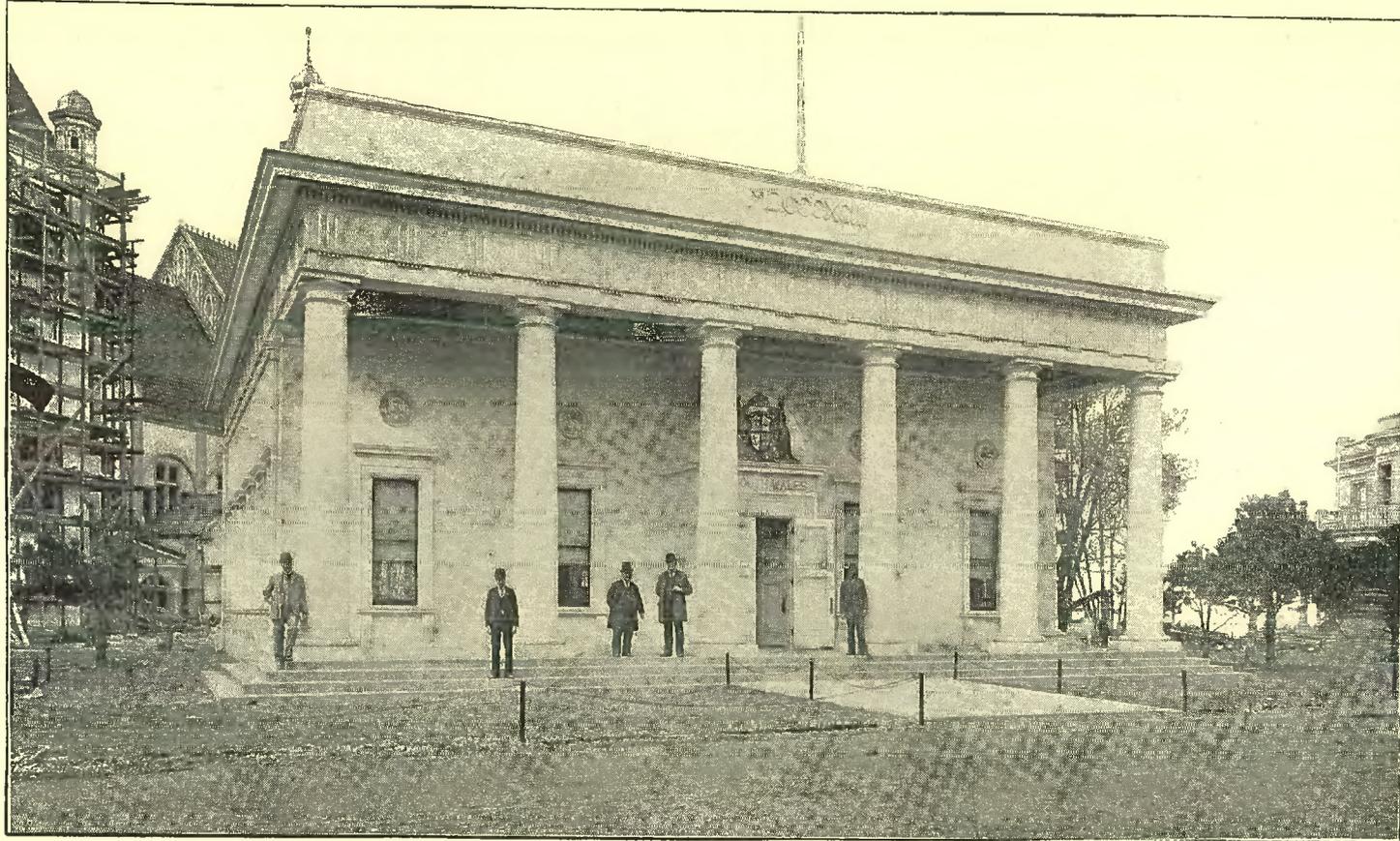
Australia



ART GALLERY, HALL OF "AUSTRALIA" HOUSE, NEW SOUTH WALES ADMINISTRATION BUILDING.



HALL, "AUSTRALIA HOUSE," NEW SOUTH WALES ADMINISTRATIVE BUILDING.



NEW SOUTH WALES GOVERNMENT BUILDING, "AUSTRALIA HOUSE."

Australia House.

THE provision of our Administration Building was, I clearly foresaw from the first, an absolute necessity. Our country made its arrangements for space, for reasons I need not now enter into, at so late a date after the official announcements of allotment that, notwithstanding the extra space granted afterwards at my personal request, I was quite certain some provision of this kind would be necessary not only for exhibits but for official purposes. Independently altogether of this reason I found that if we were to hold a distinctive position at the Exhibition; and if New South Wales was to occupy its proper place among other countries, a State or Government building would be required. The only difficulty in the way was the necessity of adhering to the principle of economy, and especially of endeavouring to keep within the amount that had been resolved upon as our limit of expenditure. All these purposes were subserved by Australia House. There the New South Wales flag floated from morning till night; there all visitors from Australia were welcomed; there all the official business was transacted; there were stored surplus exhibits and other matters; there was placed in the great hall the principal portion of our Fine Arts exhibits. Thousands visited the building every day, and the visitors' book contained the names of many of the most distinguished visitors, and was filled with commendatory remarks on the exhibits of New South Wales throughout the buildings. In the hall of the building, as in all our various courts, was a placard announcing where our exhibits were to be found in the various buildings.

The building was 60 feet by 60 feet, and had garden ground around it grassed and planted. Its cost was only about \$5,000, and altogether it looked as well and was much more useful than many other similar buildings, but none were so reasonable in cost; in fact some buildings of the same kind, certainly not more imposing, cost as much as the whole of the Parliamentary vote for the New South Wales Commission.

Australia House was classical in design and ornamentation. It covered an area of 4,320 square feet, being 60 feet by 60 feet in exterior dimensions, with a portico 12 feet wide extending across the front. There was a flight of three steps leading to this portico, and extending across the front and ends of the same. The roof of this portico was supported by six Doric columns, 2 ft. 6 in. in diameter, and 20 feet high, with a cornice frieze and balustrade extending round the entire building. At each of the corners was a large Doric pilaster, corresponding to the columns of the portico. The entrance was at the centre of the portico front. All mouldings had moulded architraves and cornices, and each window had a pair of moulded modillions under it. The exterior of the building was staff. The central portion was occupied by a hall 30 feet in width, and extending the entire depth of the building. In the centre was a polygonal dome 30 feet in diameter, the top being 40 feet from the floor. This dome added to the effect, to the light and ventilation of the whole, and was covered on the interior with ornamental staff. Arranged on three sides of the main hall were the offices of the legation, eight in number.

Effect of the New South Wales Representation.

At this Exhibition the New South Wales Commission was acknowledged as a distinct national commission. In view of the future this was an important matter. Two circumstances already alluded to in this Report—the insertion of the name of our country among those of the great nations of the World on the entablature round the

the interior of the dome of the Administration Building, and the placing of the Sydney time on one of the great clocks, showing the hour of the day in the frieze of the railway station waiting-room—show the tendency in this direction; and many other circumstances of similar character occurred during the currency of the Exposition.

A fact frequently referred to by the American press, and one of great importance, was that as a Colony we represented all Australia, none of the other Colonies of Australia being officially present. During the course of the Exhibition, day after day, the cables containing the news of the various stages of the great bank failures in Australia were printed in the newspapers of America; but the great and unrivalled display of natural resources was pointed out by the American press as conclusive proof that, notwithstanding the financial disaster, a country possessing such resources would soon recover itself. Our wool, our minerals, our timbers, our wines, and then the exhibits illustrating our progress in arts and civilisation and our industrial and educational advance, all told their own tale to even the untutored observer.

But after all, the question may be asked as to what direct advantages will accrue to New South Wales for the money expended in the Colony's participation in the Exposition. While it may be allowed that our expenditure was greatly less than that of other countries, whose display could not rival our own, what are the direct benefits derived from the outlay? The question is a reasonable one, and the answer not far to seek. At the World's Columbian Exposition, the grandest ever yet created, in the midst of all the greatest nations of the world, New South Wales has established a reputation as the greatest wool-producing country in the world, and her show of wool has undoubtedly attracted the attention of all those who are in favour of a repeal of the wool duties in force. Those who were indifferent on the subject have had their views strengthened, and many of those who had no conception of the real nature of our staple, the desirableness of introducing it direct into the American market, have conceded that this wool exhibit was the greatest object lesson on the subject of "Free Wool," America has ever had—and it must bear fruit in the near future in the form of a great outlet for our staple.

The Timber resources have been shown in a most convincing manner and the contrast between the soft American timbers and the hardwoods of Australia so exhibited that the need for an exchange of products of this class between the two countries has been fully recognised. The wooden block road we constructed was a practical exemplification of the matter, and attracted the attention of men who are fully alive to the importance of the subject. Our minerals, an unrivalled exhibit, were the subject of much attention. In fact the attention of capitalists, contractors, and others from all parts of the world has been drawn specially to these matters, and I have had innumerable inquiries on all these subjects.

There are many other matters which might be referred to in this connection. I shall only mention one. In the near future the severities of the M'Kinley tariff must be removed—this both Republican and Democrat seem to be agreed upon. Our country is only three or four weeks distance by steam from America. Germany, which is half that distance, in order to produce an effective result, spent several millions sterling on its exhibit; and other countries, still more remote, spent large sums for the same purpose. In view of the closer relations anticipated, surely it was well worth our while to spend the comparatively small sum we disbursed to effect the impression we created, and to strengthen and consolidate any recognition heretofore existing as to our character and our great natural resources. Within the last few months additional reason from this standpoint has been provided by the establishment of the new steamship line from
Sydney

Sydney to England, *via* Vancouver; and I know that the interest manifested in our commercial resources and the desire for closer commercial intercourse was greatly forwarded by our country's representation at the World's Columbian Exposition.

Departure of the Executive Commissioner from Chicago.

THE numerous formalities connected with the repacking of our exhibits, to be forwarded to London for the New South Wales Court in the Imperial Institute, and to be returned to Sydney, having been arranged, and as soon as the railway cars were prepared for loading, under the supervision of the General Superintendent, I left Chicago after a residence there of nearly eleven months, during which long period I was only absent two days from the Exposition on account of illness. I visited Washington in order to make myself assured that our list of awards was quite correct, and at the Bureau of Awards, already located in that city, I had the opportunity of finally revising the official list. Several of the nations represented at the Exposition had appointed agents to watch their interests in this matter at Washington, but I believe my visit accomplished all that was necessary on our behalf in this matter. Whilst in Washington I had the advantage of a long conversation with Mr. Wilson, Chairman of the Tariff Committee of the House of Representatives, on the subject of the remission of the duties on wool, as provided for in the new bill, and left with that gentleman a memorandum on the subject, prepared by Mr. Bruce, Chief Inspector of Stock for New South Wales.

On my arrival in London I visited the Imperial Institute in company with Sir S. Samuel, Agent-General for New South Wales, and met there the various officials of the Institute, and conversed with them as to the reasonableness of obtaining increased space for our valuable exhibits from Chicago. The space granted to New South Wales in the Imperial Institute appeared to me very inadequate. As a member of the Council of the Institute Sir S. Samuel undertook to represent this matter more fully to the authorities.

Conclusion.

IN now bringing my labours to a close, and resigning my office as Executive Commissioner to this greatest of all Exhibitions, an office which has engaged my time and ability from October, 1891, I trust that my endeavours, honestly made in the interest of New South Wales and of Australia, have been of some advantage, and that ultimately practical results will follow the splendid representation our country has made at the World's Columbian Exposition.

I have the honor to be,
Your Excellency's obedient Servant,
ARTHUR RENWICK.

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APPENDIX A.

Executive Commissioner's Commission.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland,
Queen, Defender of the Faith, and so forth.

To Our Trusty and Well-beloved—

The Honorable ARTHUR RENWICK, "Abbotsford," Five Dock, near Sydney, in Our
Colony of New South Wales, M.D., F.R.C.S. Edin., and a Member of the Legislative
Council of Our said Colony,—

GREETING :

WHEREAS, by an Instrument under the Great Seal of Our said Colony of New South
Wales, bearing date the twenty-eighth day of September last, We did appoint certain
Commissioners for Our said Colony, in connection with the World's Columbian
Exposition, to be held in the City of Chicago, in the United States of America, in the
year one thousand eight hundred and ninety-three, to which Exposition divers of Our
subjects in Our said Colony of New South Wales propose to transmit various articles,
the produce or manufacture thereof: And whereas it has appeared to us to be
expedient to appoint an Executive Commissioner, to act on behalf of Our said Colony
of New South Wales, in all things connected with the said Exhibition, in conjunction
with the said Commissioners, or such other Commissioners as may hereafter be appointed:
Now therefore know you, that We, of Our especial grace, have thought fit to appoint,
and do hereby appoint you to be Our Executive Commissioner for Our said Colony of New
South Wales, at the World's Columbian Exposition, to be held in the City of Chicago,
in 1893, with full power to arrange for the fitting up and preparing the New South
Wales Court at the said Exposition; and to receive and superintend and direct the
unpacking and placing of all properties and articles whatsoever, which Our Commission,
sitting in Sydney, may send and transmit as Exhibits from the said Colony of New South
Wales. We further enjoin you in all your proceedings, wherever it may be necessary for
the public interest, to act in communication and harmony with Our Commission aforesaid.
And further, that you use your utmost diligence and care in all matters connected with
the arrangement and display therein of all such articles, and their subsequent disposal
in Chicago, or their retransmission to New South Wales, as circumstances may require.

In testimony whereof, We have caused these Our Letters to be made Patent, and
the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness, Our Right Trusty and Right Well-beloved Cousin and Councillor,
VICTOR ALBERT GEORGE, EARL OF JERSEY, Knight Grand Cross of Our
Most Distinguished Order of Saint Michael and Saint George, Our Governor
and Commander-in-Chief of Our said Colony of New South Wales and its
(L.S.) dependencies, at Government House, Sydney, in New South Wales aforesaid,
this sixteenth day of October, in the fifty-fifth year of Our reign, and in the
Year of Our Lord one thousand eight hundred and ninety-one.

JERSEY.

By His Excellency's Command,
HENRY PARKES.

APPENDIX B.

Commissions of Foreign Countries in the United States.

(Corrected to 15th August, 1893.)

ARGENTINE REPUBLIC.

- Mr. Carlos R. Gallardo, President National Commission, Commissioner-General, 3311, Cottage Grove Avenue, Chicago.
 H. D. Hoskold, Chief Government Mining Engineer, Special Commissioner of Mines, 193, Van Buren-street, Chicago.
 Mr. Gustavo Niederlein, Commissioner, Argentine Section, Forestry Building, Jackson Park, Chicago.
 Mr. Enrique M. Nelson, Commissioner, White House Hotel, Wabash Avenue, Chicago.

AUSTRIA.

Official Address:—Imperial and Royal Austrian Commission, 6030, Edgerton Avenue, Chicago.

Commissioner-General—

- Hon. Anton von Palitschek-Palmforst, LL.D., Imperial Royal Consul-General, Chairman Local Commission.

Assistant Commissioners—

- Alexander Poppovic, LL.D.
 Gaston Bodart, LL.D.

Adjoints—

- Mr. Emil Bressler, Architect.
 Mr. Hans Temple, Delegate for Fine Arts.
 Mr. Victor Pilwax, Treasurer.
 Mr. Josef Grünwald, Official Commercial Representative.
 Mr. Raphael Kuhe, Official Commercial Representative.
 Mr. Emil S. Fischer, Superintendent.

Local Commission—

- Mr. Heinrich Claussenius, Imperial and Royal Consul, Vice-Chairman.
 Engineer Moriz Seifert, Vice-Chairman.
 Mr. Rudolf Beyfuss.
 Mr. Edouard Boudie.
 Mr. Robert B. Jentzsch.
 Arthur Ritter von Kink.
 Mr. Felix Kohn.
 Mr. Alexander Lanyi.
 Mr. Henry Latzko.
 Mr. Rudolf Otto Mass.
 Mr. Franz Ferdinand Poeschl.
 Mr. Alois Pollak.
 Professor Johann von Radinger.
 Etienne Ritter von Scanavi.
 Emil Ritter von Scoda.
 Mr. Emil Siegl.
 Mr. Albert Stiassny.
 Mr. Bernard Strakosch.
 Mr. Alfred Taussig.

BELGIUM.

Official Address:—Royal Belgian Commission, 168, Oakwood Boulevard, Chicago.

- H. E. Alfred Le Ghait, E.E. and M.P. of Belgium, Washington, D.C.
 Hon. Lambert Tree, Honorary Counsellor, 70, La Salle-street, Chicago.
 Mr. Paul Hagemans, Consul-General, Honorary Member, Philadelphia, Pa.
 Mr. Charles Henrotin, Consul, Honorary Member, 65 Bellevue Place, Chicago.
 M. Edouard Guerette, Delegate of the Commissioner-General.
 Mr. Raymond Le Ghait, Secretary of the Commission.
 M. Fernand Vereruyse, Secretary of the Commission.
 Mr. Straux Michel, Delegate of Fine Arts Commission.

BOLIVIA.

- Mr. Emile M. Blum, Commercial Commissioner, 2919, Groveland Avenue, Chicago.

BRAZIL.

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BRAZIL.

- Rear-Admiral Joaquim Antonio Cordovil Maurity, President, Hotel Metropole, Chicago.
 Captain J. M. de Lemos Basto, Acting President, Hotel Metropole, Chicago.
 Mr. Adolpho Aschoff, Secretary of the National Commission, 493, Forty-second Place, Chicago.
 Baron of Marajo, Commissioner, 2107, Michigan Avenue, Chicago.
 Captain Lieutenant José Martins de Toledo, Commissioner, 2236, Michigan Avenue, Chicago.
 Dr. Julio Cesar Brandão, Commissioner, 493, Forty-second Place, Chicago.
 Mr. Graciano A. de Azambuja, Commissioner, 3447, Prairie Avenue, Chicago.
 Lieutenant-Colonel F. M. Souza Aguiar, Commissioner, 148, Forty-second-street, Chicago.
 Professor Rodolpho Bernardelli, Commissioner of Fine Arts, Hotel Metropole, Chicago.
 Mr. M. Aguiar Moreira, Commissioner, Hotel Savoy, New York City.
 Mr. Tito B. Jalvao, Commissioner, Brazilian Building, Jackson Park, Chicago.
 Mr. Antonio Guimaraes, Commissioner, Brazilian Building, Jackson Park, Chicago.
 Lieut. Joao Baptista da Motta, Commissioner, Hotel Metropole, Chicago.
 Mr. Carlos Gomes, Commissioner, 2634, Wabash Avenue, Chicago.
 Mr. Lauro Bittencourt, Aide to Commission, Brazilian Building, Jackson Park, Chicago.
 Mr. Theobaldo de Souza Queiroz, Aide to Commission, Brazilian Building, Jackson Park, Chicago.
 Mr. F. F. Napoleao, Aide to Commission, 2107, Michigan Avenue, Chicago.
 Mr. H. Barjona de Miranda, Aide to Commission, 2107, Michigan Avenue, Chicago.
 Mr. Luiz Michelet, Aide to Commission, Lakota Hotel, Chicago.
 Mr. Joao Jose da Silva, Attache to Commission, 2244, Michigan Avenue, Chicago.

BRITISH GUIANA.

- Mr. J. J. Quelch, Special Commissioner, British Guiana Section, Agricultural Building, Jackson Park, Chicago.

BULGARIA.

- Professor Vulko I. Shopoff, Delegate, 7554, Bond Avenue, Windsor Park, Chicago.

CANADA.

Official Address :—Canadian Pavilion, Jackson Park, Chicago.

- Mr. G. R. R. Cockburn, M.P., Honorary Commissioner.
 Hon. Joseph Tasse, Senator, Honorary Commissioner.
 Mr. J. S. Larke, Executive Commissioner.
 Mr. A. R. C. Selwyn, C.M.G., L.L.D., &c., Director Geological Survey.
 Mr. Wilbert David Dimock, Secretary of Commission.
 Mr. N. Awrey, M.P.P., Commissioner for Ontario.
 Hon. John McIntosh, Commissioner for Quebec.
 Hon. W. D. Perley, Commissioner for North-west Territories.
 Mr. Charles F. Law, Commissioner for Province British Columbia.
 Rev. P. N. Bruchesi, Canon, Advisory Commissioner for Quebec.
 Mr. S. P. May, D.C.L., Director for Ontario (Liberal Arts).
 Mr. James Lobb, Superintendent (Manufactures).
 Mr. L. Woolverton, Superintendent (Horticulture).
 Mr. James Clarke, Superintendent (Machinery).
 Mr. J. A. Goulet, Superintendent (Agricultural Machinery).
 Mr. W. M. Andrews, Superintendent (Transportation).
 Mr. W. Morton, Superintendent (Liberal Arts).
 Mr. J. H. Tracey, Private Secretary to Executive Commissioner.
 Mr. Wm. McIntosh, Superintendent for Quebec (Mines).
 Mr. David Boyle, Superintendent for Ontario (Mines).
 Mr. A. H. Pettit, Superintendent for Ontario (Fruit).
 Mr. Henry Wade, Private Secretary of Ontario Commissioner.
 Mr. Chas. de Cazes, Superintendent Indian Affairs.
 Mr. C. W. Willmott, Assistant Curator, Geological Survey.
 Mr. Robert B. Boak, Resident Representative for Nova Scotia.

CAPE COLONY.

- Mr. Weiner, M.P., Executive Commissioner, Mines and Mining Building, Jackson Park, Chicago.
 Mr. M. Berliner, Assistant Commissioner, Mines and Mining Building, Jackson Park, Chicago.
 Mr. S. Berliner, Secretary to Commission, Mines and Mining Building, Jackson Park, Chicago.
 Mr. J. W. Cundill, Superintendent Diamond Court, Mines and Mining Building, Jackson Park, Chicago.

CEYLON.

- Hon. J. J. Grinlinton, M.L.C., Special Commissioner, 6620, Sheridan Avenue, Chicago.
 Mr. W. W. Pole Fletcher, Assistant Commissioner, 346, Sixty-third Street, Chicago.
 Captain Arthur Hansard, Local Assistant Commissioner, 346, Sixty-third Street, Chicago.

CHILE.

CHILE.

Mr. A. Thompson Rei, Commercial Commissioner, Hotel Willard, Eighteenth-street and Wabash Avenue, Chicago.

COLUMBIA.

Official Address :—Columbian Pavilion, Jackson Park, Chicago.

Dr. Carlos Martínez Silva, Commissioner-General and President of National Commission.
 Mr. Enrique de Narváez, Commissioner.
 Dr. Clímaco Calderon, Commissioner.
 General Julio Rengifo, Commissioner.
 Mr. Edward E. Britton, Commissioner.
 Mr. Henry Rowan Lemly, Commissioner and Secretary of National Commission.
 Mr. T. Paredes, Commissioner for Department of Antioquia.
 Mr. Pablo Emilio Garcia, Commissioner for Department of Antioquia.
 General Juan M. Dávila, Commissioner for Department of Magdalena.
 Mr. Manuel Montoya, Commissioner for Department of Boyaca.
 Mr. Alfred Garcés, Commissioner for Department of Cauca.
 Mr. Manuel Narciso Lobo, Commissioner for Department of Santander.

COSTA RICA.

Official Address :—Costa Rica Building, Jackson Park, Chicago.

H. E. Sr. D. Manuel M. de Peralta, E.E. and M.P., President of Commission.
 Señor Dr. Don D. J. Guzman, Vice-President, Commissioner-General.
 Señor Dr. Don Joaquin B. Calvo, First Secretary of the Legation and Commission.
 Señor Don Anastasio Alfaro, V. Secretary and Commissioner, Archaeological Department.
 Dr. Francisco J. Rucavado, Commissioner-Treasurer.
 Señor D. Guillermo Gerard, Commissioner.
 Señor Don Manuel Aragon, Jr., Attaché of Legation and Commission.
 Señor Dr. Jose M. Peralta, M.D., Commissioner.

DENMARK.

Mr. Otto A. Dreier, Resident Commissioner, 209, Fremont-street, Chicago.
 Mr. Carl Rohl-Smith, Commissioner of Sculpture, Woman's Temple, Chicago.

ECUADOR.

Colonel M. N. Arazaga, Charge d'Affairs and Delegate-General, 225, Wabash Avenue, Chicago.
 Señor Don G. Perez, Secretary, 225, Wabash Avenue, Chicago.
 Mr. L. J. Millet, Commissioner, 225, Wabash Avenue, Chicago.
 Mr. Oscar Jander, Secretary, 225, Wabash Avenue, Chicago.

FRANCE.

Official Address :—French Building, Jackson Park, Chicago.

M. Edmond Bruwaert, Consul-General, Deputy Commissioner-General, 56, Fifth Avenue, Chicago.
 M. L. Vassilliére, Special Commissioner for Agriculture, French Section, Agricultural Building, Jackson Park, Chicago.
 M. T. Bilbaut, Special Commissioner for Colonies, 2353, Michigan Avenue, Chicago.
 Marquis de Chasseloup Laubat, Special Commissioner for the World's Congress Auxiliary, 357, East Ontario-street, Chicago.
 Marquis de la Touanne, Electrical Engineer, Florence Hotel, Pullman, Ill.
 M. Verstraete, Vice-Consul, Secretary, 606, East Division-street, Chicago.
 M. J. Heilmann, Treasurer, 56, Fifth Avenue, Chicago.
 M. C. Mascart, Chief of Installation, 357, East Ontario-street, Chicago.
 M. Max Duchanoy, Chief of Service, 357, East Ontario-street, Chicago.
 M. Lefevvre Meaulle, Attaché, 16, Bellvue-place, Chicago.
 Baron René de Batz, Attaché, Lexington Hotel, Chicago.
 M. A. Masure, Attaché, 357, East Ontario-street, Chicago.
 M. Pierre Masson, Attaché, 357, East Ontario-street, Chicago.
 M. H. Guidicelli, Assistant Commissioner for Fine Arts.
 M. H. L. Guerin, Secretary of the Fine Arts Committee.
 M. Roger-Martin, Assistant Special Commissioner for Agriculture, Agricultural Building, Jackson Park, Chicago.
 M. H. Mesnier, Assistant Special Commissioner for Agriculture, Agricultural Building, Jackson Park, Chicago.
 M. E. Monteils, Special Commissioner of Algeria, 467, Washington Boulevard, Chicago.
 M. Scherer, Secretary for Colonies, 2353, Michigan Avenue, Chicago.
 M. de Loynes, Guards Inspector, 200, Dearborn Avenue, Chicago.

Commanding Sailors' Detachment—

Comte de Balincourt, Lieut. French Navy, 357, East Ontario-street, Chicago.

GERMANY.

GERMANY.

Official Address :—Imperial German Commission, German State Building, Jackson Park, Chicago.

- Dr. Max Richter, Imperial Representative Commissioner, 3171, Groveland Avenue, Chicago.
 Mr. Franz Berg, Assistant Imperial Commissioner, 3171, Groveland Avenue, Chicago.
 Mr. Franz Jaffé, Royal Architect, Imperial Commission, 4801, Madison Avenue, Chicago.
 Mr. Hugo Schnars-Alquist, Delegate for Fine Arts, Imperial Commission, 3048, Lake Park Avenue, Chicago.
 Mr. Carl Haller, Engineer, Imperial Commission, 3171, Groveland Avenue, Chicago.
 Mr. Gustav Speiss, Member for Commercial Affairs, Imperial Commission, 519, Forty-fifth Street, Chicago.
 Mr. Wilhelm Gröning, Secretary, Imperial Commission, 3171, Groveland Avenue, Chicago.
 Dr. Lobach, Electrical Engineer, 3171, Groveland Avenue, Chicago.
 Mr. Alfred von Tilly, Attaché Imperial Commission, 3171, Groveland Avenue, Chicago.

Council of Deputies—

- Professor Dr. Watzoldt, Representative Prussian Ministry of Education.
 Professor Finkler, Representative Prussian Ministry of Education.
 Dr. Lichtenfelt, Representative Prussian Ministry of Education.
 Dr. Kallen, Representative Prussian Ministry of Education.
 Bergassessor Conrad Engel, Representative Prussian Ministry for Commerce.
 Mr. Ehrhardt, Civil Engineer, Nuremberg-Furth Industry.
 Mr. Richard Fischer, Chemical Collective Exhibit.
 Mr. Fritz Gräber, Textile Collective Exhibit.
 Professor Hartmann, Royal Architect, Engineering Exhibit.
 Mr. Richard Horstmann, Royal Prussian Porcelain and Jewellery Exhibits.
 Professor Hoffmann, Textile Collective Exhibit.
 Dr. Ulrich Jahn, Ethnological Exhibit, "German Village."
 Conservator Kopp, Bavarian Industrial Art Exhibit.
 Mr. A. Lauter, Civil Engineer, Gun Exhibit, Krupp Pavilion, Jackson Park.
 Mr. Meyer, Civil Engineer, Metallurgical Exhibit.
 President O. W. Meysenberg, Electrical Exhibit.
 Dr. Albert C. Weil, Bathing and Mineral Exhibit.
 Professor Riedler, Engineering Exhibit.
 Mr. Guenther, Civil Engineer, Machinery Exhibit.
 Mr. Eduard Schrickell, Iron Industry.
 Mr. Hartmann, Electrical Exhibit.
 Mr. von Siemens, Electrical Exhibit.
 Dr. Jürgens, Assistant of the Pathological Institute, Berlin.
 Professor Mashke, Mathematics, University of Chicago.
 Professor Bolza, Mathematics, University of Chicago.
 Reinhold von Baerie, Art Exhibit.
 Dr. Constantin Noerrenberg, Educational Exhibit.
 Mr. Braun, Baden Industrial Exhibit.
 Mr. Schiller, Horticultural Exhibit.
 Mr. Baumgartel, Collective Book Exhibit.
 Mr. Georg Langheinrich, Textile Collective Exhibit.
 Professor Dr. A. Schricker, Industrial Art Exhibit.
 Dr. Richard Hirsch, Art Industrial Exhibit.

GREAT BRITAIN.

Official address :—Victoria House, Jackson Park, Chicago

- Michael Carteighe, Royal Commissioner.
 Francis Edgar, Royal Commissioner.
 Professor Clement Le Neve Foster, Royal Commissioner.
 Mr. William Henry Preece, Royal Commissioner.
 Sir Henry Trueman Wood, Secretary Royal Commission.
 Mr. E. H. Lloyd, Assistant Secretary and General Superintendent, Royal Commission.
 Mr. Ralph A. Harbord, Private Secretary.
 Mr. J. W. Beck, Superintendent (Fine Arts).
 Mr. E. H. Fishbourne, M.A., LL.B., Superintendent (Manufactures).
 Mr. H. D. Wilkinson, M.I.E.E., Superintendent (Machinery, &c.)
 Mr. Thomas Baker, Superintendent (Transportation).
 Mr. H. W. Pearson, Superintendent (Agriculture).
 Mr. T. G. Dundas, Assistant Superintendent for Traffic Arrangements.
 Mr. Edward F. Bird, Accounts Clerk.
 Mr. J. Bowdidge, Draughtsman.

GREECE.

- Mr. Charles L. Hutchinson, President Royal Commission, Corn Exchange Bank, Rookery Building, Chicago.
 Mr. D. Jannopoulo, Royal Commissioner, 218, Chestnut-street, St. Louis, Mo.
 Mr. Otho S. A. Sprague, Royal Commissioner, 13, Randolph-street, Chicago.

GUATEMALA.

GUATEMALA.

Official Address :—Guatemala Building, Jackson Park, Chicago.

- Señor Don Manuel Lemus, President of Commission, 3944, Langley Avenue, Chicago.
 Señor Dr. Gustavo E. Guzman, Vice-President, 3949, Langley Avenue, Chicago.
 Señor Don Leon H. Rosenthal, Treasurer, 3944, Langley Avenue, Chicago.
 Señor Don Manuel G. Elgueta, Department of Archaeology, 3944, Langley Avenue, Chicago.
 Señor Don Geo. C. Monzon, Attaché, 3944, Langley Avenue, Chicago.
 Mr. J. Motte Martin, Honorary Commissioner, 3160, Lake Park Avenue, Chicago.

HAITI.

- Hon. Frederick Douglass, Commissioner, Haitian Pavilion, Jackson Park, Chicago.
 Mr. Charles A. Preston, Commissioner, Haitian Pavilion, Jackson Park, Chicago.
 Mr. Alberie Carle, Secretary, Haitian Pavilion, Jackson Park, Chicago.
 Mr. Gustave Stromberg, Acting Attaché, Haitian Pavilion, Jackson Park, Chicago.

ITALY.

Official Address :—Italian Commission Office, Jackson Park, Chicago.

- H. E. Marquis Enrico Ungaro, Royal Commissioner-General, 146, Fifty-second-street, Italian Cottage, Chicago.
 Count Detalmo di Brazza Savorgnan, Royal Commissioner, 767, North Clark-street, Chicago.
 Signor Vittorio Zeggie, Royal Commissioner, Oneida Building, Fifty-first-street, Chicago.
 Chevalier Guglielmo Grant, Royal Commissioner, Lexington Hotel, Chicago.
 Chevalier Celso Capacci, Royal Commissioner, 235, Michigan Avenue, Chicago.
 Signor Angelo del Nero, Royal Commissioner for the Fine Arts, 339, Michigan Avenue, Chicago.
 Chevalier Tomasso Silombra, Royal Commissioner, 6312, Champlain Avenue, Chicago.
 Dr. Ettore Candiani, Royal Commissioner, 40, Thirty-second-street, Chicago.
 Count Renato Piola Caselli, Royal Secretary-General, Union Club, Chicago.
 Chevalier Luigi D'Urso, Secretary, Italian Commission Office, Jackson Park, Chicago.
 Chevalier L. Caldarazzo, Secretary, Hyde Park Hotel, Chicago.
 Signor Giovanni Vigna dal Ferro, Secretary, 339, Michigan Avenue, Chicago.
 Chevalier Giuseppe Guetta, Official General Agent, 146, Fifty-second-street, Italian Cottage, Chicago.

JAMAICA.

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 Mr. Edmund Haughton Sanguinetti, Secretary, 5228, Hibbard Avenue, Chicago.

JAPAN.

- H. E. Gozo Tateno, Vice-President of Commission, Japanese Legation, Washington, D.C.
 Hon. N. Yamataka, Imperial Commissioner, 5503, Cornell Avenue, Chicago.
 Hon. S. Tegima, Imperial Commissioner, 5503, Cornell Avenue, Chicago.
 Dr. C. Matsudaira, Imperial Commissioner, 5503, Cornell Avenue, Chicago.
 Mr. T. Uchida, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. K. Tawara, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. H. Ishizawa, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. H. Akiyama, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. Y. Yambe, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. S. Suwa, Secretary, 5503, Cornell Avenue, Chicago.
 Mr. C. Ando, Secretary, 5503, Cornell Avenue, Chicago.
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 Mr. K. Takayama, Councillor, 5503, Cornell Avenue, Chicago.
 Mr. S. Tanaka, Councillor, 5503, Cornell Avenue, Chicago.
 Mr. S. Tsuda, Councillor, 5503, Cornell Avenue, Chicago.
 Mr. U. Saito, Councillor, 5504, Everett Avenue, Chicago.
 Mr. K. Niwa, Councillor, 5504, Everett Avenue, Chicago.
 Mr. S. Nishimura, Councillor, 5504, Everett Avenue, Chicago.
 Mr. M. Takito, Councillor, 2104, Michigan Avenue, Chicago.
 Mr. K. Watano, Councillor, 6027, Indiana Avenue, Chicago.
 Mr. J. Takamine, Councillor, 2111, Jefferson-street, Peoria, Ill.
 Mr. R. Hayakawa, Councillor, 5607, Green-street, Chicago.
 Mr. Shioda, Councillor, 276, Forty-second-street, Chicago.
 Mr. Tadamasa Hayashi, Councillor, 6124, Indiana Avenue, Chicago.
 Mr. S. Amano, Examiner, 5503, Cornell Avenue, Chicago.
 Mr. S. Fujimoto, Councillor.

KOREA.

- Hon. Chung Kyung Won, Royal Commissioner, 275, Forty-second-street, Chicago.
 Mr. Pak Yong Kiu, Assistant Commissioner, 275, Forty-second-street, Chicago.
 Mr. Chai Moon Hiun, Attaché to Commissioner, 275, Forty-second-street, Chicago.
 Mr. An Key Sun, Interpreter, 275, Forty-second-street, Chicago.

LIBERIA.

LIBERIA.

- Hon. William E. Rothery, Commissioner, Liberian Court, Agricultural Building, Jackson Park, Chicago.
 Hon. Alfred B. King, Commissioner, Liberian Court, Agricultural Building, Jackson Park, Chicago.
 Mr. Charles B. Dunbar, Secretary, Liberian Court, Agricultural Building, Jackson, Park, Chicago.

MEXICO.

- Hon. Miguel Serrano, Delegate General, Lexington Hotel, Chicago.
 Engineer Fernando Ferrari Perez, Secretary General and Sub-Delegate, 5038, Washington Avenue, Chicago.
 Señor Don F. Atristain, Commissioner, 3540, State-street, Chicago.
 Señor Don M. Caballero, Commissioner, Granada Hotel, Chicago.
 Señor Don Ricardo de Maria y Campos, Commissioner, 330, Park Avenue, Chicago.
 Señor Don Angel de Campo, Commissioner, 5038, Washington Avenue, Chicago.
 Señor Don M. M. Chabert, Commissioner, 3540, State-street, Chicago.
 Engineer A. M. Chavez, Commissioner, 2123, Wabash Avenue, Chicago.
 Señor Don A. D. y Hernandez, Commissioner, 1606, Michigan Avenue, Chicago.
 Engineer R. Escobar, Commissioner, 3540, State-street, Chicago.
 Engineer J. D. Fleury, Commissioner, 5038, Washington Avenue, Chicago.
 Professor Mariano J. Garfias, Assistant Secretary, 5038, Washington Avenue, Chicago.
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 Señor Don Miguel Garibay, Commissioner, 5038, Washington Avenue, Chicago.
 Lieut.-Col. Jorge M. Green, Commissioner, Eighteenth-street, and Indiana Avenue, Chicago.
 Señor Don José F. Godoy, Commissioner, 5409, Madison Avenue, Chicago.
 Señor Don M. H. de Azua, Commissioner, 1328, Michigan Avenue, Chicago.
 Captain Rafael Mallen, Commissioner, 5231, Dearborn-street, Chicago.
 Engineer A. R. Nuncio, Commissioner, 3510, State-street, Chicago.
 Señor Don José Oteo, Commissioner, 5038, Washington Avenue, Chicago.
 Señor Don Othon de Palacio y Magarola, Commissioner, 3540, State-street, Chicago.
 Señor Don M. de las Piedras y Fernandez, Commissioner, 3540, State-street, Chicago.
 Señor Don Gral. Ireneo Paz, Commissioner, 5038, Washington Avenue, Chicago.
 Señor Don Julio Poulat, Commissioner, 5038, Washington Avenue, Chicago.
 Prof. Natal Pesado, Commissioner, 1435, State-street, Chicago.
 Señor Don José Romero, Commissioner, 5038, Washington Avenue, Chicago.
 Engineer Rosendo Sandoval, Commissioner, 3540, State-street, Chicago.
 Engineer C. Sellerier, Commissioner, 5038, Washington Avenue, Chicago.
 Señor Don Victor M. Venegas, Commissioner, 5038, Washington Avenue, Chicago.
 Señor Don José M. Villasana, Commissioner, 5038, Washington Avenue, Chicago.
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NETHERLANDS.

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CURACAO.

- Mr. Milton O. Higgins, Commissioner, 161, La Salle-street, Chicago.

NEW SOUTH WALES.

Official Address:—Australia House, Jackson Park, Chicago.

- Honorable Dr. Arthur Renwick, M.L.C., Executive Commissioner.
 Mr. Herbert J. Renwick, B.A., Private Secretary.
 Mr. Robert Hudson, J.P., General Superintendent.
 Mr. Thomas Pugh, Assistant General Superintendent.
 Mr. Alexander Bruce, J.P., Superintendent (Stock).
 Mr. Joseph E. Carne, F.G.S., Superintendent (Mines).
 Mr. Thomas Ford, Assistant Superintendent (Mines and Mining).
 Mr. W. Fitzwilliam Terry, Superintendent (Liberal Arts).
 Mr. Joseph F. McGuinness, Assistant Private Secretary.

NORWAY.

- Mr. Chr. Ravn, Royal Commissioner-General, Norway's Pavilion, Jackson Park, Chicago.
 Mr. Annas C. R. Berle, Secretary, Royal Commission, Norway's Pavilion, Jackson Park, Chicago.
 Mr. Otto Enger, Assistant to Commission of Fish and Fisheries, Norway's Pavilion, Jackson Park, Chicago.
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ORANGE

ORANGE FREE STATE.

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PARAGUAY.

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PERSIA.

Honorable E. Spencer Pratt, Commissioner-General, Foreign Affairs Department, Jack-
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 Mr. Clarence Andrews, Assistant Commissioner-General, Union League Club, New
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 Mirza Iskender Khan Coryantz, Imperial Commissioner, 6344, Evans Avenue, Chicago.
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 Mr. Foghos Kurktschiantz, Government Agent, 6344, Evans Avenue, Chicago.
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Commissioner-General—

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Assistant Commissioners—

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 Mr. A. Grinevsky.
 Mr. R. Von Lingen.
 Mr. A. Zelenoi.
 Mr. M. Kazarin.
 Mr. A. Kuhne.

DELEGATES.

Ladies' Committee under the High Protection of Her Majesty—

Princess M. Shakhovskoy, Maid of Honor of Her Majesty.

Charity and Educational Institutions of the Empress Mary—

Mrs. T. Semetchkin.

Ministry of Court and Appanages—

Mr. M. B. Fedoroff, Councillor of Court.
 Baron Pilar von Pilchau, Assessor of College.

Ministry of War—

Mr. A. Heard, Councillor of State.

Ministry of Marine—

Mr. D. Mertvaho, Post-Captain.
 Mr. N. Ogloblinsky, Lieutenant.

Ministry of Public Instruction—

Prince S. Volkonsky, Gentleman of the Emperor's Bed-chamber.
 Mr. L. Dimsha, Professor of St. Petersburg University.

Ministry of Finance—

Mr. J. Nellinger, Actual Council of State.
 Mr. D. Konvaloff, Councillor of State, Professor of University of St. Petersburg.

Ministry of Public Domains—

Mr. Jigalkovsky, Councillor of Court.
 Count J. Rostovtsov, Secretary of College.
 Mr. M. Konshin, Secretary of College.
 Mr. M. Williams, Professor of Petrovsky Academy.
 Mr. P. Slieskin, Professor of Petrovsky Academy.

Delegate

Delegate of the Imperial Stud—

P. N. Ismailoff, Captain of the Imperial Guard.

Adjoints—

Mr. G. Gagenfelden, Commissioner of Government Stamped-paper Factories.
 Mr. A. Protopopov, Delegate of the Imperial Technical Society.
 Mr. F. Kamensky, Sculptor.
 Mr. E. Baikoff, Employee.

SIAM.

Phra Suriya Nuvatr, Royal Commissioner, 3021, Groveland Avenue, Chicago.
 Honorable Isaac Townsend Smith, Consul-General, Assistant Commissioner, 1, East
 Thirty-ninth-street, New York City.
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SPAIN.

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 Señor Don A. G. del Campillo, Secretary of Legation, Assistant Commissioner-General,
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 Don Rafael Puig y Valls, Civil Engineer, Special Commissioner for Industry, 2212,
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 Señor Don Vicente Vera, Special Commissioner for Agriculture, 1469, Michigan Avenue,
 Chicago.
 Surgeon Don Federico Jacques, Member of Spanish Army for Study of Exposition, 1469,
 Michigan Avenue, Chicago.
 Captain Don Juan de Cologan, Royal Engineers, Special Commissioner, Department of
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 Lieutenant Don Juan Ibarreta, Royal Navy, Special Commissioner of the Department
 of Navy, 2212, Michigan Avenue, Chicago.
 Don Rosendo Fernandez, Special Commissioner for the Spanish West Indies, Hotel
 Métropole, Chicago.
 Don Manuel Perez Seoane, Attaché to the Legation and Commission, Hotel Métropole,
 Chicago.
 Mr. Hobart C. Chatfield-Taylor, Consul, Attaché to the Commission, Montauk Block,
 Chicago.
 Don Jaime Parlade, Treasurer, Attaché to the Commission, 82, Twenty-sixth-street,
 Chicago.
 Don Juan Vilardell, Attaché to the Commission, Hyde Park Hotel, Chicago.
 Don Juan Espina, Assistant Commissioner of Fine Arts, Palmer House, Chicago.

SWEDEN.

Official Address :—Swedish Pavilion, Jackson Park, Chicago.

Mr. Artur Leffler, Royal Commissioner.
 Mr. Axel Welin, Secretary.
 Mr. Robert Lindblom, Resident Commissioner, 13, Board of Trade, Chicago.
 Baron Nils Posse, Special Commissioner for Tourist Department.
 Mr. Anders L. Zorn, Special Commissioner of Fine Arts.

Attachés—

Mr. Victor E. Rhodin, Official Commercial Representative.
 Mr. Carl Dellwik, Superintendent, Machinery Hall.
 Mr. Mikael Samuel, Commercial Assistant.
 Mr. Erik Lundquist, Assistant Private Secretary.

SWITZERLAND.

Mr. James Perrenoud, Executive Commissioner, 5228, Lake Avenue, Chicago.
 Mr. Arnold Holinger, Commissioner, 167, Washington-street, Chicago.

TRINIDAD.

Mr. Harry Vincent, Executive Commissioner, 2936, Groveland Avenue, Chicago.

TURKEY.

H. E. Ibrahim Hakky Bey, Imperial Commissioner-General, 2979, Michigan Avenue,
 Chicago.
 Ahmed Fahri Bey, Imperial Commissioner, 2979, Michigan Avenue, Chicago.
 Captain Mehmed Tevfik Bey, Attaché to Commission, 2979, Michigan Avenue, Chicago.
 Captain Ahmed Sabit Bey, Attaché to Commission, 2979, Michigan Avenue, Chicago.
 Mr. Hohannes T. Pushman, Secretary, 2979, Michigan Avenue, Chicago.
 Mr. Z. J. Sweeney, Honorary Commissioner, corner Sixty-second-street and Oglesby
 Avenue, Chicago.
 Mr. F. D. Thompson, Honorary Commissioner, Union Club, New York.
 Mr. G. M. Mourad, Decorator, 2979, Michigan Avenue, Chicago.
 Mr. A. G. Asdikian, Acting for Agriculture, 2979, Michigan Avenue, Chicago.

URUGUAY.

URUGUAY.

- Mr. P. de Murguiondo, President and Special Commissioner, Uruguay Section, Agricultural Building, Jackson Park, Chicago.
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 Dr. Eduardo Chucarro, Commissioner, 2217, Wabash Avenue, Chicago.
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Official Address :—Venezuela Building, Jackson Park, Chicago.

General Commissioners—

- Dr. Manuel Vicénte Toledo, 113, East Eighteenth-street, New York.
 Mr. Jacinto Lopez, 2244, Michigan Avenue, Chicago.

Special Delegate—

- Dr. A. Ernst, 2949, Groveland Avenue, Chicago.

Counsellors—

- Dr. Francisco E. Bustamante, E.E. and M.P., 1400, Massachusetts Avenue, Washington, D.C.
 Dr. H. Rivero Saldivia, Consul-General, 18, Broadway, New York.

Commissioners ad honorem—

- Mr. J. A. Sanchez, 22, State-street, New York.
 Mr. A. S. Baker, 18, Broadway, New York.
 Mr. Manuel Cadenas, 53, William-street, New York.
 Mr. Luis E. Forsyth, Clarendon Hotel, New York.

APPENDIX C.

Dedication Ceremonies.

(21st October, 1892.)

THE PROCESSION FROM LAKE FRONT, ALONG MICHIGAN AVENUE
TO JACKSON PARK.

THE procession was composed as follows :—

1. Joint Committee on ceremonies of the World's Columbian Commission and the World's Columbian Exposition.
2. The Director-General of the World's Columbian Exposition, and the President of the Centennial Commission of 1876, at Philadelphia, and the Director-General thereof.
3. The President of the World's Columbian Commission, and the President of the World's Columbian Exposition.
4. The Vice-President of the United States, and the Vice-President of the World's Columbian Commission, and the Vice-President of the World's Columbian Exposition.
5. The Secretary of State and the Secretary of the Treasury.
6. The Secretary of War and the Attorney-General of the United States.
7. The Postmaster-General and the Secretary of the Navy.
8. The Secretary of the Interior and the Secretary of Agriculture.
9. The Diplomatic Corps.
10. The Supreme Court of the United States.
11. The Speaker of the House of Representatives and the Mayor of Chicago.
12. Ex-President Hayes; escort, John Sherman, Lyman J. Gage, Ex-President of the World's Columbian Exposition.
13. Ex-Secretary Thomas F. Bayard and W. T. Baker, Ex-President of the World's Columbian Exposition.
14. The Senate of the United States, headed by the President *pro tem*.
15. The House of Representatives.
16. The Army of the United States.
17. The Navy of the United States.
18. The Governors and their staffs of the States and Territories of the United States.
19. Ex-Cabinet Officers.
20. The Orators and Chaplains.
21. Commissioners of Foreign Governments to the World's Columbian Exposition.
22. Consuls for Foreign Governments.
23. The World's Columbian Commissioners, headed by the second, third, fourth, and fifth Vice-Presidents thereof.
24. The Board of Lady Managers, headed by the President thereof.
25. One woman to represent each one of the thirteen original States.
26. Board of Directors of the World's Columbian Exposition, headed by the second Vice-President thereof and the Director of Works.
27. Presidents and Executive Commissioners State World's Fair Boards.
28. Board of Management United States Government Exhibits.
29. The Department Chiefs.
30. The Staff Officers of the Director of Works.
31. The City Council of Chicago.

United States Cavalry and Light Artillery served as escort, while mounted troops acted as special cohorts for Governors of States and Territories and their staffs, stationed at their immediate rear. The procession moved south on Michigan Avenue to Twenty-ninth-street, where it was joined by Vice-President Morton, who, in the absence of President Harrison, assumed the post of honor. The march continued on to Thirty-fifth-street; thence east to Grand Boulevard; thence south to Washington Park, where a halt was made and a re-form was effected in the line, it being doubled, to avoid too great a prolongation of the procession by the addition of the militia held in readiness at that point.

Brigades of the National and State troops fell in line and passed in review, finishing in the position of escort with Vice-President Morton in command. While these manœuvres were in progress the commander's salute was fired, rendering the scene impressive and warlike. The march was resumed *via* Fifty-seventh-street, and continued on to the Exposition grounds; thence to the Manufactures and Liberal Arts building.

The pageant evoked hearty cheers all along the line of march, the last notes of one section of spectators being caught up and hurried on by another, the transmission being almost unbroken along the way. The vociferous greetings were graciously acknowledged by the doffing of hats by the dignitaries to whom the applause was addressed. The acknowledgment came, not as the stilted courtesy of sovereigns but as an exchange of salutation between friends and fellow men.

As the pageant neared the exposition grounds the national salute was fired from a battery near the lake. The troops, upon their arrival at their destination, were assigned position while the occupants of the carriages mounted the platform.

PROGRAMME

PROGRAMME OF THE EXERCISES.

“Columbian March”—composed by Prof. J. K. Paine, of Cambridge.
 Prayer by Bishop Charles H. Fowler, D.D., LL.D., of California.
 Introductory address by the Director-General.
 Address of welcome and tender of the Freedom of the City of Chicago by Hempstead Washburne, Mayor.
 Selected recitations from the Dedicatory Ode, written by Miss Harriett Monroe, of Chicago; Music by G. W. Chadwick, of Boston; reading by Mrs. Sarah C. LeMoyne.
 Presentation by the Director of Works of the Master Artists of the World's Columbian Exposition, and award to them of special commemorative medals.
 Chorus—“The Heavens are Telling”—Haydn.
 Address—“Work of the Board of Lady Managers”—Mrs. Potter Palmer, President.
 Tender of the buildings on behalf of the World's Columbian Exposition by the President thereof to the President of the World's Columbian Commission.
 Presentation of the buildings by the President of World's Columbian Commission to the Vice-President of the United States for dedication.
 Dedication of the buildings by the Vice-President of the United States.
 “Hallelujah Chorus” from the “Messiah”—Handel.
 Dedicatory oration—Henry Watterson, of Kentucky.
 “Star Spangled Banner” and “Hail Columbia,” with full chorus and orchestral accompaniment.
 Columbia oration, Chauncey M. Depew, of New York.
 Prayer by His Eminence, Cardinal James Gibbons, Archbishop of Baltimore.
 Chorus, “In Praise of God,” Beethoven.
 Benediction by Rev. H. C. McCook, of Philadelphia.
 National Salute.

The large audience sat throughout the exercises without apparent fatigue, unless they grew tired in contributing to the great applause that followed each number. The participants in the exercises felt an inspiration which only such an audience and such an occasion can give, and this lent additional vigour and enthusiasm to their contributions.

Five thousand sweet-voiced children warbled soul-stirring choruses from a beautifully decorated platform at the extreme south end of the great Auditorium. The girls clad in fluffy gowns of the national colors won the plaudits of the admiring hosts gathered to witness the ceremonies from the commencement to the end.

Huge pots of sweet-scented flowers surrounded the platform and the children were lost sight of at some points, the rose bushes screening them from the gaze of the audience. Not once did the little ones falter, and their voices rang through the building high above the tumult of the troops without. An excellent orchestra of fifty instruments accompanied the youthful warblers, and the World's Fair Chorus was pronounced one of the greatest successes of the occasion.

After the opening march BISHOP CHARLES H. FOWLER, D.D., of California, offered the following prayer:

Almighty God, our heavenly Father, Thou art the one true God, eternal, immortal, invisible, blessed over all for evermore. We come before Thee to worship Thee, to render unto Thee thanks-giving, to confess our helplessness, and to invoke Thy blessing upon us. Thou art God. Thou hast created all things. Thou hast made the world and all things therein. Thou art Lord of heaven and earth. Thou hast made of one blood all nations of men, for to dwell on all the face of the earth, and hath determined the times before appointed and the bounds of their habitation. As a people whom Thou hast exalted, we worship Thee. Before the majesty of Thy power and the all-consuming glory of Thy presence, angels and archangels veil their faces. Thrones and dominions and principalities and powers prostrate themselves. Yet we, the members of a fallen race, children of a wayward family, urged by our dire necessities, encouraged by Thine unbreakable promises, emboldened by Thine infinite love, inspired by Thy life-giving spirit, and sheltered by the all-sufficient atonement, press our way up to the very steps of Thy throne and worship Thee, because Thou hast told us that in spite of our littleness, and in spite of our sinfulness, we may come, in the way Thou hast appointed, with boldness, even to the mercy-seat. * * *

We thank Thee for the revelation of Thyself in Thy Son to take away all sin, in Thy spirit to quicken every virtue, in Thy word to dispel every superstition, in Thy providence to protect from every peril.

We thank Thee especially for Thy favouring providence, which has ordered the unfolding of our history as a people and the shaping of our destiny as a nation. Thou didst keep this new world in the thick clouds that surround Thy purposes and didst reserve it for the high honours of Thy maturing kingdom. In the fulness of time Thou didst bring it to the knowledge of men by the wisdom and prowess and faith of Thy servant Columbus. Thou didst so inspire his mind and direct his thought by signs on the surface of the sea and by the flight of birds through the depths of the air, that the southern continent of the western hemisphere was open to southern Europe, and this northern continent was preserved for another people and another destiny. Thus Thou didst launch upon the tide of history in the two continents of the new world two new and great and mutually helpful nations. We thank Thee for Thy favouring providence. * * *

O Almighty God, we are gathered here within these walls and within these gates, from our national capital and from every city and section of our wide domain and from all the lands of the earth, to acknowledge Thee, and in Thy name, and in the name of the Government of the United States, and in the name of the people of the United States, to dedicate these buildings and these grounds to the uses and purposes of the World's Columbian Exposition. We pray Thy blessing upon this undertaking that it may bring glory to Thy name and benedictions to mankind.

Now, O Lord, our Father, we pray Thy blessing upon this multitude. In Thy great mercy forgive the sins of each of us and bless us with eternal salvation. As this assembly will scatter and soon be gone, may each one be ready to stand in that great assembly which shall gather before Thy throne and be permitted to hear the supreme sentence: “Well done, enter Thou into the joy of thy Lord.”

And unto Thee, our God and our Father, through Him who is the friend of sinners, will we, with the angels that stand about the throne, ascribe “blessing and glory and wisdom and thanks-giving and honour and power and might for ever and ever. Amen.”

When

When Bishop Fowler had closed his eloquent prayer and the orchestra had made the immense building echo again and again with the strains of beautiful music, DIRECTOR-GENERAL GEORGE R. DAVIS, as master of ceremonies of the dedicatory services, made the introductory address, telling of the cause and the aims and objects of the Columbian Exposition. His address was as follows:—

LADIES AND GENTLEMEN:—By virtue of my official position it is my pleasurable duty to present the noted personages who, at this hour, in their several functions, are to contribute to the exercises with which we here dedicate the grounds and buildings of the World's Columbian Exposition.

In a presence so vast, on an occasion so pre-eminent in the progress of universal affairs, I am moved by emotions that can sweep a human heart but once in life. Awe overmasters inspiration, and both are lost in gratitude that I am permitted to inaugurate these ceremonies.

The citizens of our common country may be pardoned the pride and satisfaction with which we study the historic steps by which our people have been led to their present exalted position.

Of the great nations of the world, the United States is the youngest; our resources are equal to those of any other nation. Our 60,000,000 people are among the most intelligent, cultured, happy, and prosperous of mankind. But what we are and what we possess as a nation is not ours by purchase, nor by conquest, but by virtue of the rich heritage that was spread out beneath the sun and stars, beneath the storms and rains and dews, beneath the frosts and snows, ages before a David, a Homer, or a Virgil sang, or before Italy's humble and immortal son had dreamed his dream of discovery. This rich heritage is ours not by our own might, not even by our own discovery, but ours by the gift of the Infinite. It is fitting that, on the threshold of another century, we reverently pause in the presence of the world, and with confession and supplication, with thanksgiving and devotedness, with praise and adoration, acknowledge our dependence on the Creator of the universe, the God of nations, the Father of mankind.

Nature has given us a virgin soil of incomparable richness and variety. Our climate is so diversified that all the fruits of tree and vine ripen under our autumnal skies.

The great seas that form our boundaries, and with their ebb and flow bathe our shores, are rich with all the treasures of the deep.

The granite vaults of our mountain chains are stored with untold mineral wealth.

In the prodigality of nature bountiful provision has been made for our multiplying people, and in times of emergency from our great abundance we may succour and comfort the distressed and afflicted of other lands.

A single century has placed this people side by side with the oldest and most advanced nations of the world,—nations with a history of a thousand years.

But in the midst of our rejoicing no American citizen should forget our national starting-point, and the quality of the manhood on which was laid the very foundation of our government. Our fathers were born under foreign flags. The very best brain and nerve and muscle and conscience of the older governments found their way to this western continent. Our ancestors had the map of the world before them; what wonder that they chose this land for their descendants! Over the very cradle of our national infancy stood the spirit and form of the completed civilization of other lands, and the birth-cries of the republic rang out over the world with a voice as strong as a giant of a thousand years. From the morning of our history the subjects of all nations have flocked to our shores and have entered into our national life and joined in the upbuilding of our institutions. They have spaded and planted, they have sown and gathered, they have wrought and builded, and to-day, everywhere over all this land, may be seen the products and results of this toil, constituting our national prosperity, promoting our national growth. To all of such the doors of the nation are ever open.

The World's Columbian Exposition is the natural outgrowth of this nation's place in history. Our continent, discovered by Christopher Columbus, whose spirits were revived as his cause was espoused by the generous-hearted Queen of Spain, has, throughout all the years from that time to this, been a haven to all who saw here the promise of requited toil, of liberty and of peace.

The ceaseless, resistless march of civilization westward, ever westward, has reached and passed the great lakes of North America, and has founded on their farthest shore the greatest city of modern times. Chicago, the peerless, has been selected for the great celebration which to-day gives new fire to progress, and sheds its light upon ages yet to come. Established in the heart of this continent, her pulse throbs with the quickening current of our national life. And that this city was selected as the scene of this great commemorative festival was the natural outgrowth of predestined events. Here all nations are to meet in peaceful, laudable emulation on the fields of art, science, and industry, on the fields of research, invention, and industry, on the fields of research, invention, and scholarship, and to learn the universal value of the discovery we commemorate; to learn, as could be learned in no other way, the nearness of man to man, the fatherhood of God, and the brotherhood of the human race.

This, ladies and gentlemen, is the exalted purpose of the World's Columbian Exposition. May it be fruitful of its aim and of peace for ever to all the nations of the earth.

When Colonel Davis had concluded his address he introduced MAYOR HEMPSTEAD WASHBURN, who tendered the freedom of the city to the guests in the following words:—

MR. PRESIDENT, REPRESENTATIVES OF FOREIGN GOVERNMENTS, LADIES AND GENTLEMEN: This day is dedicated by the American people to one whose name is indissolubly linked with that of our continent. This day shall add new glories to him whose prophetic vision beheld in the stars which guided his audacious voyage a new world and a new hope for the peoples of the earth. The four centuries passing in review have witnessed the settlement of a newly-discovered continent, the founding of many nations and the establishment in this country of more than sixty millions of people whose wonderful material prosperity, high intelligence, political institutions, and glorious history have excited the interest and admiration of the civilized world. These centuries have evolved the liberty-loving American people who are gathered here to-day. We have with us the pioneer bearing in his person the freedom of his western home—the ageing veteran, whom all nations honor, without whose valour government, liberty, and patriotism would be but idle words. We have with us builders of cities, founders of States, dwellers in the forests, tillers of the soil, the mechanic and the artisan, and noble women, daughters of the republic, not less in patriotism and deserved esteem than those who seem to play the larger part in building up a State.

There are gathered here our President and stately senate, our grave and learned judges, our Congress and our States, that all mankind may know this is a nation's holiday and a people's tribute to him whose dauntless courage and unwavering faith impelled him to traverse undismayed the unsailed waste of waters, and whose first prayer upon a waiting continent was saluted on its course by that banner which knows no creed, no faith, no nation—that ensign which has represented peace, progress, and humanity for nineteen hundred years—the Holy banner of the Cross.

Those

Those foreign nations which have contributed so much to our growth will here learn wherein our strength lies—that it is not in standing armies—not in heredity or birth—not even in our fertile valleys—not in our commerce or our wealth—but that we have built and are building upon the everlasting rock of individual character and intelligence, seeking to secure an education for every man, woman, and child over whom floats the stars and stripes, that emblem which signifies our government and our people.

That flag guards to-day 21,500,000 school children, of a country not yet four centuries old, and who outnumber nearly four times the population of Spain in 1492.

This is our hope in the future—the anchor of the republic—and a rainbow of promise for the centuries yet to come. As a mark of public gratitude it was decided to carry down into history through this celebration the appreciation of this people for him before whose name we all bow to-day.

You, sirs, who are the chosen representatives of our people—you into whose keeping we intrust our property and our rights—you whose every act becomes a link in that long chain of history which spans four hundred years without a break, and whose every link signifies a struggle and victory for man—you who represent that last and most perfect experiment of human government have by your official acts honoured this young city with your choice as the most fitting place to mark this country's dawn. She accepts the sacred trust with rivalry towards none and fellowship for all. She stands ready to fulfil the pledges she has made. She needs no orator to speak her merits, no poet to sing her glories. She typifies the civilisation of this continent and this age; she has no hoary locks; no crumbling ruins; the gray-haired sire who saw her birth to-day holds on high his prattling grandchild to see the nations of the earth within her gates.

Over the very spot whereon we stand, within the memory of men still young, the wild fowl winged their migratory flight. Less than a century ago the site of this young city was unknown; to-day a million and a half people support her honour, enterprise, and thrift. Her annual commerce of one billion and a half tells the eloquent story of her material greatness. Her liberality to all nations and all creeds is boundless, broad as humanity, and high as the dome of heaven. "Rule Britannia," the "Marseillaise," "Die Wacht am Rhein," and every folk-song of the older world has drifted over the Atlantic's stormy waves, and as each echo, growing fainter with advancing leagues, has reached this spot, it has been merged into that one grand chorus, "My country, 'tis of thee, sweet land of liberty, of thee I sing."

This, sirs, is the American city of your choice; her gates are open, her people at your service. To you and those you represent we offer greeting, hospitality, and love.

To the old world, whose representatives grace this occasion, whose governments are in full accord with this enterprise so full of meaning to them and to us, to that old world whose children braved unruly seas and treacherous storms to found a new state in an unknown land, we give greeting, too, as children greet a parent in some new home.

We are proud of its ancestry, for it is our own. We glory in its history, for it was our ancestral blood which inscribed its rolls of honour, and if to-day these distinguished men of more distinguished lands behold any spirit, thing, or ambition which excites their praise, it is but the outcropping of the Roman courage on a new continent in a later age.

Welcome to you men of older civilizations to this young city, whose most ancient landmark was built within the span of a present life. Our hospitalities and our welcome we now extend without reserve, without regard to nationality, creed, or race.

When Mayor Washburne had finished his address of welcome Mrs. SARAH C. LE MOYNE, of New York, read in a beautiful pure voice, selections from the "Commemoration Dedicatory Ode," written for the great occasion by Miss Harriet Monroe, of Chicago. Those parts of the ode printed in italic were set to music by George W. Chadwick, the celebrated composer of Boston. The ode complete is as follows:—

Columbia! on thy brow are dewy flowers
 Plucked from wide prairies and from mighty hills.
 Lo! toward this day have led the steadfast hours.
 Now to thy hope the world its beaker fills.
 The old earth hears a song of blessed themes
 And lifts her head from a deep couch of dreams,
 Her queenly nations, elder-born of Time,
 Troop from high thrones to hear.
 Clasp thy strong hands, tread with the paths sublime,
 Lovingly bend the ear.
 Spain, in the broided robes of chivalry,
 Comes with slow foot and inward-brooding eyes.
 Bow to her banner! 'twas the first to rise
 Out of the dark for thee.
 And England, royal mother, whose right hand
 Moulds nations, whose white feet the ocean tread,
 Lays down her sword on thy beloved strand
 To bless thy wreathed head;
 Hearing in thine her voice, bidding thy soul
 Fulfil her dreams, the foremost at the goal.
 And France, who once thy fainting form upbore,
 Brings beauty now where strength she brought of yore.
 France, the swift-footed, who with thee
 Gazed in the eyes of Liberty,
 And loved the dark no more.
 Around the peopled world
 Bright banners are unfurled.
 The long procession winds from shore to shore.
 The Norseman sails
 Through icy gales
 To the green Vineland of his long-ago.
 Russia rides down from realms of sun and snow.
 Germany casts afar
 Her iron robes of war,
 And strikes her harp with thy triumphal song.
 Italy opens wide her epic scroll,
 In bright hues blazoned, with great deeds writ long,
 And bids thee win the kingdom of the soul.
 And the calm Orient, wise with many days,
 From hoary Palestine to sweet Japan
 Salutes thy conquering youth;
 Bidding thee hush while all the nations praise,
 Know, though the world endure but for a span,
 Deathless is truth.

Lo!

Lo ! unto these the ever-living Past
 Ushers a mighty pageant, bids arise
 Dead centuries, freighted with visions vast,
 Blowing dim mists into the Future's eyes.
 Their song is all of thee,
 Daughter of mystery.
 Alone ! Alone !
 Behind wide walls of sea !
 And never a ship has flown
 A prisoned world to free.
 Fair is the sunny day
 On mountain and lake and stream,
 Yet wild men starve and slay,
 And the young earth lies adream,
 Long have the dumb years passed with vacant eyes,
 Bearing rich gifts for nations throned afar,
 Guarding thy soul inviolate as a star,
 Leaving thee safe with God till man grow wise.
 At last one patient heart is born
 Fearless of ignorance and scorn.
 is strong youth wasteth at thy sealed gate—
 Kings will not open to the untrod path,
 His hope grows sere while all the angels wait,
 The prophet bows under the dull world's wrath,
 Until a woman fair
 As morning lilies are
 Brings him a jewelled key—
 And lo ! a world is free.
 Wide swings the portal never touched before,
 Strange luring winds blow from an unseen shore,
 Towards dreams that cannot fail
 He bids the three ships sail,
 While man's new song of hope rings out against the gal

*Over the wide unknown,
 Far to the shores of Ind,
 On through the dark alone,
 Like a feather blown by the wind ;
 Into the west away,
 Sped by the breath of God,
 Seeking the clearer day
 Where only his feet have trod ;
 From the past to the future we sail ;
 We slip from the leash of kings.
 Hail ! spirit of freedom—hail !
 Unfurl thine impalpable wings !
 Receive us, protect us, and bless
 Thy knights who brave all for thee.
 Though death be thy soft caress,
 By that touch shall our souls be free.
 Onward and ever on,
 Till the voice of despair is stilled,
 Till the haven of peace is won,
 And the purpose of God fulfilled.*

O strange, divine surprise !
 Out of the dark, man strives to rise,
 And struggles inch by inch with toil and tear ;
 Till, lo ! God stoops from his supernal spheres,
 And bares the glory of his face.
 Then darkness flees afar,
 This earth becomes a star—
 Man leaps up to the lofty place.
 We ask a little—all is given,
 We seek a lamp—God grants us heaven.
 So those who dared to pass beyond the pale,
 For an idea tempting the shrouded seas,
 Sought but Cathay. God bade their faith preva
 To find a world—blessed his purposes !
 The hero knew not what a virgin soul
 Laughed through glad eyes when at her feet he
 The gaudy trappings of man's masquerade.
 She who had dwelt in forests, heard the roll
 Of lakes down-thundering to the sea,
 Beheld from gleaming mountain heights
 Two oceans playing with the lights
 Of eve and morn—ah ! what would she
 With all the out-worn pageantry
 Of purple robes and heavy mace and crown ?
 Smiling she casts them down,
 Unfit her young austerity
 Of hair unbound and strong limbs bare and brown.

Yet they who dare arise
 And meet her stainless eyes
 Forget old loves, though crowned queens these be.
 And whither her winged feet fare
 They follow though death be there—
 So sweet, so fleet, so goddess-pure is she.
 Her voice is like deep rivers, that do flow
 Through forests bending low.
 Her step is softest moonlight, that doth force
 The ocean to its course.
 Gentle her smile, for something in man's face,
 World-worn, time-weary, furrowed deep with tears
 Thrills her chaste heart with a more tender grace.

Softly

Softly she smooths the wrinkles from his brow,
 Wrought by the baleful years,
 Smiles sunshine on the hoar head, whispers low
 New charges from the awakened will of truth—
 Words all of fire, that thrill his soul with youth.
 Not with his brother is man's battle here.
 The challenge of the earth, that Adam heard,
 His love austere breathes in his eager ear.
 And lo! the knight who warred at love's command.
 And scarred the face of Europe, sheaths his sword,
 Hearing from untaught lips a nobler word,
 Taking new weapons from an unstained hand.
 With axe and oar, with mallet and with spade,
 She bids the hero conquer, unafraid
 Though cloud-veiled Titans be his lordly foes—
 Spirits of earth and air, whose wars brook no repose.
 For from far-away mountain and plain,
 From the shores of the sunset sea,
 The unwearying rulers complain, complain,
 And throng from the wastes to defend their reign—
 Their threatened majesty.
 The low praries that lie abloom
 Sigh out to the summer air :
 Shall our dark soil be the tomb
 Of the flowers that rise so fair ?
 Shall we yield to man's disdain,
 And nourish his golden grain ?
 We will freeze and burn and snare.
 Ah ! bid him beware ! beware !
 And the forests, heavy and dark and deep,
 With the shadows of shrouded years,
 In a murmurous voice, out of age-long sleep,
 Ask the winds : What creature rude
 Would storm our solitude ?
 Hath his soul no fears, no tears ?

The prone rivers lift up their snow-crowned heads,
 Arise in wrath from their rock-hewn beds,
 And roar : We will ravage and drown
 Ere we float his white ships down.
 And the lakes from a mist
 Of amethyst
 Call the storm-clouds down, and grow ashen and brown.
 And all the four winds wail :
 Our gales shall make them quail.
 By blinding snow, by burning sun
 His strength shall be undone.
 Then men in league with these—
 Brothers of wind and waste—
 Hew barbs of flint, and darkly haste
 From sheltering tents and trees ;
 And mutter : Away ! away !
 Ye children of white-browed day !
 Who dares profane our wild gods' reign
 We torture and trap and slay.

Child of the light, the shadows fall in vain,
 Herald of God, in vain the powers conspire,
 Armed with truth's holy cross, faith's sacred fire,
 Though often vanquished, he shall rise again,
 Nor rest till the wild lords of earth and air
 Bow to his will, his burdens glad to bear,
 The angels leave him not through the long strife,
 But sing large annals of their own wide life,
 Luring him on to freedom. On that field,
 From giants won, shall man be slave to man ?

*Lo! clan on clan,
 The embattled nations gather to be one,
 Clasp hands as brothers 'neath Columbia's shield,
 Upraise her banner to the shining sun.
 Along her blessed shore
 One heart, one song, one dream—
 Man shall be free forevermore,
 And love shall be supreme.*

When dreaming kings, at odds with swift-paced time
 Would strike that banner down,
 A nobler knight than ever writ or rhyme
 With fame's bright wreath did crown
 Through armed hosts bore it till it floated high
 Beyond the clouds, a light that cannot die !
 Ah, hero of a younger race !
 Great builder of a temple new !
 Ruler, who sought no lordly place !
 Warrior, who sheathed the sword he drew !
 Lover of men, who saw afar
 A world unmarred by want or war,
 Who knew the path and yet forebore
 To tread, till all men should implore ;
 Who saw the light and led the way
 Where the gray world might greet the day ;
 Father and leader, prophet sure,
 Whose will in vast works shall endure,
 How shall we praise him on this day of days,
 Great son of fame who has no need of praise ?

How shall we praise him? Open wide the doors
 Of the fair temple whose broad base he laid.
 Through its white halls a shadowy cavalcade
 Of heroes moves o'er unresounding floors—
 Men whose brawned arms upraised these columns high,
 And reared the towers that vanish in the sky—
 The strong who, having wrought, can never die.

And lo! leading a blessed host comes one
 Who held a warring nation to his heart;
 Who knew love's agony, but had no part
 In love's delight; whose mighty task was done
 Through blood and tears that we might walk in joy.
 And this day's rapture own no sad alloy.
 Around him heirs of bliss, whose bright brows wear
 Palm leaves amid their laurels ever fair.
 Gaily they come, as though the drum
 Beat out the call their glad hearts knew so well.
 Brothers once more, dear as of yore,
 Who in a noble conquest nobly fell.
 Their blood washed pure yon banner in the sky,
 And quenched the brands laid 'neath these arches high;
 The brave who, having fought, can never die.

Then surging through the vastness rise once more
 The aureoled heirs of light, who onward bore
 Through darksome times and trackless realms of ruth
 The flag of beauty and the torch of truth.
 They tore the mask from the foul face of wrong;
 Even to God's mysteries they dared aspire;
 High in the choir they lit yon altar fire,
 And filled these aisles with colour and with song:
 The ever-young, the unfallen, wreathing for time
 Fresh garlands of the seeming-vanished years;
 Faces long luminous, remote, sublime,
 And shining brows still dewy with our tears.
 Back with the old glad smile comes one we knew—
 We bade him rear our house of joy to-day.
 But beauty opened wide her starry way,
 And he passed on. Bright champions of the true,
 Soldiers of peace, seers, singers ever blest—
 From the wide ether of a loftier quest
 Their winged soul throng our rites to glorify—
 The wise who, having known, can never die.

Strange splendors stream the vaulted aisles along—
 To these we loved celestial rapture clings.
 And music, born on rhythm of rising wings,
 Floats from the living dead, whose breath is song.
 Columbia, my country, dost thou hear?
 Ah! dost thou hear the songs unheard of time
 Hark! for their passion trembles at thine ear.
 Hush! for thy soul must heed their call sublime.
 Across wide seas, unswept by earthly sails,
 Those strange sounds draw thee on, for thou shalt be
 Leader of nations through the autumnal gales
 That wait to mock the strong and wreck the free.
 Dearer, more radiant than of yore,
 Against the dark I see thee rise;
 Thy young smile spurns the guarded shore
 And braves the shadowed ominous skies.
 And still that conquering smile who see
 Pledge love, life, service all to thee.
 The years have brought thee robes most fair—
 The rich processional years—
 And filleted thy shining hair,
 And zoned thy waistcoat with jewels rare,
 And whispered in thine ears
 Strange secrets of God's wondrous ways,
 Long hid from human awe and praise.

For lo! the living God doth bare his arm.
 No more he makes his house of clouds and gloom.
 Lightly the shuttles move within his loom;
 Unveiled his thunder leaps to meet the storm.
 From God's right hand man takes the powers that sway
 A universe of stars.
 He bows them down; he bids them go or stay;
 He tames them for his wars.
 He scans the burning paces of the sun,
 And names the invisible orbs whose courses run
 Through the dim deeps of space.
 He sees in dew upon a rose impearled
 The swarming legions of a monad world
 Begin life's upward race.
 Voices of hope he hears
 Long dumb to his despair,
 And dreams of golden years
 Meet for a world so fair.

For now Democracy doth wake and rise
 From the sweet sloth of youth.
 By storms made strong, by many dreams made wise,
 He clasps the hand of Truth.
 Through the armed nations lies his path of peace,
 The open book of knowledge in his hand.

Food to the starving, to the oppressed release,
 And love to all he bears from land to land.
 Before his march the barriers fall,
 The laws grow gentle at his call.
 His glowing breath blows far away
 The fogs that veil the coming day,
 That wondrous day—

When earth shall sing as through the blue she rolls
 Laden with joy for all her thronging souls.
 Then shall want's call to sin resound no more
 Across her teeming fields. And pain shall sleep,
 Soothed by brave science with her magic lore,
 And war no more shall bid the nations weep.
 Then the worn chains shall slip from man's desire,
 And ever higher and higher
 His swift foot shall aspire ;
 Still deeper and more deep
 His soul its watch shall keep,
 Till love shall make the world a holy place,
 Where knowledge dares unveil God's very face.

Not yet the angels hear life's last sweet song.
 Music unutterably pure and strong
 From earth shall rise to haunt the peopled skies
 When the long march of time,
 Patient in birth and death, in growth and blight,
 Shall lead man up to happy realms of light
 Unto his goal sublime.

*Columbia ! Men behold thee rise
 A goddess from the misty sea.
 Lady of joy, sent from the skies,
 The nations worshipped thee.
 Thy brows were flushed with dawn's first light ;
 By foamy waves with stars bedight
 Thy blue robe floated free.*

*Now let the sun ride high o'erhead,
 Driving the day from shore to shore.
 His burning tread we do not dread,
 For thou art evermore
 Lady of love whose smile shall bless,
 Whom brave deeds win to tenderness,
 Whose tears the lost restore.*

*Lady of hope thou art. We wait
 With courage thy serene command.
 Through unknown seas, toward undreamed fate,
 We ask thy guiding hand.
 On ! Though sails quiver in the gale !—
 Thou at the helm, we cannot fail.
 On to God's time-veiled strand !*

*Lady of beauty ! thou shalt win
 Glory and power and length of days.
 The sun and moon shall be thy kin,
 The stars shall sing thy praise.
 All hail ! we bring the vows most sweet
 To strew before thy winged feet.
 Now onward be thy ways !*

PRESIDENT HIGINBOTHAM was brief but very eloquent in his acceptance of the buildings from the architects who designed them, and in bestowing upon them the medals which are to serve as a mark of appreciation of the great work these masters have done, he said :—

MR. BURNHAM AND GENTLEMEN :—It becomes my agreeable duty, on behalf of the board of directors of the World's Columbian Exposition, to receive from you these buildings, which represent your thought, skill, and labour, as master artists of construction. It is difficult to command language fully adequate to express our satisfaction with your achievements. We have observed with admiration the rapid development of your plans, until there stand before us to-day structures that represent the ripest wisdom of the ages.

Never before have men brought to their task greater knowledge, higher aims or more resolute purpose. Never before have such magnificent fruits been the result of thought and toil. The earth and all it contains have been subservient to your will. You have pursued your work loyally, heroically, and with an unselfish devotion that commands the applause of the world. Your country and the nations of the earth will join us in congratulating you upon the splendid issue of your plans and undertakings.

We accept these buildings from you, exulting in the belief that these beautiful structures furnish proof to the world that, with all our material growth and prosperity since the Columbian discovery of America, we have not neglected those civilising arts which minister to a people's refinement, and become the chief glory of the nation.

“ Peace hath her victories,
 No less renowned than war.”

In this exposition, one of the adorning victories of our age of peace, you take conspicuous part, and the work accomplished reflects, and will continue to reflect, honour alike upon yourselves and upon your country.

In recognition of your faithful and efficient services, and in order to commemorate more substantially than by mere words the successful termination of your great work as master artists of construction, the Board of Directors has issued this medal, which I have the honour to present to you. A simple token it is, which finds its real and abiding value not in its intrinsic worth but rather in the high merit which receives and the grateful appreciation which bestows it.

After

After the echoes of the grand chorus of Haydn's "The Heavens are Telling" had died out of the great building, MRS. POTTER PALMER, President of the Board of Lady Managers, who has sometimes been called "The Queen of the Fair," told in a characteristically modest address of the work of the remarkable body of women whose doings she has directed. She said:—

Official representation for women, upon so important an occasion as the present, is unprecedented. It seems peculiarly appropriate that this honour should have been accorded our sex when celebrating the great deeds of Columbus, who, inspired though his visions may have been, yet required the aid of an Isabella to transform them into realities.

The visible evidences of the progress made since the discovery of this great continent will be collected six months hence in these stately buildings now to be dedicated.

The magnificent material exhibit, the import of which will presently be eloquently described by our orators, will not, however, so vividly represent the great advance of modern thought as does the fact that man's "silent partner" has been invited by the Government to leave her retirement to assist in conducting a great national enterprise. The provision of the Act of Congress that the Board of Lady Managers appoint a jury of her peers to pass judgment upon woman's works adds to the significance of the innovation, for never before was it thought necessary to apply this fundamental principle of justice to our sex.

Realising the seriousness of the responsibilities devolving upon it, and inspired by a sense of the nobility of its mission, the Board has, from the time of its organisation, attempted most thoroughly and conscientiously to carry out the intentions of Congress.

It has been able to broaden the scope of its work and extend its influence through the co-operation and assistance so generously furnished by the Columbian Commission and the Board of Directors of the Exposition. The latter took the initiative in making an appropriation for the woman's building, and in allowing the Board to call attention to the recent work of women in new fields by selecting from their own sex the architects, decorators, sculptors, and painters to create both the building and its adornments.

Rivalling the generosity of the directors, the National Commission has honoured the Board of Lady Managers by putting into its hands all the interests of women in connection with the Exposition, as well as the entire control of the woman's building.

In order the more efficiently to perform the important functions assigned it, the Board hastened to secure necessary co-operation. At its request women were made members of the World's Fair Boards of almost every state and territory of the union. Inspired by the success at home, it had the courage to attempt to extend the benefits it had received to the women of other countries. It officially invited all foreign Governments, which had decided to participate in the Exposition, to appoint committees of women to co-operate with it. The active help given by the Department of State was invaluable in promoting this plan, the success of which has been notable, for we now have under the patronage of royalty, or the heads of Government, committees composed of the most influential, intellectual, and practical women in France, England, Germany, Austria, Russia, Italy, Holland, Belgium, Sweden, Norway, Portugal, Japan, Siam, Algeria, Cape Colony, Ceylon, Brazil, the Argentine Republic, Cuba, Mexico, and Nicaragua, and although committees have not yet been announced, favourable responses have been received from Spain, Columbia, Ecuador, Venezuela, Panama, and the Sandwich Islands.

No organisation comparable to this has ever before existed among women. It is official, acting under Government authority, and sustained by Government funds. It is so far reaching that it encircles the globe.

Without touching upon politics, suffrage, or other irrelevant issues, this unique organisation of women for women will devote itself to the promotion of their industrial interests. It will address itself to the formation of a public sentiment, which will favour woman's industrial equality, and her receiving just compensation for services rendered. It will try to secure for her work the consideration and respect which it deserves, and establish her importance as an economic factor. To this end it will endeavour to obtain and install in these buildings exhibits showing the value of her contributions to the industries, sciences, and arts, as well as statistics giving the proportionate amount of her work in every country.

Of all the changes that have resulted from the great ingenuity and inventiveness of the race there is none that equals in importance to woman the application of machinery to the performance of the never-ending tasks that have previously been hers. The removal from the household to the various factories where such work is now done, of spinning, carding, dyeing, knitting, the weaving of textile fabrics, sewing, the cutting and making of garments and many other laborious occupations has enabled her to lift her eyes from the drudgery that has oppressed her since prehistoric days.

The result is that women as a sex have been liberated. They now have time to think, to be educated, to plan and pursue careers of their own choosing. Consider the value to the race of one-half of its members being enabled to throw aside the intolerable bondage of ignorance that has always weighed them down! See the innumerable technical, professional, and art schools, academies and colleges that have been suddenly called into existence by the unwonted demand! It is only about one hundred years since girls were first permitted to attend the free schools of Boston. They were then allowed to take the places of boys for whom the schools were instituted, during the season when the latter were helping to gather in the harvest.

It is not strange that woman is drinking deeply of the long-denied fountain of knowledge. She had been told, until she almost believed it, by her physician, that she was too delicate and nervous an organization to endure the application and mental strain of the school-room—by the scientist that the quality of the gray matter of her brain would not enable her to grasp the exact sciences, and that its peculiar convolutions made it impossible for her to follow a logical proposition from premise to conclusion—by her anxious parents that there was nothing that a man so abominated as a learned woman, nothing so unlovely as a blue-stocking—and yet she comes smiling from her curriculum with her honors fresh upon her, healthy and wise, forcing us to acknowledge that she is more than ever attractive, companionable and useful.

What is to be done with this strong, self-poised creature of glowing imagination and high ideals, who evidently intends as a natural and inherent right, to pursue her self-development in her chosen line of work? Is the world ready to give her industrial and intellectual independence, and open all doors before her? The human race is not so rich in talent, genius, and useful creature energy that it can afford to allow any considerable proportion of these valuable attributes to be wasted or unproductive, even though they be possessed by woman.

The sex which numbers more than one-half of the population of the world is forced to enter the keen competition of life with many disadvantages, both real and factitious. Are the legitimate compensation and honors that should come as the result of ability and merit to be denied on the untenable ground of sex aristocracy?

We are told by scientists that the educated eye and ear of to-day are capable of detecting subtle harmonies and delicate gradations of sound and colour that were imperceptible to our ancestors; that artists and musicians will consequently never reach the last possible combination of tones, or of tints, because their fields will widen before them, disclosing, constantly, new beauties and attractions. We cannot doubt that human intelligence will gain as much by development; that it will vibrate with new power because of the uplifting of one-half of its members—and of that half, which is, perhaps, conceded to be the more moral, sympathetic and imaginative—from darkness into light.

As a result of the freedom and training now granted them we may confidently await, not a renaissance, but the first blooming of the perfect flower of womanhood. After centuries of careful pruning into conventional shapes, to meet the requirements of an artificial standard, the shears and props have been thrown away. We shall learn by watching the beauty and the vigour of the natural growth in the open air and sunshine, how artificial and false was the ideal we had previously cherished. Our efforts to frustrate nature will seem grotesque, for she may always be trusted to preserve her types. Our utmost hope is that woman may become a more congenial companion and fit partner for her illustrious mate, whose destiny she has shared during the centuries.

We are proud that the statesmen of our own great country have been the first to see beneath the surface and to understand that the old order of things has passed away and that new methods must be inaugurated. We wish to express our thanks to the Congress of the United States for having made this great step forward, and also for having subsequently approved and indorsed the plans of the board of lady managers, as was manifested by their liberal appropriation for carrying them out.

We most heartily appreciate the assistance given us by the President of the United States, the Department of State and our foreign ministers. We hope to have occasion to thank all of the other great departments of the Government before we finish our work.

Even more important than the discovery of Columbus, which we are gathered together to celebrate, is the fact that the general Government has just discovered woman. It has sent out a flash-light from its heights, so inaccessible to us, which we shall answer by a return signal when the Exposition is opened. What will be its next message to us?

Then PRESIDENT HIGINBOTHAM, on behalf of the board of directors, tendered to the national commission the grounds and building upon which so much of Chicago's energy has been expended, at the same time offering thanks to the many sources of help in bringing the enterprise to its present condition. His address to President T. W. Palmer and the national commission was as follows:—

But yesterday these surrounding acres composed a dismal morass—a resting place for the wild fowls in their migratory flight. To-day they stand transformed by art and science into a beauty and grandeur unrivalled by any other spot on earth.

Herein we behold a miniature representation of that marvellous material development and that unprecedented growth of national greatness which, since the day of Columbus, have characterised the history of this new world.

The idle boy, strolling along the shore of this inland sea, carelessly threw a pebble into the blue waters. From that centre of agitation there spread the circling wave, which fainter and still fainter grew, until lost at last in the distant calm. Not so did the great thought come and vanish which has culminated in these preparations for the World's Columbian Exposition. It was not the suggestive impulse of any single brain or locality that originated this noble enterprise. From many minds and many localities there seemed to come, spontaneously and in unison, the suggestions for a Columbian celebration. Those individual and local sentiments did not die out like the waves, but in an inverse ratio grew more and more powerful, until they mingled and culminated in the grand and universal resolve of the American people, "It shall be done."

To-day, sir, on behalf of the board of directors, representing the citizens of Chicago, to me has been assigned the pleasant duty of presenting to the World's Columbian Commission these buildings, for dedication to the uses of the World's Columbian Exposition, in celebration of the four hundredth anniversary of the discovery of America.

In viewing the work thus far accomplished we gladly acknowledge ourselves debtors to the patriotic pride of our fellow citizens throughout the land; to the kindly interest manifested by the President of the United States; to the generosity of the Congress; to the hearty sympathy of the civilized nations of the earth and to the efficient co-operation of the honorable commission which you represent.

The citizens of Chicago have cherished the ambition to furnish the facilities for the exposition, which, in character, should assume a national and international importance. They entertain the pleasing hope that they have not come short of the nation's demand and of the world's expectation. Permit us, sir, to believe that it was not a narrow ambition, born of local pride and selfishness, that asked for the location of the World's Columbian Exposition at Chicago. Rather let it justly be said that it was in view of the fact that 25,000,000 of people live within a radius of 500 miles of Chicago, and that standing here, so near the centre of population, Chicago would be accessible to a larger number of American people, who are the creators of our wealth and prosperity, than would any other city on the continent. The citizens of Chicago have been actuated by the most patriotic sentiments in asking for the location of the exposition at this place. Animated by the most public spirited motives, they have made such preparations for the exposition as we trust you cannot but look upon with satisfaction.

The fidelity and remarkable skill of the master artists of construction must be a justification for the pride with which we point to the structures which rise about us in such graceful and magnificent proportions. In furnishing grounds and buildings which should meet the modern demand for utility and scientific adaptation, we have not done violence, let us hope, to that growing love for the beautiful which gratifies the eye and educates the taste. Nature, science, and art have been called upon to contribute their richest gifts to make these grounds and buildings worthy of your acceptance.

The board of directors now beg leave to tender to the World's Columbian Commission and to the nation these buildings, in fulfilment of Chicago's pledge and in honor of the great event we celebrate.

When President Higinbotham had finished his address surrendering control of the buildings on behalf of the local organization, the World's Columbian Exposition, to the World's Columbian Commission, PRESIDENT PALMER made his brief address, in which he accepted the grand product of Chicago's labour and asked the Vice-President to "dedicate these buildings and grounds to humanity." PRESIDENT PALMER's address was as follows:—

When a structure designed for a beneficent purpose has reached completion and is about to be devoted to its object, it is deemed fitting, in accordance with a custom which sprang from the aspirations of man, and which has received the sanction of successive generations, that its intent and aim shall be declared amid imposing ceremonies, and the good will of the present and the blessing of the future invoked upon it.

If this occasion shall have as one of its results the inauguration of another festal day to enlarge the too meagre calendar of our people, the world will be richer thereby, and a name which has been hitherto held in vague and careless remembrance will be made a vital and elevating force to mankind.

Anniversaries are the punctuations of history. They are the emphases given to events, not by the song of the poet, or the pen of the rhetorician, but by the common acclaim of mankind. They are the monuments of the heroes and the saviours of the race. They are the Memmons which fill the heart with promise, the eye with gladness, and the ear with song.

The teacher of Socrates, when dying, was asked what he wished for a monument. He answered, "Give the boys a holiday."

It

It was a happy thought to have linked with the achievements of Columbus and Pinzon, which doubled the area of the habitable globe, an undertaking whereby we hope to illustrate the fact that they also made possible more than a duplication of blessings to mankind.

As these great men died ignorant of the magnitude of their work, may we not hope that this exposition will accomplish a greater good than will be revealed to us of to-day, be its outcome never so brilliant? May we not hope that lessons here learned, transmitted to the future, will be potent forces long after the multitudes which will throng these aisles shall have measured their span and faded away?

Four hundred years ago to-day Rodrigo de Triana, from the prow of the "Pinta," cried, "Land!" That cry marked the commencement of an era wherein has been condensed more of good import to the race than any other. To-day, at the flood-time of that era, we are reminded of what the cry involved, and of how much there is yet to do to give it its fullest significance.

There are no more continents to discover, but there is much to do to make both hemispheres the home of intelligence, virtue, and consequent happiness. To that end no one material thing can contribute more than expositions to which are invited, in a fraternal spirit, all nations, tribes, and peoples, where each shall give and receive according to their respective capacities.

The foundations of civilisation have been laid. Universal enlightenment, now acknowledged as the safe substructure of every State, receives an added impulse from the commingling of peoples and the fraternisation of races, such as are ushered in by the pageant of to-day.

Hitherto the work of the National Commission and of the Exposition Company has been on different but convergent lines; to-day the roads unite, and it may not be amiss at this time to speak of the work already done. Two years ago the ground on which we stand was a weary waste of sand-dunes and quagmires, a home for wild fowl and aquatic plants. Under skilled artists, supplemented by intelligence, force, industry, and money, this waste has been changed by the magic hand of labour to its present attractive proportions. I do not speak of this work as an artist but as one of the great body of laymen whom it is the high calling of art to uplift. To me it seems that, if these buildings should never be occupied, if the exhibits should never come to attract and educate, if our people could only look upon these walls, towers, avenues, and lagoons, a result would be accomplished by the influence diffused well worth all the cost.

Of the Commission and its agencies, its director-general and the heads of its departments, its agents and envoys, I, although a part of that national organisation, may be permitted to speak. Called together by the President two years ago, its organic law difficult of construction, with room for honest and yet contradictory opinions, it has striven honestly, patriotically, and diligently to do its whole duty. Through its agencies it has reached to the uttermost parts of the earth to gather in all that could contribute to make this not only the museum of the savant and the well read but the kindergarten of child and sage.

The National Commission will, in due time, take appropriate action touching the formal acceptance of the buildings provided under their direction by the World's Columbian Exposition Company for this national and international fair, and to you, Mr. President, as the highest representative of the nation, is assigned the honor of dedicating them to the purposes determined and declared by the Congress of the United States.

In behalf of the men and women who have devoted themselves to this great work, of the rich who have given of their abundance, and the poor who have given of their necessities; in behalf of the architects who have given to their ideals a local habitation and a name, and the artists who have brought hither the three graces of modern life—form, colour, and melody—to decorate and inspire; of the workmen who have prepared the grounds and reared the walls; in behalf of the chiefs who have organised the work of the exhibitors; in behalf of the city of Chicago, which has munificently voted aid; of the Congress, which has generously given of the national moneys; in behalf of the World's Columbian Commission, the World's Columbian Exposition Company and the board of lady managers, I ask you to dedicate these buildings and grounds to humanity, to the end that all men and women of every clime may feel that the evidence of material progress which may here meet the eye is good only so far as it may promote that higher life which is the true aim of civilisation—that the evidences of wealth here exhibited and the stimulus herein given to industry are good only so far as they may extend the area of human happiness.

Then VICE-PRESIDENT MORTON, in response to the request of President Palmer, "dedicated the fair to humanity" in an eloquent speech, which was as follows:—

MR. PRESIDENT,—Deep indeed must be the sorrow which prohibits the President of the United States from being the central figure in these ceremonials. Realising from these sumptuous, surroundings the extent of design, the adequacy of execution, and the vastness of results, we may well imagine how ardently he has aspired to be officially and personally connected with this great work, so linked to the past and to the present of America. With what eloquent words he would have spoken of the heroic achievements and radiant future of his beloved country! While profoundly anguished in his most tender earthly affection, he would not have us delay or falter in these dedicatory services, and we can only offer to support his courage by a profound and universal sympathy.

I am not here to recount the wonderful story of this city's rise and advancement, of the matchless courage of her people, of her second birth out of the ashes of the most notable conflagration of modern times, nor the eminent position she has conquered in commerce, in manufactures, in science, and in the arts.

These are known of all men who keep pace with the world's progress.

I am here in behalf of the Government of the United States, in behalf of all the people, to bid all hail to Chicago, all hail to the Columbian Exposition.

From the St. Lawrence to the Gulf, and from the peerless cosmopolitan capital by the sea to the Golden Gate of California, there is no longer a rival city to Chicago, except to emulate her in promoting the success of this work.

New York has signalised the opening of the new era by a commemorative function, instructive to the student, encouraging to the philanthropist, and admonitory to the forces arrayed against liberty.

Her houses of worship, without distinction of creed, have voiced their thanks to Almighty God for religious freedom; her children, to the number of five and twenty thousand, have marched under the inspiration of a light far broader than Columbus, with all his thirst for knowledge, enjoyed at the University of Pavia; and for three successive days and nights processional progresses on land and water, aided by Spain and Italy and France, saluted the memory of the great pilot with the fruits of the great discovery in a pageant more brilliant than that at Barcelona, when, upon a throne of Persian fabrics, Ferdinand and Isabella disregarded the etiquette of Castile and Arragon, received him standing, attended by the most splendid court of Christendom.

And what a spectacle is presented to us here! As we gaze upon these munificent erections, with their columns and arches, their entablatures and adornments, when we consider their beauty and rapidity of realisation, they would seem to be evoked at a wizard's touch of Aladdin's lamp.

Praise for the organisation and accomplishment for the architect and builder, for the artist and artisan, may not now detain me, for in the year to come in the mouths of all men it will be unstinted.

These are worthy shrines to record the achievements of the two Americas, and to place them side by side with the arts and industries of the elder world, to the end that we may be stimulated and encouraged to new endeavours. Columbus is not in chains, nor are Columbian ideas in fetters. I see him, as in the great picture under the dome of the capitol, with kneeling figures about him, betokening no longer the contrition of his followers, but the homage of mankind, with erect form and lofty mien animating these children of a new world to higher facts and bolder theories.

We

We may not now anticipate the character and value of our national exhibit. Rather may we modestly anticipate that a conservative award will be made by the world's criticism to a young nation eagerly listening to a beckoning future, within whose limits the lightning was first plucked from heaven at the will of man, where the expansive power of steam was first compelled to transport mankind and merchandise over the waterways of the world, where the implements of agriculture and handicraft have been so perfected as to lighten the burdens of toil, and where the subtle forces of nature, acting through the telegraph and telephone, are daily startling the world by victories over matter which in the days of Columbus might have been reckoned among the miracles.

We can safely predict, however, those who will come from the near and distant regions of our country, and who will themselves make part of the national exhibit. We shall see the descendants of the loyal cavaliers of Virginia, of the pilgrim fathers of New England, of the sturdy Hollanders who in 1624 bought the twenty-two thousand acres of the island of Manhattan for the sum of \$24, of the adherents of the old Christian faith who found a resting place in Baltimore, of the Quakers and Palatine Germans who settled in Pennsylvania and New Jersey, of the Huguenots who fled from the revocation of the edict of Nantes to the banks of the Hudson in the North and those of the Cooper and Ashley Rivers in the South, of the refugees in Georgia, from Salzburg, and in North Carolina of Charles Edward's Highlanders. With them also we shall have in person or in their sons, the thousands of others from many climes, who, with moderate fortunes, have joined their future to that of the great Republic, or who with sinewy arms have opened our waterways and bulldozed our ironways.

We trust that from the lands beyond the seas many will come to engage in fraternal competition, or to point us to more excellent standards. If they shall find little in our product to excite their admiration, we shall welcome them to the atmosphere of the New World, where some of the best efforts have been made in the cause of freedom and progress by Washington and Franklin and Lafayette; by Agassiz and Lincoln and Grant; by Bolivar and Juarez and Toussaint L'Ouverture; by Fulton and Morse and Edison.

Columbus lived in the age of great events. When he was a child in 1440 printing was first done with movable types; seven years later the Vatican Library, the great fountain of learning, was founded by Nicholas the Fifth, and 1455 is given as the probable date of the Mazarine Bible, the earliest printed book known. It was not until a hundred years after the discovery that Galileo, pointing his little telescope to the sky, found the satellites of Jupiter, and was hailed as the Columbus of the heavens.

His character was complex as was that of many of the men of his time who made their mark in history. But his character and attainments are to be estimated by those of his contemporaries, and not by other standards. Deeply read in mathematical science, he was certainly the best geographer of his time. I believe, with Castelar, that he was sincerely religious, but his sincerity did not prevent his indulging in dreams. He projected, as the eloquent Spanish orator says, the purchase of the holy places of Jerusalem, in the event of his finding seas of pearls, cities of gold, streets paved with sapphires, mountains of emeralds, and rivers of diamonds. How remote, and yet how marvellous, has been the realization! Two products of the southern continent which he touched and brought into the world's economy have proved of inestimable value to the race, far beyond what the imagined wealth of the Indies could buy.

The potato, brought by the Spaniards from what is now the Republic of Ecuador, in the beginning of the century following the discovery, has proved, next to the principal cereals, to be the most valuable of all plants for human food. It has sensibly increased the wealth of nations and added immeasurably to the welfare of the people. More certain than other crops, and having little to fear from storm or drought, it is hailed as an effectual barrier against the recurrence of famines.

Nor was the other product of less importance to mankind. Peruvian bark comes from a tree of spontaneous growth in Peru, and many other parts of South America. It received its botanical name from the wife of a Spanish viceroy, liberated from an intermittent fever by its use. Its most important base, quinine, has come to be regarded, as nearly as may be, as a specific for that disease and also for the preservation of health in certain latitudes, so that no vessel would dare to approach the east or west coast of Africa without a supply, and parts of our own land would be made partially desolate by its disappearance. No words that I could use could magnify the blessings brought to mankind by these two individuals of the vegetable kingdom from the shores of the new world.

Limited time for preparation does not permit me to speak authoritatively of the progress and proud position of our sister republics and of the Dominion of Canada to demonstrate the moral and material fruits of the great discovery. Concerning ourselves the statistics are familiar and constitute a marvel. One of the States recently admitted, the State of Montana, is larger than the Empire of Turkey.

We are near the beginning of another century, and if no serious change occurs in our present growth, in the year 1935, in the lifetime of many now in manhood, the English speaking republicans of America will number more than 180,000,000. And for them, John Bright, in a burst of impassioned eloquence, predicts one people, one language, one law, and one faith; and all over the wide continent, the home of freedom and a refuge for the oppressed of every race and every clime.

The transcendent feature in the character of Columbus was his faith. That sustained him in days of trial and darkness, and finally gave him the great discovery. Like him let us have faith in our future. To insure that future the fountains must be kept pure, public integrity must be preserved. While we reverence what Garibaldi and Victor Emmanuel fought for, the union of peoples, we must secure above all else what Steuben and Kosciuszko aided our fathers to establish—liberty regulated by law.

If the time should ever come when men trifle with the public conscience let me predict the patriotic action of the republic in the language of Milton:

"Methinks I see in my mind a noble and puissant nation rousing herself like a strong man after sleep, and shaking her invincible locks; methinks I see her as an eagle mewing her mighty youth, and kindling her undazzled eyes at the full midday beam; purging and unscaling her long abused sight at the fountain itself of heavenly radiance; while the whole noise of timorous and flocking birds, with those also that love the twilight, flutter about, amazed at what she means."

Mr. President, in the name of the Government of the United States, I hereby dedicate these buildings and their appurtenances, intended by the Congress of the United States for the use of the World's Columbian Exposition, to the world's progress in art, in science, in agriculture, and in manufactures. I dedicate them to humanity.

God save the United States of America.

Then HENRY WATTERSON, the Son of the "Star-Eyed Goddess," one of Kentucky's most eloquent orators and a favourite in the heart of this nation, arose amid a storm of welcoming applause to deliver the dedicatory oration. He said:

Among the wonders of creative and constructive genius in course of preparation for this festival of the nations, whose formal and official inauguration has brought us together, will presently be witnessed upon the margin of the inter-ocean, which gives to this noble and beautiful city the character and rank of a maritime metropolis, a spectatorium, wherein the Columbian epic will be told with realistic effects surpassing the most splendid and impressive achievements of the modern stage. No one who has had the good fortune to see the models of this extraordinary work of art can have failed to be moved by the union which it embodies of the antique in history and the current in life and thought, as, beginning with the weird mendicant fainting upon the hillside of Santa Rabida, it traces the strange adventures of the Genoese seer from the royal camp of Santa Fé to the sunny coasts of the Isles of Inde; through

through the weary watches of the endless night, whose sentinel stars seemed set to mock but not to guide; through the trackless and shoreless wastes of the mystic sea spread day by day to bear upon every rise and fall of its heaving bosom the death of fair, fond hopes, the birth of fantastic fears; the peerless and thrilling revelation, and all that has followed to the very moment that beholds us here, citizens, freemen, equal shareholders in the miracle of American civilization and development. Is there one among us who does not thank his Maker that he has lived to join in this universal celebration, this jubilee of mankind?

I am appalled when I reflect upon the portent and meaning of the proclamation which has been delivered in our presence. The painter employed by the king's command to render to the eye some particular exploit of the people or the throne knows in advance precisely what he has to do; his canvas is measured, his colours are blended, and with the steady and sure hand of the master he proceeds, touch upon touch, to body forth the forms of things known and visible. Who shall measure the canvas or blend the colours that are to bring to the mind's eye of the present the scenes of the past in American glory? Who shall dare to attempt to summon the dead to life and out of the tomb of the ages recall the tones of the martyrs and heroes whose voices, though silent for ever, yet speak to us in all that we are as a nation, in all that we do as men and women?

We look before and after, and we see through the half-drawn folds of Time as through the solemn archways of some grand cathedral the long procession pass, as silent and as real as a dream; the caravels, tossing upon Atlantic billows, have their sails refilled from the East and bear away to the West; the land is reached, and fulfilled is the vision whose actualities are to be gathered by other hands than his who planned the voyage and steered the bark of discovery; the long-sought, golden day has come to Spain at last, and Castilian conquests tread one upon another fast enough to pile up perpetual power and riches.

But even as simple justice was denied Columbus was lasting tenure denied the Spaniard.

We look again, and we see in the far north-east the old world struggle between the French and English transferred to the new, ending in the tragedy upon the heights above Quebec; we see the sturdy Puritans in bell-crowned hats and sable garments assail in unequal battle the savage and the elements, overcoming both to rise against a mightier foe; we see the gay, but dauntless cavaliers, to the southward, join hands with the Roundheads in holy rebellion. And, lo, down from the green-walled hills of New England, out of the swamps of the Carolinas, come, faintly to the ear like far away forest leaves stirred to music by autumn winds, the drum taps of the revolution; the tramp of the minute men, Israel Putnam riding before; the hoof beats of Sumter's horse galloping to the front; the thunder of Stark's guns in spirit battle; the gleam of Marion's watch fires in ghostly bivouac; and there, there in serried, saint-like ranks on fame's eternal camping-ground, stand—

—“The old Continentals,
In their ragged regimentals,
Yielding not.”

as, amid the singing of angels in heaven, the scene is shut out from our mortal vision by proud and happy tears.

We see the rise of the young republic; and the gentlemen in knee-breeches and powdered wigs who signed the declaration, and the gentlemen in knee-breeches and powdered wigs who made the constitution. We see the little nation menaced from without. We see the riflemen in hunting shirt and buckskin swarm from the cabin in the wilderness to the rescue of country and home; and our hearts swell to a second and final decree of independence won by the prowess and valour of American arms upon the land and sea.

And then, and then—since there is no life of nations or of men without its shadow and its sorrow—there comes a day when the spirits of the fathers no longer walk upon the battlements of freedom; and all is dark; and all seems lost, save liberty and honour, and, praise God, our blessed union. With these surviving, who shall marvel at what we see to-day; this land filled with the treasures of earth; this city, snatched from the ashes, to rise again in splendour and renown, passing the mind to preconceive?

Truly, out of trial comes the strength of man, out of disaster comes the glory of the state!

We are met this day to honor the memory of Christopher Columbus, to celebrate the four hundredth annual return of the year of his transcendent achievement, and with fitting rites to dedicate to America and the universe a concrete exposition of the world's progress between 1492 and 1892. No twenty centuries can be compared with those four centuries, either in importance or in interest; as no previous ceremonial can be compared with this in its wide significance and reach; because, since the advent of the Son of God, no event has had so great an influence upon human affairs as the discovery of the western hemisphere. Each of the centuries that have intervened marks many revolutions. The merest catalogue would crowd a thousand pages. The story of the least of the nations would fill a volume. In what I have to say upon this occasion, therefore, I shall confine myself to our own; and in speaking of the United States of America, I propose rather to dwell upon our character as a people, and our reciprocal obligations and duties as an aggregation of communities, held together by a fixed constitution, and charged with the custody of a union upon whose preservation and perpetuation in its original spirit and purpose the future of free, popular government depends, than to enter into a dissertation upon abstract principles, or to undertake a historic essay. We are a plain, practical people. We are a race of inventors and workers—not of poets and artists. We have led the world's movement—not its thought. Our deeds are to be found not upon frescoed walls or in ample libraries, but in the machine-shop, where the spindles sing and the looms thunder; on the open plain, where the steam-plough, the reaper and the mower contend with one another in friendly war against the obdurances of nature; in the magic of electricity as it penetrates the darkest caverns with its irresistible power and light. Let us consider ourselves and our conditions, as far as we are able, with a candour untinged by cynicism and a confidence having no air of assurance.

A better opportunity could not be desired for a study of our peculiarities than is furnished by the present moment.

We are in the midst of the quadrennial period established for the selection of a chief magistrate. Each citizen has his right of choice, each has his right to vote and to have his vote freely cast and fairly counted. Whenever this right is assailed for any cause wrong is done and evil must follow, first to the whole country, which has an interest in all its parts, but most to the community immediately involved, which must actually drink of the cup that has contained the poison and cannot escape its infection.

The abridgment of the right of suffrage, however, is very nearly proportioned to the ignorance or indifference of the parties concerned by it, and, there is good reason to hope that, with the expanding intelligence of the masses and the growing enlightenment of the times, this particular form of corruption in elections will be reduced below the danger line.

To that end, as in all other good ends, the moderation of public sentiment must ever be our chief reliance; for when men are forced by the general desire for truth, and the light which our modern vehicles of information throw upon truth, to discuss public questions for truth's sake, when it becomes the plain interest of public men, as it is their plain duty, to do this, and when, above all, friends and neighbours cease to love one another less because of individual differences of opinion about public affairs, the struggle for unfair advantage will be relegated to those who either have no character to lose or none to seek.

It is admitted on all sides that the current presidential campaign is freer from excitement and tumult than was ever known before, and it is argued from this circumstance that we are traversing the epoch of the commonplace. If this be so, thank God for it! We have had full enough of the dramatic

dramatic and sensational, and need a season of mediocrity and repose. But may we not ascribe the rational way in which the people are going about their business to larger knowledge and experience and a fairer spirit than have hitherto marked our party contentions?

Parties are as essential to free government as oxygen to the atmosphere or sunshine to vegetation. And party spirit is inseparable from party organism. To the extent that it is tempered by good sense and good feeling, by love of country and integrity of purpose, it is a supreme virtue; and there should be no gag short of a decent regard for the sensibilities of others put upon its freedom and plainness of utterance. Otherwise, the limpid pool of democracy would stagnate and we should have a republic only in name. But we should never cease to be admonished by the warning words of the Father of his country against the excess of party spirit, re-enforced as they are by the experience of a century of party warfare; a warfare happily culminating in the complete triumph of American principles, but brought many times dangerously near to the annihilation of all that was great and noble in the national life.

Sursum Corda. We have in our own time seen the republic survive an irrepressible conflict, sown in the blood and marrow of the social order. We have seen the federal union, not too strongly put together in the first place, come out of a great war of sections stronger than when it went into it, its faith renewed, its credit rehabilitated and its flag saluted with love and homage by 60,000,000 of God-fearing men and women, thoroughly reconciled and homogeneous. We have seen the federal constitution outlast the strain not merely of a reconstructory ordeal and a presidential impeachment, but a disputed count of the electoral vote, and a congressional dead-lock and an extra-constitutional tribunal, yet standing firm against the assaults of its enemies, while yielding itself with admirable flexibility to the needs of the country and the time. And finally, we saw the gigantic fabric of the federal government transferred from hands that had held it a quarter of a century to other hands, without a protest, although so close was the poll in the final count that a single blanket might have covered both contestants for the chief magisterial office. With such a record behind us who shall be afraid of the future.

The young manhood of the country may take this lesson from those of us who lived through times that did, indeed, try men's souls—when, pressed down from day to day by awful responsibilities and suspense, each night brought a terror with every thought of the morrow, and when, look where we would, there were light and hope nowhere—that God reigns and wills, and that this fair land is, and has always been, in his own keeping.

The curse of slavery is dead. It was a joint heritage of woe, to be wiped out and expiated in blood and flame. The mirage of the confederacy has vanished. It was essentially bucolic, a vision of Arcadie, the dream of a most attractive economic fallacy. The Constitution is no longer a rope of sand. The exact relation of the States to the federal government, left open to double construction by the authors of our organic being, because they could not agree among themselves, and union was the paramount object, has been clearly and definitely fixed by the three last amendments to the original chart, which constitute the real treaty of peace between the North and the South and seal our bonds as a nation for ever.

The Republic represents at last the letter and the spirit of the sublime declaration. The fetters that bound her to the earth are burst asunder. The rags that degraded her beauty are cast aside. Like the enchanted princess in the legend, clad in spotless raiment and wearing a crown of living light, she steps in the perfection of her maturity upon the scene of this, the latest and proudest of her victories, to bid a welcome to the world!

Need I pursue the theme? This vast assemblage speaks with a resonance and meaning which words can never reach. It speaks from the fields that are blessed by the never-failing water of the Kennebec and from the farms that sprinkle the valley of the Connecticut with mimic principalities more potent and lasting than the real; it speaks in the whirr of the mills of Pennsylvania and in the ring of the wood-cutter's axe from the forests of the lake peninsulas; it speaks from the great plantations of the South and West, teeming with staples that insure us wealth and power and stability, yea, and from the mines and forests and quarries of Michigan and Wisconsin, of Alabama and Georgia, of Tennessee and Kentucky, far away to the regions of silver and gold, that have linked the Colorado and the Rio Grande in close embrace and annihilated time and space between the Atlantic and the Pacific; it speaks in one word from the hearthstone in Iowa and Illinois, from the home in Mississippi and Arkansas, from the hearts of seventy millions of fearless, freeborn men and women, and that one word is "Union!"

There is no geography in American manhood. There are no sections to American fraternity. It needs but six weeks to change a Vermonter into a Texan and there never has been a time when upon the battle-field or the frontier puritan and cavalier were not convertible terms, having in the beginning a common origin and so diffused and diluted on American soil as no longer to possess a local habitation or nativity except in the national unit.

The men who planted the signals of American civilization upon that sacred rock by Plymouth Bay were Englishmen, and so were the men who struck the coast a little lower down, calling their haven of rest after the great republican commoner and founding by Hampton roads a race of heroes and statesmen, the mention of whose names brings a thrill to every heart. The South claims Lincoln, the immortal, for its own; the North has no right to reject Stonewall Jackson, the one typical puritan soldier of the war, for its own. Nor will it. The time is coming, is almost here, when hanging above many a mantel-board in fair New England—glorifying many a cottage in the sunny South—shall be seen bound together, in everlasting love and honor, two cross-swords carried to battle respectively by the grandfather who wore the blue, and the grandfather who wore the gray.

I cannot trust myself to proceed. We have come here not so much to recall by-gone sorrows and glories as to bask in the sunshine of present prosperity and happiness, to interchange patriotic greetings and indulge good auguries, and, above all, to meet upon the threshold the stranger within our gate, not as a foreigner, but as a guest and friend, for whom nothing that we have is too good.

From wheresoever he cometh we welcome him with all our hearts—the son of the Rhone and the Garonne, our God-mother, France, to whom we owe so much, he shall be our Lafayette; the son of the Rhine and the Moselle, he shall be our Goethe and our Wagner; the son of the Campagna and the Vesuvian bay, he shall be our Michael Angelo and our Garibaldi; the son of Arragon and the Indies, he shall be our Christopher Columbus, fitly honored at last throughout the world.

Our good cousin of England needs no words of special civility and courtesy from us. For him the latch-string is ever on the outer side; though whether it be or not we are sure that he will enter and make himself at home. A common language enables us to do full justice to one another at the festive board or in the arena of debate, warning both of us in equal tones against further parley on the field of arms.

All nations and all creeds be welcome here: from the Bosphorus and the Black Sea, the Viennese woods and the Danubian plains; from Holland dyke to Alpine crag; from Belgrade and Calcutta, and round to China seas and the busy marts of Japan, the isles of the Pacific, and the far away capes of Africa—Armenian, Christian, and Jew—the American, loving no country except his own, but loving all mankind as his brother, bids you enter and fear not; bids you partake of these fruits of 400 years of American civilization and development, and behold these trophies of 100 years of American independence and freedom.

At this moment, in every part of the American union, the children are taking up the wondrous tale of the discovery, and from Boston to Galveston, from the little log school-house in the wilderness to the towering academy in the city and the town, may be witnessed the unprecedented spectacle of a powerful nation captured by an army of lilliputians, of embryo men and women, of topling boys and girls

girls and tiny elves scarce big enough to lisp the numbers of the national anthem ; scarce strong enough to lift the miniature flags that make of arid street and autumn wood an emblematic garden, to gladden the sight, and to glorify the red, white, and blue. See

“ Our young barbarians all at play,”

for better than these we have nothing to exhibit. They, indeed, are our crown jewels ; the truest, though the inevitable, offsprings of our civilization and development ; the representatives of a manhood vitalised and invigorated by toil and care, of a womanhood elevated and inspired by liberty and education. God bless the children and their mothers. God bless our country's flag. And God be with us now and ever, God in the roof-tree's shade, and God on the highway, God in the winds and waves, and God in all our hearts.

The roar of applause that broke from the vast gathering of people in recognition of those two magnificent national airs, “ Star Spangled Banner” and “ Hail Columbia,” had not died away when CHAUNCEY M. DEPEW, the gifted Gotham orator, rose to deliver the Columbian oration. That applause broke forth again at Mr. Depew's appearance, and swelled to a thunderous ovation. The address was brilliant, like everything else of Depew's. It was as follows :—

This day belongs not to America but to the world. The results of the event it commemorates are the heritage of the peoples of every race and clime. We celebrate the emancipation of man. The preparation was the work of almost countless centuries, the realisation was the revelation of one. The Cross on Calvary was hope ; the cross raised on San Salvador was opportunity. But for the first Columbus would never have sailed ; but for the second there would have been no place for the planting, the nurture and the expansion of civil and religious liberty. Ancient history is a dreary record of unstable civilizations. Each reached its zenith of material splendor and perished. The Assyrian, Persian, Egyptian, Grecian, and Roman empires were proofs of the possibilities and limitations of man for conquest and intellectual development. Their destruction involved a sum of misery and relapse which made their creation rather a curse than a blessing. Force was the factor in the government of the world when Christ was born, and force was the sole source and exercise of authority, both by Church and State when Columbus sailed from Palos. The wise men travelled from the east towards the west under the guidance of the star of Bethlehem. The spirit of the equality of all men before God and the law moved westward from Calvary with its revolutionary influence upon old institutions to the Atlantic Ocean. Columbus carried it westward across the seas. The emigrants from England, Ireland, Scotland, and Wales, from Germany and Holland, from Sweden and Denmark, from France and Italy have, under its guidance and inspiration, moved west and again west, building states and founding cities, until the Pacific limited their march. The exhibition of arts and sciences, of industries, and inventions, of education and civilisation, which the Republic of the United States will here present, and to which, through its Chief Magistrate, it invites all nations, condenses and displays the flower and fruitage of this transcendent miracle. * * *

Fifty years before Columbus sailed from Palos, Gutenberg and Faust had forged the hammer which was to break the bonds of superstition, and open the prison doors of the mind. They had invented the printing press and movable types. The prior adoption of a cheap process for the manufacture of paper at once utilised the press. Its first service, like all its succeeding efforts, was for the people. The universities and the school men, the privileged and the learned few of that age, were longing for the revelation and preservation of the classic treasures of antiquity, hidden, and yet insecure in monastic cells and libraries. But the first-born of the marvellous creation of these primitive printers of Mayence was the printed Bible. * * *

God always has in training some commanding genius for the control of great crises in the affairs of nations and of peoples. The number of these leaders are less than the centuries, but their lives are the history of human progress. Though Cæsar and Charlemagne, and Hildebrand, and Luther, and William the Conqueror, and Oliver Cromwell, and all the epoch makers prepared Europe for the event, and contributed to the result, the lights which illumine our firmament to-day are Columbus the discoverer, Washington the founder, and Lincoln the saviour.

Neither realism nor romance furnishes a more striking and picturesque figure than that of Christopher Columbus. The mystery about his origin heightens the charm of his story. That he came from among the toilers of his time is in harmony with the struggles of our period. Forty-four authentic portraits of him are descended to us, and no two of them are the counterfeits of the same person. Each represents a character as distinct as its canvas. Strength and weakness, intellectuality, and stupidity, high moral purpose and brutal ferocity, purity and licentiousness, the dreamer and the miser, the pirate and the puritan, are the types from which we may select our hero. We dismiss the painter, and piercing with the clarified vision of the dawn of the twentieth century the veil of 400 years, we construct our Columbus.

The perils of the sea in his youth upon the rich argosies of Genoa, or in the service of the licensed rovers who made him their prey, had developed a skilful navigator and intrepid mariner. They had given him a glimpse of the possibilities of the unknown, beyond the highways of travel, which roused an unquenchable thirst for adventure and research. The study of the narratives of previous explorers and diligent questionings of the daring spirits who had ventured far toward the fabled West gradually evolved a theory, which became in his mind so fixed a fact that he could inspire others with his own passionate beliefs. The words “ that is a lie,” written by him on the margin of nearly every page of a volume of the travels of Marco Polo, which is still to be found in a Genoese library, illustrates the scepticism of his beginning and the first vision of the new world, the fulfilment of his faith.

To secure the means to test the truth of his speculations this poor and unknown dreamer must win the support of kings and overcome the hostility of the church. He never doubted his ability to do both, though he knew of no man living who was so great in power, or lineage, or learning that he could accomplish either. Unaided and alone he succeeded in arousing the jealousies of sovereigns and dividing the councils of the ecclesiastics. “ I will command your fleet and discover for you new realms, but only on condition that you confer on me hereditary nobility, the admiralty of the ocean and the vice-royalty and one-tenth the revenues of the new world,” were his haughty terms to King John of Portugal. After ten years of disappointment and poverty, subsisting most of the time upon the charity of the enlightened monk of the Convent of Rabida, who was his unfaltering friend, he stood before the throne of Ferdinand and Isabella, and, rising to imperial dignity in his rags, embodied the same royal conditions in his petition. * * *

It was a happy omen of the position which woman was to hold in America that the only person who comprehended the majestic scope of his plans and the invincible qualities of his genius was the able and gracious Queen of Castille. Isabella alone of all the dignitaries of that age shares with Columbus the honors of his great achievement. She arrayed her kingdom and her private fortunes behind the enthusiasm of this mystic mariner, and posterity pays homage to her wisdom and faith.

The overthrow of the Mahomedan power in Spain would have been a forgotten scene, in one of the innumerable acts in the grand drama of history, had not Isabella conferred immortality upon herself, her husband, and their dual Crown by her recognition of Columbus. The devout spirit of the Queen, and the high purpose of the explorer inspired the voyage, subdued the mutinous crew, and prevailed over the raging storms. They covered, with the divine radiance of religion and humanity, the degrading search for gold and the horrors of its quest, which filled the first century of conquest with every form of lust and greed. * * *

The

The rulers of the old world began by partitioning the new. To them the discovery was expansion of empire, and grandeur to the throne. Vast territories, whose properties and possibilities were little understood, and whose extent was greater than the kingdoms of the sovereigns, were the gifts to court favourites and the prizes of royal approval. But individual intelligence and independent conscience found here haven and refuge. They were the passengers upon the caravels of Columbus, and he was unconsciously making for the port of civil and religious liberty.

The nations of Europe were so completely absorbed in dynastic difficulties and devastating wars, with diplomacy and ambitions, that they neither heeded nor heard of the growing democratic spirit and intelligence in their American colonies. To them these provinces were sources of revenue, and they never dreamed that they were also schools of liberty.

The northern continent was divided between England, France, and Spain, and the southern between Spain and Portugal. France wanting the capacity for colonisation, which still characterises her, gave up her western possessions, and left the English, who have the genius of universal empire, masters of North America. The development of the experiment in the English domain makes this day memorable. It is due to the wisdom and courage, the faith and virtue of the inhabitants of this territory, that government of the people, for the people, and by the people, was inaugurated, and has become a triumphant success. The puritan settled in New England, and the cavalier in the South. They represent the opposites of spiritual and temporal life and opinions. The processes of liberty liberalised the one and elevated the other. Washington and Adams were the new types. Their union in a common cause gave the world a republic both stable and free. It possessed conservatism without bigotry, and liberty without license. It founded institutions strong enough to resist revolution and elastic enough for indefinite extension to meet the requirements in government of ever enlarging areas of population, and the needs of progress and growth.

The "Mayflower" with the pilgrims, and a Dutch ship laden with African slaves, were on the ocean at the same time, the one sailing for Massachusetts and the other for Virginia. This company of saints and first cargo of slaves represented the forces which were to peril and rescue free government. The slaver was the product of the commercial spirit of Great Britain, and the greed of the time to stimulate production in the colonies. The men who wrote in the cabin of the "Mayflower" the first charter of freedom, a government of just and equal laws, were a little band of protestants against every form of injustice and tyranny. The leaven of their principles made possible the declaration of independence, liberated the slaves, and founded the free commonwealths which form the Republic of the United States. * * *

The time has arrived for both a closer union and greater distance between the old world and the new. The former indiscriminate welcome to our prairies, and the present invitation to these palaces of art and industry mark the passing period. Unwatched and unhealthy immigration can no longer be permitted to our shores. We must have a national quarantine against disease, pauperism, and crime. We do not want candidates for our hospitals, our poor-houses, or our gaols. We cannot admit those who come to undermine our institutions and subvert our laws. But we will gladly throw wide our gates for, and receive with open arms, those who by intelligence and virtue, by thrift and loyalty, are worthy of receiving the equal advantages of the priceless gift of American citizenship. The spirit and object of this Exhibition are peace and kinship.

Three millions of Germans, who are among the best citizens of the republic, send greeting to the fatherland their pride in its glorious history, its ripe literature, its traditions and associations. Irish, equal in number to those who still remain upon the Emerald Isle, who have illustrated their devotion to their adopted country on many a battle field fighting for the Union and its perpetuity, have rather intensified than diminished their love for the land of the shamrock, and their sympathy with the aspirations of their brethren at home. The Italian, the Spaniard, and the Frenchman, the Norwegian, the Swede and the Dane, the English, the Scotch, and the Welsh, are none the less loyal and devoted Americans, because in this congress of their kin the tendrils of affection draw them closer to the hills and valleys, the legends and the loves associated with their youth.

The grandeur and beauty of this spectacle are the eloquent witnesses of peace and progress. The Parthenon and the cathedral exhausted the genius of the ancients, and the skill of the mediæval architects, in housing the statue or spirit of Deity. In their ruins or their antiquity they are mute protests against the merciless enmity of nations which forced art to flee to the altar for protection. The United States welcome the sister republics of the southern and northern continents and the nations and peoples of Europe and Asia, of Africa and Australia, with the products of their lands, of their skill and of their industry, to this city of yesterday, yet clothed with royal splendour as the queen of the great lakes. The artists and architects of the country have been bidden to design and erect the buildings which shall fitly illustrate the height of our civilization and the breadth of our hospitality. The peace of the world permits and protects their efforts in utilising their powers for man's temporal welfare. The result is this park of palaces. The originality and boldness of their conceptions and the magnitude and harmony of their creations are the contributions of America to the oldest of the arts and the cordial bidding of America to the peoples of the earth to come and bring the fruitage of their age to the boundless opportunities of this unparalleled exhibition.

If interest in the affairs of this world are vouchsafed to those who have gone before, the spirit of Columbus hovers over us to day. Only by celestial intelligence can it grasp the full significance of this spectacle and ceremonial.

All hail Columbus, discoverer, dreamer, hero and apostle. We here, of every race and country, recognise the horizon which bounded his vision and the infinite scope of his genius. The voice of gratitude and praise for all the blessings which have been showered upon mankind by his adventure is limited to no language, but is uttered in every tongue. Neither marble nor brass can fitly form his statue. Continents are his monuments, and unnumbered millions, past, present, and to come, who enjoy in their liberties and their happiness, the fruits of his faith, will reverently guard and preserve, from century to century, his name and fame.

To bring the magnificent exercises of the day up to a fitting close and to prepare all for the musical praise of God and the benediction that were to follow, CARDINAL GIBBONS offered up the following eloquent prayer of thankfulness and hope:—

We are assembled, O Lord, in Thy name to celebrate with grateful homage the four hundredth anniversary of the discovery of this continent.

We adore Thy wisdom in choosing for this providential mission Thy servant Columbus, who united to the skill and daring of a navigator the zeal of an apostle, and who was not only impelled by the desire of enriching his sovereign with the wealth of new dominions, but was inspired with the sublime ambition of carrying the light of the Gospel to a people buried in the darkness of idolatry.

Whilst the land which gave birth to Columbus and the land from which he set forth on his voyage of exploration through hitherto unknown seas are resounding with Divine praise, it is meet and just that we give special thanks to Thee, since we have a share in that earthly heritage which his indomitable spirit purchased for us and for thousands unnumbered of the human family. For where blessings abound gratitude should superabound. And if Columbus poured forth hymns of thanksgiving to Thee when a new world first dawned upon his vision, though, like Israel's leader, he was not destined to abide in the promised land, how much greater should be our sense of devout gratitude, since, like the children of Israel, we enjoy the fruit of his labours and victory.

But not for this earthly inheritance only do we thank Thee, but still more for the precious boon of constitutional freedom which we possess: for even this favoured land of ours would be to us a dry and barren waste if it were not moistened by the dew of liberty. We humbly implore Thee to
continue

continue to bless our beloved country and her cherished institutions, and we solemnly vow, in this vast assembly and in the name of our fellow citizens, to exert all our power in preserving this legacy unimpaired and in transmitting it as a priceless heirloom to succeeding generations.

We pray Thee, O God of might, wisdom, and justice, through whom authority is rightly administered, laws are enacted, and judgment decreed, to assist with Thy Holy Spirit of counsel and fortitude the President of these United States, that his administration may be conducted in righteousness and be eminently useful to Thy people over whom he presides, by encouraging due respect for virtue and religion and by a faithful execution of the laws in justice and mercy.

Vouchsafe, O Lord, to bless the labours of the President and Directors of the World's Columbian Exposition, that it may redound to the increased prosperity and development of this young and flourishing metropolis.

May the new life and growth which it will impart to this throbbing centre of trade pulsate and be felt even to the farthest extremity of the land, and may the many streams of industry converging from every quarter of the globe in this great heart of Illinois, flow back with increased abundance into every artery of the commercial world. May this international exposition contribute to the promotion of the liberal arts, science, useful knowledge, and industrial pursuits.

As 1,900 years ago men assembled in Jerusalem from various portions of the old world to hear from the lips of thy apostles "the wonderful works of God," so shall we soon behold men assembled here from Europe, Asia, Africa, and Australia, from the islands of the Atlantic and the Pacific, as well as from all parts of the American Continent, to contemplate the wonderful works of man—of man created to Thine image and likeness, of man endowed with Divine intelligence, of man, the productions of whose genius manifest Thy wisdom and creative power not less clearly than "the heavens which declare Thy glory, and the firmament which showeth forth the works of Thy hands." And as every contemplative being and student of nature "finds tongues in trees, books in the running brooks, and sermons in stones," and rises from nature to nature's God, so will he devoutly rise from the contemplation of those works of human skill to the admiration of Thee, the Uncreated Architect. For every artist and man of genius who will exhibit his works within these inclosures must say, with the royal prophet, "Thy hands, O God, have made and fashioned me," and with Bezaleel, who framed the ancient Tabernacle, he must confess that Thy spirit lightened his understanding, and guided his hands.

Grant, O Lord, that this pacific reunion of the world's representatives may be instrumental in bringing together in closer ties of friendship and brotherly love all the empires and commonwealths of the globe. May it help to break down the wall of dissension and jealousy that divides race from race, nation from nation, and people from people, by proclaiming the sublime lesson of the fatherhood of God, and the brotherhood of Christ. May the goodwill and fellowship which will be fostered in this hospitable city among the delegates of the powers be extended to the Governments which they represent. May the family of nations become so closely identified in their interests by social and commercial relations that when one nation is visited by any public calamity, all the others will be aroused to sympathy, and be ready, if necessary, to stretch out a helping hand to the suffering member.

Arise, O God, in Thy might, and hasten the day when the reign of the Prince of Peace will be firmly established on the earth, when the spirit of the Gospel will so far sway the minds and hearts of rulers that the clash of war will be silenced for ever by the cheerful hum of industry, that standing armies will surrender to permanent courts of arbitration, that contests will be carried on in the Cabinet instead of the battle-field, and decided by the pen instead of the sword.

Finally, we pray that under thy superintending providence that "reacheth from end to end mightily, and ordereth all things sweetly," this Columbian exposition, like the voyage of Columbus, may result in accomplishing a Divine as well as a human mission. May it exert a wholesome influence on the moral and religious as well as on the social and material world. May it promote the glory of God, as well as the peace and temporal prosperity of man. May it redound to the development of Christian faith and Christian principles, and may the queen of commerce, in her triumphant progress throughout the world, be at the same time the handmaid of religion and of Christian civilization to the nations of the earth.

At the close of Cardinal Gibbons' prayer the chorus sang "In Praise of God," after which the Rev. H. C. McCook, of Philadelphia, pronounced the Benediction. This ended, the National salute was fired, and the great dedication exercises closed.

APPENDIX D.

Proceedings at the Inauguration of the World's Congress Auxiliary

(Held at the Auditorium, Chicago, on 21st October, 1892).

ORDER OF EXERCISES.

THE Programme, which began at 8 o'clock and finished before 10, was as follows:—

Organ—Festival Overture, on the Choral, "A Strong Castle is our Lord" (Nicolai-Liszt), Clarence Eddy.

The Opening Invocation—Rev. John Henry Barrows, Chairman of the General Committee of the Auxiliary on Religious Congresses.

The Welcome—Charles C. Bonney, President of the World's Congress Auxiliary.

The Woman's Branch Greeting—Mrs. Potter Palmer, President of the Woman's Branch of the World's Congress Auxiliary.

Salutation in honor of Queen Isabella—Mrs. Charles Henrotin, Vice-President of the Woman's Branch of the Auxiliary.

Introduction of the Orator.

The Oration—"The World's Congresses of 1893." His Grace the Most Reverend John Ireland, Archbishop of St. Paul.

"America,"—Sung by the Audience, led by E. R. Sharpe.

The Closing Invocation—Dr. William R. Harper, President of the University of Chicago, Chairman of the World's Congress Committee on Higher Education.

Organ—Triumphal March (Dudley Buck), Clarence Eddy.

Festival Overture: "A Strong Castle is our God."

Opening Prayer by Rev. John Henry Barrows.

PRESIDENT BONNEY'S Address of Welcome:—

The World's Congress Auxiliary salutes and welcomes this magnificent audience assembled to witness the inaugural ceremonies of the intellectual and moral exposition of the progress of mankind to be made in the World's Congresses of 1893. The greeting on behalf of the Woman's Branch of the Auxiliary will be given by its President, Mrs. Potter Palmer.

MRS. POTTER PALMER'S Welcome from the Woman's Branch:—

The Woman's Branch of the World's Congress Auxiliary, representing the marvellous progress of Woman during the last four centuries, unites most cordially in this greeting, and sends congratulations to the leaders of that progress in all enlightened lands. The salutation in honor of Queen Isabella will be given by Mrs. Charles Henrotin, Vice-President of the Woman's Branch of the World's Congress Auxiliary.

The Salutation in honor of Queen Isabella, by Mrs. HENROTIN, was simple and dignified, albeit the salutation was not long. She said:—

The assistance which Columbus received from Queen Isabella enabled him to discover and reveal the American continents. The aid which enlightened womanhood, the queen of this new age, now offers to all men, will enable them, especially the toiling millions, to find in their own countries new worlds of intellectual and moral enjoyment, enhanced material prosperity, improved social conditions, and the rich fruitage of resulting peace.

The Orator of the evening, JOHN IRELAND, Archbishop of St. Paul, was introduced by PRESIDENT BONNEY, amid a tumultuous wave of applause. In introducing Archbishop Ireland, PRESIDENT BONNEY said:—

The Government of the United States has recognised the World's Congress Auxiliary as the proper agency to arrange and conduct a series of International Congresses to be held in connection with the World's Columbian Exposition of 1893, and has invited the Governments of other countries to send delegates to all or any of these Congresses, in addition to those who will attend as the representatives of the institutions and societies of participating peoples. It was, therefore, thought that the dedication ceremonies of the World's Columbian Exposition would be incomplete without a proper presentation of the plans and purposes of the World's Congress Auxiliary, the progress made, and the success assured. The Auxiliary, therefore sought, for such presentation, an orator equal to the occasion, and whose name would command attention in the old world as well as in the new. Such an orator it found in the Most Rev. John Ireland, Archbishop of St. Paul, who will now deliver the oration on the World's Congresses of 1893.

ARCHBISHOP IRELAND spoke as follows:—

The greatest of things is mind. Mind, conscious, intelligent, potent to put into action, thought, and wish, differentiates itself absolutely from matter, rises above it to immeasurable heights, dominates and moves the unthinking world. Mind is the causative power in all orderly results. Without it there is nothing or there is aimless movement and chaos. The universe is the product of the supreme mind—God incarnate. Within the universe there is created mind—man. Whatever, outside the workings of the first cause, comes in the universe of beauty, goodness, and progress, comes through man. He is, within the limit of God's creation, a second creator. The manifestations of mind in men are of varied measures. The degree of mind lifts man above man—the higher the mind the greater and the nobler the man.

Through

Through scenes of past ages, over which fancy delights to hover amid Columbian celebrations—Cordova's court, the hillside of La Rabida, Palos Harbour, or savage Guanabani—one object more than aught else obtains attention. We seek it out; we fix upon it the soul's eager eye. It is the figure of Christopher Columbus. The picture, Columbus unseen, whatever the remaining forms, whatever the colouring, is incomplete, meaningless; the spirit is absent; it is void of inspiration. Columbus is the mind, creating, directing the scenes, bringing into them motive and purpose, producing and co-ordinating results. All else in the scenes has value so far as it responds to the thoughts of Columbus, so far as it aids him to execute his plans. The queenly and generous Isabella, the patient and farseeing Juan Perez de Marchena, claim our esteem because mind in them understood and followed superior mind in Columbus.

In all places, in all occurrences, the sublime, the worshipful power is mind. Man, mind, incorporate, is the greatest being in the universe. The men among men, mind towering above common mind, are the worthiest of all objects of vision and study.

This day 400 years ago America first unfolded to the eyes of civilized races her beauty and her wealth. Fraught, indeed, with solemn meaning for the whole world of men was the occurrence. Few expressions recorded in story revealed great things coming as did the world which, rising in swelling choruses, rent the air above the decks of the weary and wave-beaten caravals of the admiral of the seas—land! land! The new land was in sight, so fruitful in resources, so pregnant in possibilities. A new world was given to human longings, to human action; a new era dawned for mankind, a marvellous epoch of human progress. Since the preaching of the Christian religion nothing has happened of such great import for the human race as the discovery of America. What has occurred during the last four centuries abundantly proves the assertion. What will occur in the future will set it out in yet clearer light. With much reason America and her sister continents keep sacred the Centennial Anniversary.

The solemn commemoration of the discovery of America has been allotted to the United States. It was the right and the duty of the first nation of the continent to charge itself with the gracious task. She, as none other, is the giant daughter of the progress of the age; she, as none other, has the power to command the splendours which should mark the commemoration. She has inaugurated the exposition of Chicago. Proper, too, was it that among the cities of the United States, Chicago be the chosen one within whose portals the exposition be enthroned. Chicago, fifty years ago the prairie village, the stupendous city of the present time, is the world's object lesson of progress. The monarch of our inland seas, the central city of the nation, she exhibits to the visitor the fulness of growth with which the United States has been blessed. Almost half-way across the continent, commanding the highways of nations, the mart in which meet for mutual exchange the offerings of Europe and Asia, Chicago forebodes the mighty destiny of the United States—to sit among all earth's nations the admired queen, the arbiter in the arts of peace and civilization of their destinies, the magnet in resistless attraction knitting all people into one harmonious and indestructible brotherhood.

The Exposition will show forth the results of the discovery of Columbus. In this wise he is honored. What Columbus gave to the world was not only the America of 1492—America, however, rich in hidden treasures, tranquil and undisturbed in nature's sleep. He gave the America of 1892—the America which his achievement made possible. He gave, in large measurement, modern progress amid all nations. America, be large-hearted in thy justice to Columbus. What thou art and what thou hast, be it all spread out to the wondering gaze of the world. Call thou upon all nations to unite with thee in praising him who was a universal benefactor, and to unroll, also, upon thy banquet-tables their choicest gifts—these and thy own, the ripest fruits of human progress, a bounteous feast for the human mind, the like of which was never set before men.

The Exposition will bring to the memory of Columbus yet higher honour. The dawn which on that memorable discovery day purpled the sails of the Santa Maria, the Nina, and the Pinta, and diffused joy untold into the souls of Columbus and his mariners was the harbinger to the world of a magnificent era of progress. What, then, should be the record told in future history of our commemorative celebration? This, and this above all else, that it did beget another era of progress for the world, distancing the previous era, so much more deeply marked in intensity and in results, that it began its course upon the higher plane to which the thinkers and toilers of 400 years had lifted mankind. This we shall do if we, in the magnitude and wisdom of our work, respond to the expectations of nations and to the plannings of the all-ruling Providence, who, in our case, as in that of Columbus, never puts before men great opportunities without demanding that fullest profit be made of them.

The Exposition of Chicago must be surpassingly great. Be there nothing wanting in it that thought or skill, wealth or courage, can bring hither. The Exposition commemorates a great event. It represents a great age in the life of humanity—it presages a greater age which is to be. To the greatness of the Exposition is pledged the honour of a great nation, and of its greatness a great city stands the sponsor.

Jackson Park, the pride to-day of Chicago, upon whose buildings, vast and stately, the majesty of the nation descended this morning in dedicatory services, tells the resolve to redeem all promises, to realise all hopes. Hither shall be brought the product of labour and art, the treasures of earth and sea, the inventions of this wondrously inventive century, the fruits of learning and genius. The entire globe is astir in preparation to fill to repletion the palaces we have erected. The invitation has gone out to the world in all the fulness and warmth of the heart of this Republic, and the nations of the earth have hearkened to it as they never did before to a voice calling men to an exposition. The best that America can bring, the best the world owns shall soon be in Jackson Park.

What may be added? I will give reply. What is there more important, more precious, than matter, and all the forms with which matter may be invested? Is there not mind? What is there greater than all the results of the thought, the labour of man? Is there not man himself, the designer, the maker of his works? Bring hither, then, mind. Bring men—not merely the millions, anxious to see and to learn. These do we need—they do not suffice. Bring the men whom the millions desire to contemplate, and from whom they may receive valued lessons. Bring the thinkers, the workers, the scholars, the apostles of action, who have rendered possible or have produced the marvels which will be housed in Jackson Park, whose dreams make toward the building up of humanity, whose arms reach out to the improvement of men along the lines of human progress. Let us have the Columbuses of our time. Let us have Parliaments of the leaders of men convoked from all lands under the sun. In this manner is your Exposition complete in all its parts, truly representative of the age, and truly great. You have matter and men; you have the works and the workers. In men far more than in matter you have the highest products of progress. There is progress only when men grow. In men you have the potent means to determine the progress of the future. God has made men the agents of progress.

I am stating the purpose of the world's Auxiliary Congress of the World's Columbian Exposition.

The organisation known as the auxiliary congress is an integral part of the Columbian Exposition, whose directors authorize and support it. It has received from the United States Government recognition and approval. Its special mission is to organise and cause to be held, during the several months allotted to the Exposition, international conventions of the scholars and workers of the world along all the lines of human progress in the various departments of civilised life, and in this way present, through the living voice of the chief actors, clear and comprehensive statements of the questions in all the fields of activity which vex to-day the souls of men. The idea is truly grand, and most important results must follow from the successful carrying out of it. All countries are asked to send to Chicago their best and most attractive minds. The several conventions, or congresses, will bring into actual contact the leaders in the several departments of thought. The thinking world will be

be under our eyes ; the whole trend of modern activity will be under our touch. What schools for learners ! What workshops of new ideas, where mind in friction with mind provokes unto higher flights and rises into broader vistas of truth !

The president of the auxiliary is the Hon. Charles C. Bonney. The name gives warrant that all shall be done to assure success which high intellect, intense honesty of purpose, and strictest devotion to duty can do. He is seconded in his work by a body of able directors. Each broad department of thought is, under their guidance, intrusted to a commission of chosen men, whose duty it becomes to prepare the plan of work, to awaken public interest, to solicit counsel from men of note the world over. In each department there will be held as many congresses as there may be traced out leading subdivisions of the general subject, and for each congress there is appointed a special commission, who will give to its organisation their immediate attention.

I instance the department of education : There is the general commission on education—and co-operating with it there are the special commissions on higher education, public instruction, public instruction in music, the instruction of the blind, the deaf and dumb, and the feeble-minded, &c. Furthermore, and I call particular attention to this feature, the aid of woman is sought ; the importance of her work is recognised. There is the woman's department of the congress auxiliary, a general commission, and commissions corresponding to all the proposed congresses into which woman's work may appropriately enter.

The world's congresses will be held in the permanent memorial art palace erected in Lake Front Park. Complete reports of all deliberations will be published in memorial volumes at the expense and under the direction of the United States Government. Already arrangements are being made for the holding of over 100 congresses under charge of the various departments into which the work of the congress auxiliary has been organised. For some congresses, in view of the nature of the subjects to be discussed, the attendance will probably not range above the hundreds. In the greater number it will go far upward in the thousands, and in congresses of departments of education, of temperance, religion, &c., &c., we are assured that the audience will not be under 50,000. The work already done, the promises given, the preparations made, the adhesions from people in America and in transatlantic countries, allow no doubt of the triumphant outcome of the world's congress auxiliary.

The congress auxiliary, the controlling idea of which is to bring together men working for men, puts forth in clear outlines the high purpose of the whole Exposition and invests it with meaning and dignity.

Expositions are held as indications of progress and as stimulants to its continuous growth. But what is progress ? Its chief seat is not in matter. It is not in the changes of forms to which matter may be subjected. Matter is not an end to itself. It has no consciousness of its conditions. No benefit, no enjoyment comes to it, whatever be the uses to which it is put, or the shapings or the colourings which may be impressed upon it. Progress is in man. It is the growth of man in the faculties and powers of his being, in his empire over inanimate and irrational creation. Man alone progresses, for man alone is intelligent and conscious.

God's aim in his workings through nature was man. The earth was created to prepare for him a dwelling-place. It was endowed with vernal fecundity to provide him with nutriment and to give delectation to his senses. The atmosphere was tempered to man's physical life. The firmament was spread to light his footsteps and to draw his soul into supernal contemplation. All these things were made for man and were given to man. "Fill the earth and subdue it," said the Lord, "and rule over the fishes of the sea and fowls of the earth, and all living creatures that move upon the earth."

"The meaning of creation," it has been well said, "is not understood until dust stands erect in a living man." The law of nature endures. Man must remain the monarch of nature ; the purpose of nature and of all its forces must be the service of man—the betterment and elevation of man. There is no other value than this in material things. To rate man inferior to matter is the reversal of the divine ordering of the universe.

Be there as much as there may the development of nature's forces and the harnessing of them to the chariots of science and industry. Be there searchings into the abyssal secrets of the earth, sea, and sky. Be there trade and commerce. But, throughout, be the aim to build up man into a higher manhood, into a more intelligent, a better, and a happier being.

Be it always man who is progressing. Man not growing, nothing has been accomplished ; man deteriorating, there is evil done. Perish trade and commerce if thereby man is lessened in his sense of righteousness and the fibre of his heart is hardened. Perish the most ingenious machinery if its conscienceless wheels in their merciless rotations annihilate the purity and happiness of human souls. Labour is a curse if man is thereby made the slave of matter and assimilated to matter. The wealth of nations is a blasphemy thrown into the face of the Creator, if riches lead to selfishness and narrow-mindedness in the possessors and the accumulation thereof condemns the multitude to misery and sin. Man is the precious being ; man must be saved and lifted upward ; the progress of man is the sole progress. Nor by man must we be allowed to understand a few men here and there amid the masses of their fellows. The few may have grown to mountain heights ; if the many dwell in the darkened valleys of suffering and of soul-wreckage, man has not progressed. God has not care of the few ; He has care for all. For the benefit of all has He swung the earth into space and lit above it His fiery orbs. Progress through the whole human family is the progress which God wills and which we should name progress.

There is danger lest expositions where all is wood and marble, gold and silver, machinery and cereals, where matter alone feasts the eye and speaks to the soul, silently teach false lessons of progress. All is well with the world, it might seem, if matter is improved. Men seek matter and admire matter. Matter, then, is the all-important. The tendency of the times is already more materialistic than its well-wishers desire. Nothing should be done to accelerate it. There is need to repeat aloud the poet's warning :

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay."

This is the mission of the congress auxiliary. It will put into the foreground man as the chief factor and first fruit of civilisation and progress. Its programmes of studies will bring out in clearest light his grandeur and final destiny.

The plans of the congress auxiliary are most comprehensive. They extend along all the lines of the growth of man.

There are the departments of agriculture, engineering, commerce, and finance, &c., in which his relations to matter receive due consideration. Man lives upon the earth, derives hence his subsistence, and in subjecting it to his service he enlarges by exercise the powers of his soul. Far be it from us not to recognise as vital elements in progress, and as strong evidences of it, the triumphs of mind over things.

The marvels of physical and mechanical sciences, in which the age glorifies itself ; its surprising inventions, enabling us to dominate more completely over nature and to yoke its subtlest forces to our industrial chariots ; its vast discoveries, opening up to our gaze the surface of the globe, revealing to us the entrails of earth and the remote regions of ethereal space—we admire and praise. God gave to us the material universe that we study it and use it. Material progress is no less within the lines of His supreme law than progress moral and spiritual. The whole man must grow, and grow in all directions. I am as impatient with the narrowness which limits him in one direction as with that which limits him in another. The sole lesson which I inculcate is that the earth is the footstool of man, and that material progress in its grandest flights fails unless man retains throughout his higher nature and is made by it a greater and a better being.

The

The interests of man's mind are cared for in the departments of education, science, and philosophy, literature, the public press, &c. Man is primarily an intelligence. His other operations depend upon and follow from his knowing. Without knowledge the darkening clouds of barbarism never rend over the face of a people. There is no progress without it in material things, and none in other realms of human aspiration. And as progress must reach over the whole human family, so knowledge, however varied in degrees, must be universal in its diffusion.

The moral life of man wells up in the heart, beneath the vivifying dews of Divine grace. Into this inner sanctuary congresses have little access. Yet it is well that the importance of the moral life of the individual and of society be emphasised; for righteousness and well doing are the vital conditions of healthfulness in body and in soul. Congresses give aid by directing outside social currents, the influences for which make strongly for good or evil. Hence, we have the department of moral and social reform, including congresses on charity, philanthropy, prevention, reform, &c., and the department of temperance, marshalling into mutual counselling the devoted legions of men and women who are giving battle to a giant evil of the times.

The department of government deals with all the complex problems which the proper regulation of man's social interests suggests. We will have congresses on municipal and national administrations, international law, peace arbitration, the several divisions of jurisprudence and practical government, &c. Government is necessary that men may abide together in peace and derive from their relations with one another help in their labour of self-development. Government is the means, not the end: the means to the elevation of the many, not to the few. The congresses of this department will be most serviceable in the progressive march of humanity.

In the strugglings of men to subsist and to rise, success is measured out in unequal degrees. This is a natural necessity. None, however, live for themselves; all are members of the human family, and the Divine Master intended for all a sufficiency of the things of earth and of the means, moral and physical, to attain to the stature of physical and moral manhood. The department of labour will discuss the intricate and pressing questions arising from the relations of labour to capital, of employee to employer—maintaining the rights of all, prescribing the duties of all, and guarding over all for their protection the reign of social order.

The health of the body of man is entrusted to the department of medicine. Man, in the fulfilment of his destiny, can neglect neither body nor soul. Be there a healthful body to house a healthful soul.

There are, too, the departments of art, music, architecture, &c. The instinct of the beautiful is deeply embedded in man: it must be satisfied. The beautiful is the reflection of elevated regions, unperceived by sense, the native home of the soul. Man expands beneath its sunshine, and is preserved by it from the hardening impress which comes towards him from the dreary drudgery of his strugglings with matter.

There is the department of woman's progress, providing for a general congress of representative women of all countries. At the same time, as I have already stated, there is in connection with each congress organised in the several departments of the congress auxiliary, wherever the mind, heart, and finger of woman may be invited to give aid, a woman's committee, for the purpose of obtaining the co-operation of women in the work of human progress. At no previous world's congress was there the marked recognition of women which the Columbian auxiliary accords her. In this recognition we rejoice. It is a noticeable token and promise of progress for woman herself and for the world at large. Woman for her own good has been too dependent upon the stronger sex, and in the battling for better things in the life of humanity we cannot longer afford to keep off the open field the deep charity and exhaustless energy of woman's soul. Columbus could not have succeeded without the practical patronage of Isabella. Be Isabella honoured in the Columbian exposition by America's generous recognition of woman's sphere.

Finally, there is the Department of Religion, crowning the work of other departments, and perfuming them with the fragrance of Heaven. Sublime the thought to have the proclamation go out from the great exposition that God reigns, and that man is his servant, that all progress begins and ends with him who is the alpha and omega of all things.

Religion is at home amid Parliaments of men working for progress in men. There is no progress deserving the name where no provision exists for the growth of man's spiritual nature. Nor can labourers in the field of progress afford to overlook the powerful aid which comes from religion to progress in the moral and social spheres. Without God's love inspiring and God's justice rewarding, men's hearts are warped, souls are chilled, enthusiasm is transient sentiment. The fatal enemy of the spirit of sacrifice and of self-control, from which springs all moral and social progress, is the cold positivism which unbeliefs seeks to substitute for the religion of a living God. Positivism is despair and practical pessimism. England's lamented laureate wrote lines of which all feel the truth:—

"Why should we bear with an hour of torture, a moment of pain,
If every man die for ever, if all his griefs are in vain,
And the homeless planet at length will be wheeled through the silence of space,
Motherless evermore of an ever-vanishing race?"

Religion is the eternal fount of hope, and hope it is which sustains man and his strugglings, and impels him to deeds of virtue and of valour. Positivism can never be the creed of a progressive people. It is not the creed of the Congress Auxiliary of the Columbus exposition.

Exception has been taken to religious congresses on the ground that on so many points there will be no harmony of thought and that truth will suffer by the juxtaposition of error. There is no force in the remark. The vital primordial truths regarding the supreme God will be confessed by all. The proclamation of these truths will be a great gain. Beyond this, those who believe they possess the truth need not fear. Truth should not be timid. Rather should she court publicity on this as on all other occasions, in order that she be known and loved. There shall be no discussions, no controversies. The purpose shall be to show forth in methods of peace, what are the professions of faith and the religious works of the world at the present time. From the plans of the Department of Religion of the Congress Auxiliary nought but good results can follow.

Through its varied departments the congress auxiliary unrolls its chart of progress for the building up of the whole man. Its convention halls will be workshops in which earnest men seek to purify and to fashion humanity according to high ideals. In convoking men to its gatherings it convokes them to the noblest of tasks—that of working for fellow-man. God works for man; the divine purpose in the creation and the preservation of the universe is man. We become Godlike in action when we work for man. God must ever be the supreme end of our willing and our doing, but outside the worship due immediately to His Majesty, he has determined that we reach him through our fellow-beings. God's manifestation of his eternal mind, Christianity, makes work for humanity a fundamental principle of religion. "Amen, amen, I say to you, as long as you did it to one of these, my least brethren, you did it to me."

The lines of work which Christ prescribes in favour of man are not merely those relating to the spiritual life; they are those, also, relating to the life of the body—the feeding of the hungry, the clothing of the naked, the solacing of the captive, the healing of the crushed and suffering heart. God's sweet religion is wherever work is done for man's welfare—wherever humanity is benefited and lifted upward, were it only by the width of a hair of the head. There is religion within cathedral walls, where God is spoken to and loved; there is religion in the wheat-field, where clay and air combine to produce food for man; there is religion in the factory, where matter is turned into new forms for man's comfort; there is religion in the sanctuary of philosopher and writer, dreaming of new upliftings

upliftings for the race, and oh ! there is religion when the weary one is comforted, the outcast saved, and the hand of the hungering filled with bread. There is religion wherever there is work for man ; religion expands her heavenly wings over all the palaces of your great exposition.

Nor by any manner of means is working for men the hopeless task that pessimists would fain proclaim it to be. Progress is the law of nature and the law of nature's God. Since the Creator has bestowed upon us faculties capable of expansion it must be His will that we draw into action their latent forces. Since He subjected to us the earth, it must be His will that we take possession of it and assert our mastership of its every part. Powers lying dormant and idle find no favour in God's eyes. Progress is the continuity of creation ; to arrest it, through malice or indolence, is a crime against Creator and creature. Christ's Gospel is throughout a gospel of progress. It announces that all things should be put to profit and increase ; the talent wrapped up in a napkin, not made to fructify, draws down upon its possessor the ire of the Master. The parable of the talent rather primarily applies to progress in material things. History is the witness that humanity under Christ's touch was impelled into moral and spiritual progress with such might that centuries do not still the sublime vibration. The pessimist who stands idly by, uttering words of discouragement, reads not nature's lessons in the brightness of its morning sun, or in the richness of its autumnal fruitage ; he reads not in his Bible the Divine lessons of mercy and grace. There shall always be in limited humanity sin and misery, suffering and death. But evil may be lessened, and good may be increased, and this is progress. I will never believe that good must necessarily yield to evil, that the devil is stronger than God, and hence I shall never cease to put my hope in the progress of humanity.

The history of humanity is a history of progress. A narrow survey of the scene will not always bring out this important truth. There are in the tide of progress backward currents and tortuous windings. We must consider the general movement of which the trend ceases not to toward higher planes.

“ Forward, then ; but still remember how the course of time will swerve,
Crook and turn upon itself in many a backward streaming curve.”

Disguised in a rhythm of rise and decline, of ebb and flow, of growth and decay, the progress of humanity continues, and the hopes of the workers in the cause of humanity obtain their rewards

“ Through the ages one increasing purpose runs,
And the thoughts of men are widening with the process of the suns.”

The effect of the work of our congresses will be to give a marked impetus to the forward stream of progress. Their deliberations will provide the charts for the march of future generations.

The congresses organised by the congress auxiliary will not be meetings of pleasure or friendship ; they will be solemn conventions of earnest men and women, working with mind and heart for progress, comparing together their observations and conclusions, drawing from contact with one another light and heat, and when separating more firmly resolved than before to labour for fellow men.

The time is most auspicious. Manifestly we live in one of those momentous cycles of history when humanity is casting around for new pathways and girding itself for unusual manifestations of its energies. How much has been done since the days of Columbus ! Much more will be done in the new period, whose approach already brightens the landscape.

Ours is an age of unrest, of searchings and dreamings. Past achievements have but whetted the appetite. We are to-day less satisfied with inventions and discoveries than we were when the steamship and the railroad car were mere experiments. Science is more restless in its inquiries into cause and effect than when it made its first step beyond the borderland of guessings. Signal victories in the extension of popular rights and of individual liberty, the elevation of the masses, the enlargement of the sphere of woman, make known how much more may be obtained and awaken new and untried ambitions.

Another feature of the age is its questioning spirit, its tireless inquisitiveness. It puts all things to the test ; it peers into the heights and depths, so as to arrive at the real facts, the ultimate foundations, content to repose itself upon nothing else. No possibilities escape the vision and no difficulties affright the heart of man. He is emboldened by the past and enriched with its accumulated treasures of knowledge and experience. Never was humanity so daring as it is to-day, never so ready to leave far behind the pillars of Hercules and steer its ships over undiscovered seas.

I would remark, too, the universality of its energies and labours. The manifestations of the age can be reduced to no single force or trait. All the diverse energies of preceding ages combine in it and many others born of itself. All forces, physical, scientific, social, moral, are evoked, and all are challenged to show their best results.

The age is ready for great feats. If we are the loyal workers of progress our lines are, indeed, cast amid hopeful surroundings.

The future ! What will it be ? Material progress, no doubt, will continue onward with ever-increasing velocity. The wildest dreams, scarcely, I believe, foreshadow the realities—nothing need be unexpected. The travellers to the Columbian Exposition a hundred years hence will, perhaps, birdlike, sail through the air, journeying in a half-dozen hours from the Atlantic coast to the city of the north-west on the banks of the Mississippi. More unlikely would the prophecy of travel by rail, or steam, or electricity have seemed to our forefathers one century ago.

I trust in Providence and in humanity, and I have confidence that the moral and social forces which now so profoundly agitate the world will work into an increase of goodness and happiness among men. Much will depend upon the intelligence and zeal of those whom position and talent have made the leaders of thought and action. Seldom in all history did such deep responsibilities rest upon the leaders of their fellows as there do to-day. Scarcely ever was humanity pregnant with such momentous possibilities ; scarcely ever were similar opportunities offered to accomplish great things.

The future will bring no millennium. There will be no rosebush without thorns ; no day without the nearness of evening shades ; no life without the menace of death. There will be inequalities among men, and passions will disturb the peace of souls. But I do believe there will be more mercy in the world, more justice, more righteousness. There will be more respect for manhood, more liberty for the individual. The brotherhood of men will be more widely recognised, and its lessons more faithfully practised. Servitude and oppression will be banished, even from the darkest thickets of African forests. The boon of civilisation will reach all races of the human family. Civil and political liberty will speed across all seas and oceans. Nations will see in one another assemblies of brothers, and peaceful arbitration will, in settlement of disagreements, take the place of the murderous sword. Brute force will more and more yield before reason ; mind will more and more assert itself over matter and over passion. All this will not come to pass without delays and backward movements, without reactions and repressions, but the victory will be for truth and justice.

The atmosphere of the day is chilled with the spirit of unbelief. Need we fear for religion ? It is as if we asked : Need we fear for eternal truth, for the reign of the Almighty ? Unbelief is but a passing wave. The material and scientific progress of the age has begotten an over-estimate of nature, and draws a film over eyes which would seek the supernatural. The realities of the supernatural and man's profound need of them endure, and his reason will not lose sight of them. The protest against unbelief will bring religion into bolder relief, and the widening thoughts of men along other lines of progress will prove more clearly that religion is the need of all progress—a God is the need of all being.

Toward a future, as I briefly sketch it, will tend the labours of the Congress Auxiliary.

In the course of history Providence selected now one nation, now another, to be the guide and exemplar of humanity's progress. At the opening of the Christian era mighty Rome led the vanguard. Iberia rose up the mistress of the times, when America was to be born into the family of civilised peoples. The great era, the like of which has not been seen, is now dawning upon the horizon. Which will be Providence's chosen nation to guide now the destinies of mankind?

The noble nation is before my soul's vision. Giant in stature, comely in every feature, buoyant in the freshness of morning youth, matronly in prudent stepping, the ethereal breezes of liberty waving with loving touch her tresses—she is—no one seeing her doubts—the queen, the conqueror, the mistress, the teacher of coming ages. To her keeping the Creator has intrusted a great continent, whose shores two oceans lave, rich in all nature's gifts, embosoming precious and useful minerals, fertile in soil, salubrious in air, beauteous in vesture. For long centuries had he held in reserve this region of his predilection, awaiting the propitious moment in humanity's evolutions to bestow it on men when men were worthy to possess it. Her children have come from all countries, bearing with them the ripest fruit of thought, labour, and experience. Adding thereto high inspirations and generous impulses they have built up a new world of humanity. This world embodies the hopes, the ambitions, the dreamings of humanity's priests and seers. To its daring in the race of progress, to its offerings at the shrine of liberty there seems to be no limit; and yet prosperity, order, peace, spread over its vast area their sheltering wings.

The nation of the future! need I name it? Your hearts quiver loving it.

“My country, 'tis of thee
Sweet land of liberty,
Of thee I sing.”

We commemorate the discovery of America, 400 years ago. Behold the crowning gift to humanity from Columbus, whose caravels ploughed ocean's uncertain billows in search of a great land, and from the all-ruling Providence whose wisdom and mercy inspired and guided the immortal Genoese mariner—the United States of America.

When the long-continued applause following Archbishop Ireland's oration had subsided, Mr. Bonney announced that owing to unforeseen circumstances Vice-President Morton was unable to be present. The hymn “America” was sung by the audience, led by E. R. Sharpe, the 3,000 people in the hall rising to their feet. When the last notes had died away Dr. William R. Harper, President of the Chicago University, invoked the Divine blessing, and the audience left the hall accompanied by the strains of Dudley Buck's grand triumphal march.

APPENDIX E.

Act of Congress Creating the World's Columbian Commission.

AN ACT to provide for celebrating the four hundredth anniversary of the discovery of America by Christopher Columbus by holding an international exhibition of arts, industries, manufactures, and the products of the soil, mine, and sea, in the City of Chicago, in the State of Illinois.

WHEREAS it is fit and appropriate that the four hundredth anniversary of the discovery of America be commemorated by an exhibition of the resources of the United States of America, their development, and of the progress of civilisation in the New World ; and

Whereas such an exhibition should be of a national and international character, so that not only the people of our Union and this Continent, but those of all nations as well, can participate, and should therefore have the sanction of the Congress of the United States ; therefore

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an exhibition of arts, industries, manufactures, and products of the soil, mine, and sea shall be inaugurated in the year eighteen hundred and ninety-two, in the City of Chicago, in the State of Illinois, as hereinafter provided.

Section 2. That a Commission, to consist of two Commissioners from each State and Territory of the United States and from the District of Columbia and eight Commissioners-at-Large, is hereby constituted to be designated as the World's Columbian Commission.

Section 3. That said Commissioners, two from each State and Territory, shall be appointed within thirty days from the passage of this Act by the President of the United States, on the nomination of the Governors of the States and Territories, respectively, and by the President eight Commissioners-at-Large and two from the District of Columbia ; and in the same manner and within the same time there shall be appointed two alternate Commissioners from each State and Territory of the United States and the District of Columbia and eight alternate Commissioners-at-Large, who shall assume and perform the duties of such Commissioner or Commissioners as may be unable to attend the meetings of the said Commission ; and in such nominations and appointments each of the two leading political parties shall be equally represented. Vacancies in the Commission nominated by the Governors of the several States and Territories, respectively, and also vacancies in the Commission-at-Large and from the District of Columbia may be filled in the same manner and under the same conditions as provided herein for their original appointment.

Section 4. That the Secretary of State of the United States shall, immediately after the passage of this Act, notify the Governors of the several States and Territories, respectively, thereof and request such nominations to be made. The Commissioners so appointed shall be called together by the Secretary of State of the United States in the City of Chicago, by notice to the Commissioners, as soon as convenient after the appointment of said Commissioners, and within thirty days thereafter. The said Commissioners, at said first meeting, shall organise by the election of such officers and the appointment of such Committee as they may deem expedient, and for this purpose the Commissioners present at said meeting shall constitute a quorum.

Section 5. That said Commission be empowered in its discretion to accept for the purposes of the World's Columbian Exposition such site as may be selected and offered and such plans and specifications of buildings to be erected for such purpose at the expense of and tendered by the corporation organised under the laws of the State of Illinois, known as "The World's Exposition of eighteen hundred and ninety-two." Provided, that said site so tendered and the buildings proposed to be erected thereon shall be deemed by said Commission adequate to the purposes of said Exposition : And provided, that said Commission shall be satisfied that the said corporation has an actual *bona fide* and valid subscription to its capital stock which will secure the payment of at least five millions of dollars, of which not less than five hundred thousand dollars shall have been paid in, and that the further sum of five million dollars, making in all ten million dollars, will be provided by said corporation in ample time for its needful use during the prosecution of the work for the complete preparation for said Exposition.

Section 6. That the said Commission shall allot space for exhibitors, prepare a classification of exhibits, determine the plan and scope of the Exposition, and shall appoint all judges and examiners of the Exposition, award all premiums, if any, and generally have charge of all intercourse with the exhibitors and the representatives of foreign nations. And said Commission is authorised and required to appoint a Board
of

of Lady Managers of such number and to perform such duties as may be prescribed by said Commission. Said Board may appoint one or more members of all committees authorised to award prizes for exhibits which may be produced in whole or in part by female labour.

Section 7. That after the plans for said Exposition shall be prepared by said corporation, and approved by said Commission, the rules and regulations of said corporation governing rates for entrance and admission fees, or otherwise affecting the rights, privileges, or interests of the exhibitors or of the public, shall be fixed or established by said corporation, subject, however, to such modification, if any, as may be imposed by a majority of said Commissioners.

Section 8. That the President is hereby empowered and directed to hold a naval review in New York Harbour, in April, eighteen hundred and ninety-three, and to extend to foreign nations an invitation to send ships of war to join the United States Navy in rendezvous at Hampton Roads, and proceed thence to said review.

Section 9. That said Commission shall provide for the dedication of the buildings of the World's Columbian Exposition in said City of Chicago on the twelfth day of October, eighteen hundred and ninety-two, with appropriate ceremonies, and said Exposition shall be open to visitors not later than the first day of May, eighteen hundred and ninety-three, and shall be closed at such time as the Commission may determine, but not later than the thirtieth day of October thereafter.

Section 10. That whenever the President of the United States shall be notified by the Commission that provision has been made for grounds and buildings for the uses herein provided for, and there has also been filed with him by the said corporation, known as "The World's Exposition of eighteen hundred and ninety-two," satisfactory proof that a sum not less than ten million dollars, to be used and expended for the purposes of the Exposition herein authorised, has in fact been raised or provided for by subscription or other legally binding means, he shall be authorised, through the Department of State, to make proclamation of the same, setting forth the time at which the Exposition will open and close, and the place at which it will be held; and he shall communicate to the diplomatic representatives of foreign nations copies of the same, together with such regulations as may be adopted by the Commission, for publication in their respective countries, and he shall, in behalf of the Government and people, invite foreign nations to take part in the said Exposition and appoint representatives thereto.

Section 11. That all articles which shall be imported from foreign countries for the sole purpose of exhibition at said Exposition, upon which there shall be a tariff or customs duty, shall be admitted free of payment of duty, customs fees, or charges under such regulations as the Secretary of the Treasury shall prescribe; but it shall be lawful at any time during the exhibition to sell for delivery at the close of the Exposition any goods or property imported for and actually on exhibition in the Exposition buildings or on its grounds, subject to such regulations for the security of the revenue and for the collection of the import duties as the Secretary of the Treasury shall prescribe: Provided that all such articles when sold or withdrawn for consumption in the United States shall be subject to the duty, if any, imposed upon such articles by the revenue laws in force at the date of importation, and all penalties prescribed by law shall be applied and enforced against such articles, and against the persons who may be guilty of any illegal sale or withdrawal.

Section 12. That the sum of twenty thousand dollars, or as much thereof as may be necessary, be, and the same is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, for the remainder of the present fiscal year and for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, to be expended under the direction of the Secretary of the Treasury for purposes connected with the admission of foreign goods to said Exhibition.

Section 13. That it shall be the duty of the Commission to make report, from time to time, to the President of the United States of the progress of the work, and, in a final report, present a full exhibit of the results of the Exposition.

Section 14. That the Commission hereby authorised shall exist no longer than until the first day of January, eighteen hundred and ninety-eight.

Section 15. That the United States shall not in any manner, nor under any circumstances, be liable for any of the acts, doings, proceedings, or representations of the said corporation organised under the laws of the State of Illinois, its officers, agents, servants, or employees, or any of them, or for the service, salaries, labour, or wages of said officers, agents, servants, or employees, or any of them, or for any subscriptions to the capital stock, or for any certificates of stock, bonds, mortgages, or obligations of any kind issued by said corporation, or for any debts, liabilities, or expenses of any kind whatever attending such corporation or accruing by reason of the same.

Section 16. That there shall be exhibited at said Exposition, by the Government of the United States, from its Executive Departments, the Smithsonian Institution, the United States Fish Commission, and the National Museum, such articles and materials as illustrate the function and administrative faculty of the Government in time of peace and its resources as a war power, tending to demonstrate the nature of our institutions, and their adaptation to the wants of the people; and to secure a complete and harmonious arrangement of such a Government exhibit, a Board shall be created to be charged with the selection, preparation, arrangement, safe-keeping, and exhibition of such articles and materials as the heads of several departments and the Directors of the Smithsonian Institution and National Museum may respectively decide shall be embraced in said Government exhibit. The President may also designate additional articles for exhibition. Such Board shall be composed of one person to be named by the head of each Executive Department, and one by the Directors of the Smithsonian Institution and

National

National Museum, and one by the Fish Commission, such selections to be approved by the President of the United States. The President shall name the Chairman of said Board, and the Board itself shall select such other officers as it may deem necessary.

That the Secretary of the Treasury is hereby authorised and directed to place on exhibition, upon such grounds as shall be allotted for the purpose, one of the life-saving stations authorised to be constructed on the coast of the United States by existing law, and to cause the same to be fully equipped with all apparatus, furniture, and appliances now in use in all life-saving stations in the United States, said building and apparatus to be removed at the close of the Exhibition and re-erected at the place now authorised by law.

Section 17. That the Secretary of the Treasury shall cause a suitable building or buildings to be erected on the site selected for the World's Columbian Exposition for the Government exhibits as provided in this Act, and he is hereby authorised and directed to contract therefor in the same manner and under the same regulations as for other public buildings of the United States; but the contracts for said building or buildings shall not exceed the sum of four hundred thousand dollars, and for the remainder of the fiscal year and for the fiscal year ending thirtieth June, eighteen hundred and ninety-one, there is hereby appropriated for said building or buildings, out of any money in the Treasury not otherwise appropriated, the sum of one hundred thousand dollars. The Secretary of the Treasury shall cause the said building or buildings to be constructed, as far as possible, of iron, steel, and glass, or of such other material as may be taken out and sold to the best advantage, and he is authorised and required to dispose of such building or buildings or the material composing the same, at the close of the Exposition, giving preference to the city of Chicago, or to the said World's Exposition of eighteen hundred and ninety-two, to purchase the same at an appraised value to be ascertained in such manner as he may determine.

Section 18. That for the purpose of paying the expenses of transportation, care, and custody of exhibits by the Government, and the maintenance of the building or buildings hereinbefore provided for, and the safe return of articles belonging to the said Government exhibit, and for the expenses of the Commission created by this Act, and other contingent expenses, to be approved by the Secretary of the Treasury, upon itemised accounts and vouchers, there is hereby appropriated for the remainder of this fiscal year and for the fiscal year ending thirtieth June, eighteen hundred and ninety-one, out of any money in the Treasury not otherwise appropriated, the sum of two hundred thousand dollars, or so much thereof as may be necessary: Provided that the United States shall not be liable, on account of the erection of buildings, expenses of the Commission or any of its officers or employees, or on account of any expenses incident to or growing out of said Exposition, for a sum exceeding in the aggregate one million five hundred thousand dollars.

Section 19. That the Commissioners and alternate Commissioners appointed under this Act shall not be entitled to any compensation for their services out of the Treasury of the United States, except their actual expenses for transportation and the sum of six dollars per day for subsistence for each day they are necessarily absent from their homes on the business of said Commission. The officers of said Commission shall receive such compensation as may be fixed by said Commission, subject to the approval of the Secretary of the Treasury, which shall be paid out of the sums appropriated by Congress in aid of such Exposition.

Section 20. That nothing in this Act shall be so construed as to create any liability of the United States, direct or indirect, for any debt or obligation incurred, nor for any claim for aid or pecuniary assistance from Congress or the Treasury of the United States in support or liquidation of any debts or obligations created by said Commission in excess of the appropriations made by Congress therefor.

Section 21. That nothing in this Act shall be so construed as to override or interfere with the laws of any State, and all contracts made in any State for the purposes of the Exhibition shall be subject to the laws thereof.

Section 22. That no member of said Commission, whether an officer or otherwise, shall be personally liable for any debt or obligation which may be created or incurred by the said Commission.

Approved, 25th April, 1890.

APPENDIX F.

Customs Regulations.

THE following Regulations were issued by the Secretary of the United States Treasury, under date 5th November, 1891:—

1. It is the purpose of this Department to secure expedition and security to all articles imported for exhibition at the Chicago Exposition, without the exaction of customs duties, fees, or charges, and to arrange the proceedings on entry so as to afford the utmost convenience and despatch.

2. In order to obtain the benefits of this arrangement, every package destined for the Exposition should have affixed to it by the foreign shipper one or more labels representing the flag of the country to which it belongs. This label should be about 8 by 12 inches in size, and should bear across the face, in plain black letters, the inscription "Exposition at Chicago."

All packages should be plainly marked, as follows:—

- (1) "Collector of Customs, Chicago."
- (2) "Exhibits for Columbian Exposition."
- (3) Name of consignee or agent at the port of first arrival in the United States.
- (4) The shipping marks and numbers of the exhibitor.
- (5) Name and address of the exhibitor.

3. Every foreign exhibitor will prepare, in duplicate, a statement in the form of an invoice, which shall show the name of the exhibitor, the marks and numbers of the packages, with a description of their contents and a declaration of the quantity and the market value of each separate kind thereof in the country of production. This statement must be signed by the exhibitor, but will require no further verification. One of the invoices will be transmitted by mail to the Collector of Customs at Chicago, and the other to the consignee of the goods at the port of first arrival.

4. As a matter of convenience it is recommended that all packages intended for the Exposition shall be consigned to an agent or forwarder, or commissioner at the port of first arrival, who will attend to customs business incident to the transfer of packages from the importing vessel to a bonded route for transportation to Chicago.

All of the bonded transportation lines will discharge their freight at stations in Chicago to be arranged within the Exposition grounds, and packages marked as suggested in article 2 may be taken to their respective divisions as soon as they have been identified by the Customs officers.

5. *List of Companies, bonded for the transportation of Merchandise to Chicago, without appraisalment.*

6. The consignee of the merchandise at the first port of arrival must present at the Custom-house the invoice above described, with a bill of lading and an entry in duplicate made out upon the special form to be provided for this purpose by the Treasury Department, which shall show the name of the foreign shipper or owner, the name of the importing vessel, the marks and numbers of the packages, with a statement of the nature of their contents and of their foreign value, as declared in the invoice. The entry must also indicate the bonded route by which the goods are to be transported to Chicago, and must be signed by the consignee. No other declaration will be required. The goods will be consigned, on the customs entry, to "Collector of Customs, Chicago," and there need be no computation of duties upon this entry, but the amount charged against the bond of the transportation company shall be double the invoice value.

7. The collector will thereupon issue a special permit bearing the words, "Chicago Exposition," authorising the transfer of the goods from the ship to the bonded railroad for transportation to Chicago, and will record and file one of the entries in his office and send the other by mail, with the invoice, to the collector at Chicago.

8. The permit will be taken by the agent or consignee to the inspector on board the importing vessel, who will thereupon send the goods, by a cartman duly licensed, to be delivered under the supervision of a Customs' officer to the transportation company.

9. The consignee will also prepare a manifest of the goods, which, after being duly certified, will be handed to the conductor of the car carrying the same, and a duplicate copy must be sent by mail to the Collector of Customs at Chicago. Upon arrival at Chicago of any car containing such articles, the conductor or agent of the railroad company

company will report such arrival by the presentation of the manifest to the Customs' officer designated to receive it, who shall compare the same with the copy received by mail, and superintend the opening of the car, taking care to identify the packages by marks and numbers as described in the manifest. In case of the non-receipt of the manifests, the unloading of cars need not, for that reason, be delayed, but the invoice may be used to identify the packages.

10. Articles sent by foreign Governments to the Exposition, which are used solely for Government purposes, and are not intended for sale, will be admitted to entry at the exterior port of arrival on certificates of the proper foreign commissioner, without the production of invoice. But it is desired that the estimated value of each package shall be stated on the certificate or the bill of lading, in order that the pecuniary responsibility of the transportation company may be fixed.

11. These regulations will also apply to goods sent to the Exposition from foreign contiguous territory. All articles destined for the Exposition arriving from Canada on through cars under consular seal, and articles which are sent direct by vessel from any foreign port to Chicago, must be consigned by the foreign shipper to the "Collector of Customs" at that port, and on entry being made, as in the case of goods arriving at the seaboard, a permit will be issued for the transfer of the goods directly to the Exposition grounds.

12. The buildings and spaces set apart for the purposes of the Exposition are constituted "constructive bonded warehouses and yards," and all foreign articles placed therein under the supervision of the Customs' officers, and which have been specially imported for exhibition therein, will be treated the same as merchandise in bond. No warehouse entry will be required at Chicago in order to obtain entrance for such goods, but the latter will be kept under Customs' supervision in accordance with the general regulations governing merchandise in bonded warehouses, except as herein otherwise provided for. The collector at Chicago will keep a special record, in the form of a warehouse ledger, of every invoice, assigning serial numbers to the same in order of their reception, and the transportation entry received from the collector at the port of arrival will be considered the warehouse entry.

13. After the packages have been placed in the respective positions assigned to them by the officers of the Exposition, they will be opened by an officer of the Customs, who shall primarily identify the contents with the invoice only as to quantity and character. Due examination of the contents and appraisement of values will be subsequently made by the appraiser, who shall be furnished with the invoice of the articles to be appraised, and shall endorse his report of appraisement upon such invoice in like manner as if such articles were regularly entered for consumption or warehouse. The entry will then be liquidated, the full amount of duties ascertained, and the whole transaction entered upon the prescribed record. All the proceedings relating to the examination, appraisement, and liquidation shall be the same as on ordinary importations.

14. As, under the United States tariff, the cost of packages is made a part of the dutiable value of imported goods, the empty boxes, barrels, and casks from which imported articles have been taken in order to be displayed should be carefully preserved so as to be repacked for exportation at the close of the Exposition. Dutiable packing cases not exported will be subject to the payment of duty.

15. Packages containing articles imported for gratuitous distribution, or for actual use and consumption in restaurants, refreshment-rooms, &c., must be regularly entered for consumption, and duty paid thereon before being delivered by the Customs officers.

16. The articles, after having been received in the Exposition, will remain under the custody of the Customs officers, and must not be removed from the place assigned without a permit from the Collector of Customs or the officer who may be designated by him to grant such permit. In no case shall such articles be released from the custody of the Customs officers unless the same shall have been regularly withdrawn for consumption, for warehouse, or for export.

The requisite number of Customs inspectors will be stationed at every place containing foreign exhibits, each of whom will be placed in charge of a section, which shall be numbered and designated as a Customs Division.

A list of the articles entered for exhibit in his section will be furnished to each of such inspectors, who shall retain a copy thereof, certify the original, and transmit it to the Collector.

17. Sales may be made, during the Exposition, of articles imported for exhibition, but deliveries of the same will be allowed only at the close of the Exposition. For this purpose a regular withdrawal as from bond will be required, and duty must be paid according to law. In case the articles are sold for delivery at some port other than Chicago, a withdrawal may be made for transportation and rewarehouse, duty to be paid at the place of destination. Any exhibitor of articles which shall be sold may authorize withdrawal of the same by the purchaser, such authority to be contained in a written notice to the Collector at Chicago. After the filing of such notice the person specified in the same shall be recognised as entitled to all the rights and subject to all the liabilities of the original importer.

18. Withdrawal from bond cannot be made for less than one entire package, but in case of accidental damage or destruction it is not intended to assess duties upon such articles as shall not have entered into actual consumption in this country. On
articles

articles which shall have suffered diminution or deterioration from incidental handling and necessary exposure, the duty, if paid, will be assessed according to the appraised value at the time of withdrawal for consumption.

19. At the close of the Exposition all goods intended for exportation will be transported in bond to the seaboard or exterior port, and exported there from under the general regulations for immediate export in bond, as modified by special regulations to be in due time provided.

20. Any exhibitor who may import merchandise in excess of that which he desires to place on view in the Exposition may make regular warehouse entry of the same on its arrival at Chicago, whereupon it shall be taken to a United States bonded warehouse and stored without payment of duty, subject to the regulations provided for bonded goods.

Withdrawals of merchandise stored under these conditions, if made for the purpose of placing the same within the Exposition, will be treated under the provisions for entry on arrival at first port of entry, and no duty will be required to be paid. Such merchandise must be delivered at the Exposition in charge of a Customs' officer.

Should any merchandise be abandoned by the owner at the close of the Exposition, it will be placed in a general order warehouse for twelve months, and, if then unclaimed, will be sold for account of the owner.

21. The privileges granted by virtue of these regulations are intended solely for the benefit of exhibitors at the World's Columbian Exposition, and with the view of relieving them, so far as practicable, of delays and vexations in connection with the customs business pertaining to their importations.

Any attempt to take advantage of these regulations in order to evade the tariff laws of the United States will subject the offender to all the penalties prescribed by those laws, including confiscation of goods and fine and imprisonment.

22. The regulations issued by this Department on January 7, 1891, are hereby revoked, and the foregoing adopted in lieu thereof.

CHARLES FOSTER,
Secretary.

APPENDIX G.

General Regulations for Foreign Exhibitors.

(Issued by the Director-General of the Exhibition.)

1. The Exhibition will be held on the shore of Lake Michigan, in the city of Chicago, and will be opened on the 1st day of May, 1893, and closed on the 30th day of October following.

2. All Governments have been invited to appoint commissions for the purpose of organising their departments of the Exhibition. The Director-General should be notified of the appointment of such foreign commissions as soon as the appointment is made.

Diagrams of the buildings and grounds will be furnished to the foreign commissions on or before 1st January, 1892, indicating the localities to be occupied by each nation, subject, however, to revision and readjustment.

3. Applications for space and negotiations relative thereto must be conducted with the commission of the country where the article is produced.

4. Foreign commissions are requested to notify the Director-General not later than 1st June, 1892, whether they desire any increase or diminution of the space offered them, and the amount.

5. Before 1st November, 1892, the foreign commissions must furnish the Director-General with approximate plans showing the manner of allotting the space assigned to them, and also with lists of their exhibitors and other information necessary for the preparation of the official catalogue.

Products brought into the United States at the ports of Portland (Maine), Boston, New York, Philadelphia, Baltimore, Tampa, New Orleans, San Francisco, Wilmington, Portland (Oregon), Port Townsend (Wash.), Seattle (Wash.), Tacoma (Wash.), and Chicago (Ill.), or at any other port of entry intended for display at the International Exhibition, will be allowed to go forward to the Exhibition buildings, under proper supervision of Customs' officers, without examination at such ports of original entry, and at the close of the Exhibition will be allowed to go forward to the port from which they are to be exported. No duties will be levied upon such goods, unless entered for consumption in the United States.

6. The transportation, receiving, unpacking, and arranging of the products for exhibition will be at the expense of the exhibitor.

7. The installation of heavy articles requiring special foundations or adjustment, should, by special arrangement, begin as soon as the progress of the work upon the buildings will permit. The general reception of articles at the Exhibition buildings will commence on 1st November, 1892, and no articles will be admitted after 10th April, 1893.

8. Space assigned to foreign commissions, and not occupied on the 10th day of April, 1893, will revert to the Director-General for reassignment.

9. If products are intended for competition it must be so stated by the exhibitor; if not, they will be excluded from the examination by the international juries.

10. An Official Catalogue will be published in English, French, German, and Spanish. The sale of catalogues is reserved to the World's Columbian Exposition.

The twelve departments of the classification which will determine the relative location of articles in the Exhibition—except in such collective exhibits as may receive special sanction—also the arrangement of names in the catalogue, are as follows:—

- A. Agriculture, Forest Products, Forestry, Machinery, and Appliances.
- B. Viticulture, Horticulture, Floriculture.
- C. Live Stock: Domestic and Wild Animals.
- D. Fish, Fisheries, Fish Products, and Apparatus for Fishing.
- E. Mines, Mining, and Metallurgy.
- F. Machinery.
- G. Transportation: Railways, Vessels, Vehicles.
- H. Manufactures.
- J. Electricity.
- K. Fine Arts: Pictorial, Plastic, and Decorative.
- L. Liberal Arts: Education, Engineering, Public Works, Architecture, Music, and the Drama.
- M. Ethnology, Archæology, Progress of Labour and Invention, Isolated and Collective Exhibits.

11. Foreign commissions may publish catalogues of their respective sections.

12. Exhibitors will not be charged for space.

A limited quantity of steam and water power will be supplied gratuitously. The quantity of each will be settled definitely at the time of the allotment of space. Any power required by the exhibitor in excess of that allowed will be furnished by the World's Columbian Exposition at a fixed price. Demands for such excess of power must also be settled at the time of the allotment of space.

13.

13. Exhibitors must provide, at their own cost, all show-cases, shelving, counters, fittings, &c., which they may require, and all countershafts, with their pulleys, belting, &c., for the transmission of power from the main shafts in the building where the exhibit is located. All arrangements of articles and decorations must be in conformity with the general plan adopted by the Director-General.

The World's Columbian Exposition will take precautions for the safe preservation of all objects in the Exhibition; but it will in no way be responsible for damage or loss of any kind, or for accidents by fire or otherwise, however originating.

14. Favourable facilities will be arranged by which exhibitors or foreign commissions may insure their own goods.

Foreign commissions may employ watchmen of their own choice to guard their goods during the hours the Exhibition is open to the public, subject to the rules and regulations of the Exposition.

15. Foreign commissions, or such agents as they may designate, shall be responsible for the receiving, unpacking, and arrangement of objects, as well as for the removal at the close of the Exposition; but no person shall be permitted to act as such agent until he can give to the Director-General written evidence of his having been approved by the proper commission.

16. Each package must be addressed "To the Commission (name of country) at the World's Columbian Exposition, Chicago, United States of America," and should have at least two labels affixed to different but not opposite sides of each case, and give the following information:—

17. (1) The country from which it comes; (2) name of firm or of the exhibitor; (3) residence of the exhibitor; (4) department to which objects belong; (5) total number of packages sent by that exhibitor; (6) serial number of that particular package.

18. Within each package should be a list of all objects.

19. If no authorised person is at hand to receive goods on their arrival at the Exposition buildings they will be removed, without delay, and stored at the risk and cost of whomsoever it may concern.

20. Articles that are in any way dangerous or offensive, also patent nostrums and empirical preparations, whose ingredients are concealed, will not be admitted.

21. The removal of goods on exhibition will not be permitted prior to the close of the Exhibition.

22. Sketches, drawings, photographs, or other reproductions of articles exhibited will only be allowed upon the joint assent of the exhibitor and the Director-General; but views of portions of the building may be made upon the Director-General's sanction.

23. Immediately after the close of the Exhibition, exhibitors shall remove their effects, and complete such removal before 1st January, 1894; goods then remaining will be removed and sold for expenses, or otherwise disposed of under the direction of the World's Columbian Exposition.

24. Each person who becomes an exhibitor thereby acknowledges and agrees to be governed by the rules and regulations established for the government of the Exhibition.

Special regulations will be issued concerning the exhibition of fine arts, awards, the organisation of the international juries, and sales of special articles within the buildings, and on other points not touched upon in these preliminary instructions.

25. All communications concerning the Exhibition will be addressed to the Director-General, World's Columbian Exposition, Chicago, Illinois, U.S.A.

The management reserves the right to explain or amend these regulations, whenever it may be deemed necessary for the interest of the Exhibition.

GEORGE R. DAVIS,
Director-General.

APPENDIX GA.

Traffic Department: Information for Foreign Exhibitors.

ARRANGEMENTS WITH TRANSPORTATION COMPANIES.

(1) The Freight Traffic Associations of this country, of which the leading transportation lines are members, have uniformly adopted a tariff of full rates on the forward journey (no charge to be less than for 100 lb. at the class rates applicable thereto, nor less than 25 cents), granting free return of exhibits to all seaboard ports, provided ownership remains unchanged. This arrangement, however, does not apply to horses and other fancy animals returned to Atlantic seaboard ports, on which no reduced rates will be made in either direction.

The following is the schedule of standard class rates in effect at the present time (July, 1892) between the principal seaboard ports and Chicago:—

CLASS RATES—in cents per 100 lb.

From	1st class.	2nd class.	3rd class.	4th class.	5th class.	6th class.	A class.	B class.	C class.	D class.	E class.
New York	75	65	50	35	30	25	...	...	...	...	...
Boston, Mass.	75	65	50	35	30	25	...	...	...	...	...
Philadelphia, Pa.	69	59	43	33	28	23	...	...	...	...	...
Baltimore, Md.	67	57	47	32	27	22	...	...	...	...	...
Portland, Me.	75	65	50	35	30	25	...	...	...	...	...
Newport News, Va.	59	51	43	29	25	20	...	...	...	...	...
Norfolk, Va.	59	51	43	29	25	20	...	...	...	...	...
Montreal, Can.	65	57	44	31	26	22	...	...	...	...	...
Tampa, Fla.	227	196	168	149	128	104	86	67	69	49	106
Mobile, Ala.	100	85	73	55	46	40	30	31	30	25	33
New Orleans, La.	100	85	73	55	46	40	30	31	30	25	33
Galveston, Tex.	140	116	97	80	65	...	69	63	59	52	44
San Francisco, Cal.	390	340	270	210	185	...	190	170	135	120	110
Portland, Ore.	390	340	270	210	185	...	190	170	135	120	110
Pt. Townsend, Wash. ...	390	340	270	210	185	...	190	170	135	120	110
Tacoma, Wash.	390	340	270	210	185	...	190	170	135	120	110
Vancouver, B.C.	390	340	270	210	185	...	190	170	135	120	110

(a) The inland classifications of articles can be obtained from the agents of steamship lines running to the United States, and from the agents of American railways in foreign countries.

(b) The class rates quoted, will, it is believed, cover such exhibits as are not of a particularly high grade. Fine goods, such as cabinets or show-cases, baskets, furniture, wax figures, fur goods, plate or mirror glass, which are classified from one and one-half to double first-class, are charged for at proportionately higher rates than those scheduled.

(c) Exceptionally fine, expensive, or fragile foreign exhibits, such as paintings, pictures, statuary, jewellery, gold and silver ware, and bric-a-brac, will not be accepted for transportation by the railroad companies, but should be delivered to the express companies for carriage.

(d) To the foregoing class rates there must be added 6 cents per 100 lb., with a minimum of 50 cents for any single shipment from one consignor to one consignee. This is a terminal charge made by the Exposition management covering the switching

switching of exhibits into the Exposition grounds from the points of intersection with railroads entering the grounds, and the placing of them on or adjacent to the spaces allotted.

This charge of 6 cents per 100 lb. is made in each direction, and will apply with the minimum aforesaid.

(2) PREPAYMENT OF FREIGHT CHARGES—HOW TO OBTAIN RATES.

(a) Freight charges on exhibits, including the terminal charge, must be prepaid at point of foreign origin or at the American port of first arrival. The goods must be delivered at the Exposition clear of all charges incident to their transportation. No transportation or other charges will be advanced by the Exposition management.

(b) The rates for transporting goods to the Exposition grounds at Chicago may be obtained from the transportation companies at points where goods are first offered for shipment. The foregoing arrangements for reduced rates do not in any way alter or affect the carriers' freight classifications nor their conditions for receiving and transporting goods, nor change in any way the rules of such companies, except to require the prepayment of freight and terminal charges.

(3) THROUGH BILLS OF LADING—NOTIFICATION OF SHIPMENT.

(a) Bills of lading covering exhibits must show the precise routes by which such exhibits are to be transported, specifying in detail every carrier from starting-points to the Exposition, in order that exhibited articles entitled to free return may be returned by the exact routes first used.

(b) On exhibits which are or are not covered by through bills of lading from foreign ports there will be no charge for transfer at seaboard points (except that on heavy or bulky articles exceeding 3 tons each in weight, the extra cost of handling will be charged for in both directions under special agreements to be made in advance through the railroad foreign freight agents or authorised representatives of the steamship companies abroad).

NOTE.—Exhibits from Australian and New Zealand ports arriving at the port of San Francisco will be subject to a transfer charge from steamer to rail and *vice versa*, of 1 dollar per ton, with a minimum of 1 dollar 50 cents for any single shipment.

(c) Two copies of each bill of lading must be sent by the shipper to the Director-General, World's Columbian Exposition, Chicago. Letters of advice should also be forwarded, giving information of the shipments made and full particulars in regard to articles of extraordinary dimensions or excessive weight.

(4) EXHIBITS BY EXPRESS.

The Express Companies are bonded transportation lines from the following ports:—

(Ports and Express Companies enumerated, and the various rates to be charged stated.)

(5.) CUSTOMS REGULATIONS—HOW TO CONSIGN EXHIBITS.

The Customs Regulations, issued by the Secretary of the Treasury of the United States, 5th November, 1891, require every foreign exhibitor to procure in duplicate a statement in the form of an invoice, which shall show the name of the exhibitor, the marks and numbers of the packages, with a description of their contents and a declaration of the quantity and the market value of each separate kind thereof in the country of production. This statement must be signed by the exhibitor, but will require no consular verification. One copy of this statement or invoice will be transmitted by mail to the Collector of Customs at Chicago, and the other to the consignee of the goods at the American port of first arrival, and should be forwarded by the steamer carrying the goods or by the one preceding it, otherwise the goods will be sent to the warehouse and storage and other charges incurred. In the circular referred to above it is provided that "articles imported from foreign countries for the sole purpose of exhibition at the said Exposition, upon which there should be a tariff or customs duty, will be admitted free of payment of duty or charges." Agents or forwarders to whom exhibits are consigned at port of entry will be expected to take prompt action in looking to the immediate transportation of said exhibits under bond to Chicago. The compensation or fees of such forwarders is a matter which must be arranged between the exhibitor or owner and the forwarder. If either of the following transportation or express companies named are selected as forwarders, no charge will be made by such company for the preparation of necessary papers at port of entry.

The companies bonded for the immediate transportation of merchandise (exhibits) to Chicago, together with the names of the agents of the respective companies to whom goods should be consigned and invoices sent, are:—

(Here the names of Ports, Companies, and Agents.)

The Exposition grounds and buildings thereon will be treated as bonded warehouses. If no authorised person is at hand to take charge of the goods within a reasonable time after their arrival at the Exposition they will be removed and stored at the cost and risk of whomsoever it may concern.

The Director-General will decide what goods shall be accepted as exhibits; any foreign articles not so accepted will be treated as dutiable merchandise and stored in warehouse within Exposition grounds, and may be withdrawn upon payment of duties and charges at any time.

(6)

(6) REMOVAL OF GOODS.

The Exposition will close on the 30th of October, 1893. The removal of exhibits will not be permitted prior to that date, and must be completed before January 1st, 1894. In the event of the exhibits not having changed ownership during the Exposition, and being therefore entitled to free return, a certificate to this effect will be issued on application to the proper officer of the Exposition. Such certificates, together with paid freight bills or the original Bills of Lading and releases, showing that the exhibit paid full rates on the forward journey, will, on presentation to the Joint Railroad Agent at Jackson Park (World's Fair Grounds), entitle exhibits to free transportation to the seaboard port over the same routes first used. No charges will be advanced on articles returned free, nor be allowed to follow the goods. Certificates and releases, which must be obtained by the exhibitor, must be attached to manifests. Persons accompanying exhibits which are returned free will be charged fare. On returned exhibits prepayment at Chicago will be required of the 6 cents per 100 lb. terminal charge thereat, and also a charge of 5 cents per 100 lb., with a minimum of 1 dollar for any single shipment not exceeding 3 tons, this charge being for transfer at the seaboard to steamer. On articles each exceeding 3 tons in weight, the extra cost of handling will be charged for under special agreement to be made in advance as set forth in paragraph 3, section B.

Approved:—

HARLOW N. HIGINBOTHAM, President, World's Columbian Exposition.

V. D. GRONER,	} Executive Committee on	Tariffs and Transportation, World's Columbian Commission.
EUCLID MARTIN,		
M. H. LANE,		
G. C. SIMS,		

E. E. JAYCOX, Traffic Manager.

GEO. R. DAVIS, Director-General.

APPENDIX H.

Proceedings at the Opening of the World's Columbian
Exposition.

(1st May, 1893.)

Music by Orchestra—"Grand Columbian March." John R. Paine.

Prayer by REV. W. H. MILBURN, Chaplain to Congress.

Poem—Written for the occasion by W. A. CROFFUTT, of Washington D.C., read
by MISS COUTHONY, attired in Spanish costume. The poem is as follows:—

THE PROPHECY.

Sadly Columbus watched the nascent moon
Drown in the gloomy ocean's western deeps.
Strange birds that day had fluttered in the sails
And strange flowers floated 'round the wandering keel,
And yet no land. And now, when through the dark
The Santa Maria leaped before the gale
And angry billows tossed the caravels
As to destruction, Gomezrascon came
With Capt. Pinzon through the frenzied seas
And to the Admiral brought a parchment scroll,
Saying: "Good master, read this writing here—
An earnest prayer it is from all on board.
The crew would fain turn back in utter fear;
No longer to the Pole the compass points;
Into the zenith crops the northern star.
You saw but yester eve an albatross
Drop dead on deck beneath the flying scud;
The Devil's wind blows madly from the east
Into the land of Nowhere, and the sea
Keeps sucking us adown the maelstrom's maw.
Francisco says the edge of earth is near
And off to Erebus we slide unhelmed.
Last Sunday night Diego saw a witch
Dragging the Nina by her forechains west
And wildly dancing on a dolphin's back;
And as she danced the brightest star in Heaven
Slipped from its leash and sprang into the sea,
Like Lucifer, and left a trail of blood.
I pray thee, Master, turn again to Spain, obedient to the omens, or
perchance,
The terror-stricken crew to escape their doom,
May mutiny and———"
"Gomezrascon, peace,"
Exclaimed the Admiral; "Thou has said enough;
Now, prithee, leave me; I would be alone."
Then eagerly Columbus sought a sign
In sea and sky and in his lonely heart;
Finding, instead of presages of hope,
The black and ominous portents of despair.
As thus he mused he paced the after-deck
And gazed upon the luminous waves astern.
Strange life was in the phosphorescent foam,
And through the goblin glow there came and went,
Like elfin shadows on an opal sea,
Prophetic pictures of the land he sought.
He saw the end of his victorious quest;
He saw ablaze on Isabella's breast,
A string of Antillean jewels rest—
The islands of the West.
He saw invading Plenty dispossess
Old Poverty; the land with bounty bless.
And through the wretched caverns of distress
Walk star-eyed Happiness.
He saw the Bourbon and Braganza prone,
For ancient error tardy to atone,
Giving the plundered people back their own
And flying from the throne.
He saw an Empire, radiant as the day,
Harnessed to law, but under Freedom's sway,
Proudly arise, resplendent in array,
To show the world the way.
He saw celestial Peace in mortal guise
And, filled with hope and thrilled with high surprise,
Lifting its tranquil forehead to the skies,
A vast Republic rise.

He

He saw, beyond the hills of golden corn,
Beyond the curve of Autumn's opulent horn
Ceres and Flora laughingly adorn
The bosom of the morn.

He saw a cloth of gold across the gloom,
An arabesque from evolution's loom,
And from the barren prairies' driven spume,
Imperial cities bloom.

He saw an iron dragon dashing forth
Along an iron thoroughfare—south, north,
East, west, uniting in beneficent girth
Remotest ends of earth.

He saw the lightning run an elfin race
Where trade, love, grief, and pleasure interlace,
And absent ones annihilate time and space,
Communing face to face.

He saw Relief through deadly dungeons grope ;
Foes turned to brothers, black despair to Hope,
And cannon rust upon the grass-grown slope
And rot the gallows' rope.

He saw the babes on labour's cottage floor ;
The bright walls hung with luxury more and more,
And comfort, radiant with abounding store,
Wave welcome at the door.

He saw the myriad spindles flutter round ;
The myriad mill-wheels shake the solid ground ;
The myriad homes where jocund joy is found,
And love is throned and crowned.

He saw exalted Ignorance under ban,
Though panoplied in force since time began,
And Science, consecrated, lead the van,
The providence of man.

The picture came and paled and passed away.
And then he said to Pinzon, in the gloom :
" Now, Martin, to thy waiting helm again.
Haste to the Pinta ; westward keep the prow,
For I have had a vision full of light.
Keep her prow westward in the sunset's wake,
From this hour hence, and let no man look back."

Music—Overture, "Rienzi"—Wagner.

Address of the DIRECTOR-GENERAL, as follows :—

The dedication of these grounds and buildings for the purpose of an international exhibition took place 21st October, at which time they were accepted for the objects to which they were destined by the action of the Congress of the United States. This is not the time nor the place, neither will it be expected of me, to give a comprehensive *résumé* of the strenuous efforts which have been put forth to complete the work to which we invite your inspection to-day. I may be permitted, however, to say a word in praise of, and in gratitude to my co-officers and official staff, who form the great organisation which made this consummation possible.

This Exposition is not the conception of any single mind, it is not the result of any single effort, but it is the grandest conception of all the minds, and the best obtainable result of all the efforts put forth by all the people who have in any manner contributed to its creation. The great commanding agencies through which the Government has authorised this great work to proceed are : The National Commission, consisting of 108 men and their alternates, selected from the several States and territories, presided over by the Hon. Thomas W. Palmer, of Michigan ; the corporation of the State of Illinois, known as the World's Columbian Exposition, consisting of forty-five directors, presided over by H. N. Higinbotham, of Chicago ; and the Board of Lady Managers, consisting of 115 women and their alternates—selected from the several States—presided over by Mrs. Potter Palmer, of Chicago. To these great agencies, wisely selected by Congress, each performing its special function, the gratitude of the people of this country, and the cordial recognition of all these friendly foreign representatives are due.

To perfect from these agencies an efficient organisation was our first duty, and it was successfully accomplished, at the outset through committees, subsequently by great executive departments ; and through these departments the systematic, vigorous, and effective work has progressed. Through the Department of Administration, the Department of Finance, the Department of Works, and the great Exhibit Departments, the plan and scope of a grand international exposition have been worked out.

The Department of Finance, composed of members of the Illinois corporation, has, with a disinterestedness remarkable, with courage undaunted, successfully financed the Exposition, and has provided for the great work upward of 20,000,000 dollars. The Department of Works, and its many bureaus of artists, architects, engineers, and builders, have transformed these grounds which, twenty-one months ago, were an unsightly, uninviting, and unoccupied stretch of landscape, into the beauty and splendor of to-day. They have conspicuously performed their functions, and these grand avenues, these Venetian waterways, the finished landscapes, the fountains, and sculptures, and colonnades, and these grand palaces stand out as a monument to their genius and their skill, supplemented by the labour of that great army of skilled artizans and workmen, all citizens of this republic.

The chiefs of the great departments who have exploited this mighty enterprise, and gathered here the exhibits forming the picture that is set in this magnificent frame, have confirmed the wisdom of their selection. No State or territory of the Union has escaped their voices ; no land on the globe that has a language but has been visited, and the invitation of the President of the United States personally presented. Fortunately, at the inception of this enterprise our Government was, and still is, at peace with the whole world. Commissioners were sent to Europe, to Asia, to Australia, British North America, and to the islands of the seas, so that to-day the whole world knows and is familiar with the significance of the great peace festival we are about to inaugurate upon this campus, and all the nations join in celebrating the event which it commemorates.

This inclosure, containing nearly 700 acres, covered by more than 400 structures, from the small state pavilion, occupying an ordinary building site, to the colossal structure of the manufactures and liberal arts building, covering over 30 acres, is filled and crowded with a display of the achievements and products of the mind and hand of man such as has never before been presented to mortal vision.

The habits, customs, and life of the peoples of our own and foreign lands are shown in the variegated plaisance ; those stately buildings on the north are filled with the historical treasures and natural products of our several States. The artistic, characteristic, and beautiful edifices, the headquarters

quarters of foreign commissions, surrounding the Gallery of Fine Arts, which in itself will be an agreeable surprise to the American beholders, constitute the grand central zone of social and friendly amenities among the different peoples of the earth.

Surrounding this grand plaza where we stand, and reaching from the north pond to the extreme south, is the great mechanical, scientific, industrial, and agricultural exhibition of the resources and products of the world. These have been secured from the four quarters of the globe, and placed in systematic order under the supervision of these great departments, and while all the material upon the grounds is not yet in place I am gratified to be able to present to the President of the United States at this time the official catalogue containing a description, and the location of the exhibits of 4,000 participants in the Exposition. The number of exhibitors will exceed 60,000 when everything is in place.

The citizens of our country are proud, and always will be proud of the action of the Congress of the United States of America in authorising and directing this celebration to take place, for the appropriation of more than \$5,000,000 in its aid, and for the unswerving support and encouragement of the officers of the Government.

To the States of the Union we are largely indebted for active and substantial support. A sum in excess of \$6,000,000 has been raised and expended by the states and territories for their official use in promoting their own interests conjointly with the general success of the exhibition.

To the foreign nations who have a representation upon these grounds never before witnessed at any exposition, as shown by the grand exhibits they have brought here, and the hundreds of official representatives of foreign Governments who are present on this occasion, we bow in grateful thanks. More than \$6,000,000 have been officially appropriated for these commissions in furtherance of their participation in the exposition. The great nations of Europe and their dependencies, are all represented upon these grounds. The Governments of Asia and of Africa, and the republics of the Western Hemisphere, with but few exceptions, are here represented.

To the citizens and corporation of the city of Chicago, who have furnished \$11,000,000 as a contribution, and in addition have lent the management \$5,000,000 more, are due the grateful acknowledgments of our own people, and of all the honoured guests who share with us the advantages of this great international festival.

To the tens of thousands of exhibitors who have contributed on a larger scale than all others combined, we are under the deepest obligations for their interest and co-operation. To the women of Chicago and our great land, whose prompt, spontaneous, and enthusiastic co-operation in our work turned the eyes of the world towards the exposition as towards a new star of the east—an inspiration for womanhood everywhere—we extend our cordial and unstinted recognition.

It is our hope that this great exposition may inaugurate a new era of moral and material progress, and our fervent aspiration that the association of the nations here may secure not only warmer and stronger friendships, but lasting peace throughout the world.

The grand concerted illustration of modern progress which is here presented for the encouragement of art, of science, of industry, of commerce, has necessitated an expenditure, including the outlay of our exhibitors, largely in excess of \$100,000,000. We have given it our constant thought, our most devoted service, our best energy; and now, in this central city of this great republic, on the continent discovered by Columbus, it only remains for you, Mr. President, if in your opinion the exposition here presented is commensurate in dignity with what the world should expect of our great country, to direct that it shall be open to the public, and when you touch this magic key the ponderous machinery will start in its revolutions, and the activities of this exposition will begin.

THE PRESIDENT OF THE UNITED STATES then spoke as follows:—

I am here to join my fellow citizens in the congratulations which befit this occasion. Surrounded by the stupendous results of American enterprise and activity, and in view of magnificent evidences of American skill and intelligence, we need not fear that these congratulations will be exaggerated. We stand to-day in the presence of the oldest nations of the world, and point to the great achievements we here exhibit, asking no allowance on the score of youth.

The enthusiasm with which we contemplate our work intensifies the warmth of the greeting we extend to those who have come from foreign lands to illustrate with us the growth and progress of human endeavour in the direction of a higher civilisation.

We who believe that popular education and the stimulation of the best impulses of our citizens lead the way to a realisation of the proud national destiny which our faith promises, gladly welcome the opportunity here afforded us to see the results accomplished by efforts which have been exerted longer than ours in the field of man's improvement, while in appreciative return we exhibit the unparalleled advancement and wonderful accomplishments of a young nation, and present the triumphs of a vigorous, self-reliant, and independent people. We have built these splendid edifices, but we have also built the magnificent fabric of a popular government, whose grand proportions are seen throughout the world. We have made and here gathered together objects of use and beauty, the products of American skill and invention. We have also made men who rule themselves.

It is an exalted mission in which we and our guests from other lands are engaged, and we co-operate in the inauguration of an enterprise devoted to human enlightenment; and in the undertaking we here enter upon we exemplify in the noblest sense the brotherhood of nations.

Let us hold fast to the meaning that underlies this ceremony, and let us not lose the impressiveness of this moment. As by a touch the machinery that gives life to this vast Exposition is now set in motion, so at the same instant let our hopes and aspirations awaken forces which in all time to come shall influence the welfare, the dignity, and the freedom of mankind.

The President then touched the key before him, and the band played "America," and the ceremony was brought to a close.

APPENDIX I.

Regulations governing Awards.

Rule I. Conformably to the determination of the Commission "awards shall be granted upon specific points of excellence or advancement formulated in words by a board of judges or examiners, who shall be competent experts."

Board of Judges.

Rule II. This board of judges, which shall be composed, so far as practicable, of competent experts, shall be divided into thirteen Committees, one of which shall be assigned to each of the thirteen great departments of the Exposition, as recognised by the classification adopted by the World's Columbian Commission; provided, however, that the Committees assigned to the Departments of Live Stock, Agriculture, and Horticulture shall be subdivided into such sub-Committees as the Executive Committee on Awards shall deem expedient, and each such sub-Committee shall perform the duties assigned to it by the Executive Committee on Awards. The number of judges composing this board, and each Committee thereof, shall hereafter be determined. There shall be one or more women judges upon all Committees authorised to award prizes for exhibits which may be produced in whole or in part by female labour; and the number of women upon such Committee shall be hereafter determined according to the method heretofore prescribed by said Commission, after conference with the President of the Board of Lady Managers and the Awards Committee thereof.

Individual Judges.

Rule III. The individual members of the said thirteen Committees shall be, so far as possible, competent experts, and shall perform such duties and examine such exhibits as shall be assigned them by the Executive Committee on Awards. Provided, however, that it shall be the right and duty of the Departmental Committee of each Department in every case where the character of the exhibit or the general interests involved be such as, in the judgment of a majority, to warrant and justify it, to notify the Executive Committee on Awards that there ought to be a Special Committee appointed to assist the individual judge in conducting the preliminary examination of a particular exhibit, and also indicating the number whereof such Special Committee shall consist, and thereupon the said Executive Committee on Awards shall, in every such case, promptly appoint such Special Committee; and in case the said Special Committee, or a majority thereof, shall be in accord with the conclusion of the individual judge, they shall endorse their approval on his report over their signatures; or in case the majority of such Special Committee shall disagree with the opinions of said individual judge, they shall make a report over their signatures of the result of their examination of such exhibit, and transmit the same to the Departmental Committee on Awards. There shall be a foreign representation upon each one of these thirteen Committees, and the number of foreign judges will be fixed when the character and extent of the participation of the various foreign nations shall have been ascertained.

Rule IV. Each Committee shall, at the call of the Executive Committee on Awards, organise by the election of a President, Vice-President, and Secretary, and shall keep a record of all returns and reports by the individual judges as hereinafter provided for.

Duties of Judges.

Rule V. It shall be the duty of each individual judge to make a report in writing, over his signature, of the result of the examination of each exhibit primarily examined by him, as each examination shall have been completed; and as to every exhibit so examined which he shall deem worthy of an award, he shall formulate in words the specific points of excellence or advancement disclosed thereby, and which, in his opinion, render it worthy of an award. Every report shall be submitted as soon as possible to the Committee of which such judge is a member, for a finding in the premises; and in every case where, by the vote of the majority of such Committee, it is determined that an exhibit is worthy of receiving an award, said Committee shall forthwith formulate in written words the specific points of excellence or advancement which, in its opinion, warrant the award, and transmit the same, certified by its President, or Vice-President, and Secretary, to the Executive Committee on Awards. And in case the finding of the Committee shall differ from the conclusion of the individual judge making the preliminary examination, either as to its being worthy of an award or as to the character of the points of excellence or advancement it possesses, it shall be so distinctly stated in the report of said Committee. In every case where the finding of the Departmental Committee coincides with the conclusion of the individual judge, the said Committee shall transmit with such finding the report of such individual judge to the Executive Committee on Awards; and in those cases where the finding of the Departmental Committee does not coincide with the conclusion of the individual judge, then the finding in each such case shall

shall be accompanied by the written report of one of its members who shall have examined the exhibit, formulating therein in words the specific points of excellence or advancement possessed by such exhibit. And in every case where the individual judge has been assisted by a Special Committee, as provided for in Rule III, and the majority of such Committee shall disagree with the conclusion of such individual judge, they shall likewise make a written report in the same manner and form as is provided to be made by the individual judge, and shall immediately transmit the same to the Committee of which they are members.

Rule VI. In every case where the finding of the Committee is not in accord with the conclusion of the individual judge, or of such assistant Special Committee, it shall be within the power of the Executive Committee on Awards, if in its judgment justice demands it, to refer the report back to the Committee of that department whence it emanated, with the direction to review and further consider the case, and report its finding under such review, without delay, to said Executive Committee on Awards, and such finding shall be conclusive.

Notice to Foreign Nations.

Rule VII. This Executive Committee on Awards shall communicate, through the Director-General of the World's Columbian Exposition, with the foreign Governments which have appointed commissions to represent them at the World's Columbian Exposition, or with the said commissions directly, stating the character of the awards, the grounds upon which they are to be granted, and the requirement that all judges shall be, so far as practicable, competent experts. And the foreign Governments shall be invited to recommend, previous to June 20, 1893, experts in the various departments, and from those named the Executive Committee on Awards may make selections. The especial attention of foreign Governments shall be called to the fact that there will be but one class or kind of medals, which will be made of bronze and be works of art, and be accompanied by parchment diplomas, on which shall be formulated the specific points of excellence presented by the exhibit receiving the award. Notice shall be given to all exhibitors, whether domestic or foreign, that the medals and diplomas to be awarded are by authority of the Congress of the United States, and are prepared by the Secretary of the United States Treasury.

Rule VIII. Should any exhibitor, domestic or foreign, become a judge under these rules, his or her exhibit shall be excluded from examination for award, but the Executive Committee on Awards may cause such exhibit to be examined, and a report thereon made to complete the history of the Exposition.

Right to examine Exhibits.

Rule IX. Any exhibitor may have his exhibit exempt from examination for award by notifying the Executive Committee on Awards; otherwise the Executive Committee on Awards shall have the right, through its regularly appointed judges, to examine every exhibit, domestic or foreign, whether presented by an individual, association of individuals, institution, Government, or department thereof.

Date of commencing work.

Rule X. The work of the judges shall commence not later than the 15th day of July, 1893, and shall progress uninterruptedly until the completion of the work assigned them, except in the Department of Live Stock, and in those departments where the nature of the exhibits requires renewal from time to time during the Exposition.

Rule XI. Upon the completion of the work of the judges, the results thereof shall be presented by the Executive Committee to the full Committee on Awards, which Committee shall in turn report to the World's Columbian Commission, or in its absence to the Board of Reference and Control, by whom the formal promulgation of the awards and the distribution of medals and diplomas shall be made with appropriate ceremonies.

Rule XII. In addition to the reports by the individual judges of the various exhibits, each of the thirteen Committees shall present a comprehensive report, signed by the President and Secretary, embodying the principal educational and interesting features of the groups and classes composing that department, accompanied by a list of exhibitors who have received awards, with the reports of the individual judges giving the reasons and considerations therefor, and this report shall be delivered to the Director-General, to be included in and to form part of the history of the Exposition; but this shall not be so construed as to prevent or interfere with the duty expected of each of the department chiefs to prepare and submit, as part of the official history of the Exposition a complete and comprehensive report of the work of his department.

Rule XIII. In the performance of the duties entrusted to the Executive Committee on Awards, any member thereof shall have the right to be present at the deliberations of the Committees herein provided for, and in all matters of review or other complication the said Executive Committee shall have the right to avail itself of the aid and service of any member or members of the Committee on Awards, and as well of the advice and assistance of any competent agency whose aid ought, in its best judgment, to be invoked.

GEORGE R. DAVIS, Director-General.

JOHN BOYD THACHER, Chairman, Executive Committee on Awards.

Administration Building, Exposition Grounds, Pavilion B, Chicago, June 8, 1893.

APPENDIX IA.

Rules Governing Awards : Cereals.

1. The examination of cereals will begin on or before 15th July.
2. The examination shall be conducted under the general rules herein laid down, in addition to which such special methods and rules as in the judgment of the expert, judges are required to make a thorough and practical examination of the different cereals, shall be adopted.
3. All grains produced by irrigation shall be passed upon separately from those produced under other conditions.
4. No grain or seeds shall be examined by the judges that are less than standard weight.
5. In the examination of grains which are used for food the following points shall be considered by the judge :—
 1. Weight.
 2. Yield.
 3. Whether true to name or variety.
 4. The early maturity of any grain shall be considered by the judges as a factor in determining the final award.
 5. In all cases where doubt exists as to the superiority of any sample under examination, the final result shall be made upon its value as a nutritive, this result to be obtained by chemical analysis.
 6. In all cases the statement of temperature and rain or snowfall should be given if possible, as they are valuable factors to be taken into consideration in the report of the judges.
 7. In addition to the above general rules the judges shall prepare and submit to the Chairman of the Executive Committee on awards, and the Chief of the Department of Agriculture, before beginning work, the special rules they will follow in examining cereals, fibres (animal and vegetable) and other raw products not contemplated by this memorandum.
 8. In examining oils, judges will consider absence of free acid, freedom from moisture and settlings, colour, and flavour.
 9. In examining seed products from cotton seed, thoroughness of decortication, freedom from hulls and lint, sweetness, and brightness in colour should be considered as prominent points in determining the award.
 10. In examining grass seeds and forage plants it will be necessary, in order that the judges may place a proper value upon the exhibit, to have with the exhibit a statement showing :—
 - a. The average acreage from which the exhibit was taken.
 - b. The character of soil where grown.
 - c. The average rainfall in locality where grown.

APPENDIX J.

American Patents.

THE following Act has been passed by the United States Congress :—

“AN ACT to protect foreign exhibitors at the World's Columbian Exposition from prosecution for exhibiting wares protected by American Patents and Trade-marks.”

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled : That no citizen of any other country shall be held liable for the infringement of any patent granted by the United States, or of any trade-mark or label registered in the United States, where the act complained of is or shall be performed in connection with the exhibition of any article or thing at the World's Columbian Exposition at Chicago.

Approved 6th April, 1892.

APPENDIX K.

Reports on Canadian Mode of Packing Fruit.

PACKING APPLES FOR DISTANT SHIPMENT.

Superintendent Canadian Fruit Exhibit, at the World's Columbian Exposition,

Dear Sir,

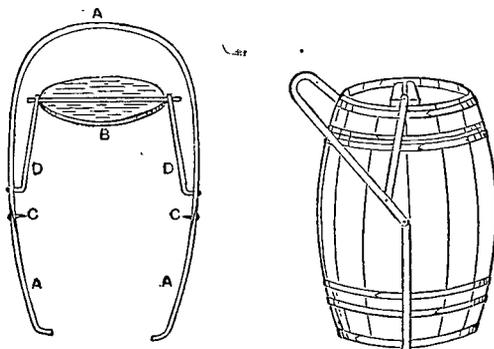
15 September, 1893.

In reply to your inquiry regarding the most approved method of packing apples for distant shipment, as practised by the best Canadian shippers, I give you the following notes:—

1. The most satisfactory package is the apple-barrel, the dimensions of which should be the same the world over, especially if they must compete in the same markets. Only clean, new barrels should be used, and these can be purchased with us at 25 dollars to 30 dollars per 100.

2. The method of packing is as follows:—Open the bottom end of the barrel; line the head with clean white paper; lay selected apples, fair samples of the contents of the barrel, stems down, against the head, in circular rows, till bottom is covered; then another layer to cover the openings left, stems the same; after this a basketful at a time may be emptied carefully in until the barrel is filled. The great point is to pack so closely that the fruit will not move about inside the package, when it is in transit, and, therefore, it is usual to set the barrel on a plank or on a floor, and after each basketful or two shake the barrel and settle the apples, also by hand into close juxtaposition. Fill to a couple of inches above the chime, and then press the tail end into place. This only bruises the bottom apples a little; the rest will be intact.

3. The best tool for pressing the head into its place, is the barrel header, which I have described as follows in *The Canadian Horticulturist*, September number for 1893.



"This barrel header works to perfection, and any blacksmith will make it for 75c. The part A A A is made of a small wagon tire with hinges at C C. D D are rods of half-inch round iron riveted to the frame 3 in. above the hinges on each side, but left to turn freely as a hinge. B is a piece of 2-in. plank nearly the size of the barrel head. Place the head on the fruit, then the header in position. Loosen the top hoops, bear down A to press the head in. Drive down the hoops and the head is in."

4. Careful selection is one of the most important elements of success. My own practice is to make one class of extra selected, which is fairly uniform in size and colour, and is free from blemishes. Then a class of selected, which lack in colour or uniformity. Then comes the second-class fruit which is blemished, and should be disposed of near home, either for cider or for evaporating.

5. When the barrels are filled, they should be well head-lined, and all hoops nailed in place; then the name and address of both consignor and consignee should be plainly stencilled upon the head end of the barrel.

In case of tender varieties for distant shipments, it sometimes pays to wrap the extra selected in tissue paper.

I am, &c.,

L. WOOLVERTON.

Hon. Dr. Renwick, Commissioner from New South Wales
to the World's Columbian Exposition.

THE

THE SHIPPING OF TENDER FRUITS.

Dear Sir,

In reply to your inquiry respecting the best method of shipping tender fruit, I would reply:—

1. Concerning the package.—For peaches and plums, choice samples going long distances, I would recommend the wooden crate as the most satisfactory. The size is as follows—length, 20 inches. Four pieces of $\frac{1}{2}$ inch stuff, 20 inches long and $5\frac{3}{4}$ inches wide, form the sides; and two pieces, each 4 inches wide, the top and bottom. These are nailed to two end pieces of half-inch lumber, each $4\frac{1}{2}$ inches by $11\frac{3}{4}$.

2. Packing.—To fill, remove the bottom so as to pack from the narrow side. Pack closely in rows, so that in opening and exposing for sale, they will present an even and attractive appearance. Fill an inch or two more than full, and press down so tightly that not one can move from its place, no matter how roughly handled. If the specimens are choice, each should be first wrapped in tissue paper, in order to preserve their delicate fresh appearance, and prevent rot from spreading from one to another on the journey.

3. Selection.—For peaches especially it pays to exercise the greatest care in selection. The best success is attained where fine red-checked, golden Crawford's can be found so uniform in size that a case may be filled with them, two deep, in regular layers. This package is suitable for peaches, plums, and pears; but for pears a bushel box is often used. Another very fine package for pears, if handled on the green side, is a keg holding seven-eighths of a bushel.

With all fruits the important point to overcome the difficulty of distant shipments and long exposure, next after tight and careful packing, is cold storage. Without this latter every other care is vain, for heat always hastens maturity.

Yours, &c.,

L. WOOLVERTON,

Superintendent Canadian Fruit Exhibit.

Hon. Dr. Renwick, Commissioner for New South Wales.

INTRODUCTION.

The smelting industry of Colorado is a very important one, and is, perhaps, second only to that of mining, upon which it, in some measure, depends. I say in some measure depends, because, although it is true that the ores must be mined before they can be smelted, it is none the less true that the extent to which the ores of the precious metals are produced from the mines, will bear a certain and positive relation to the capacity for their metallurgical treatment, possessed by the smelting works.

It will, therefore, be as well to regard these two industries as mutually dependent. If, then, we illustrate, by statistics, the amount of mineral handled in either of the operations of mining or smelting in this State, a very good idea of the magnitude of the other may be obtained therefrom.

I shall, for convenience sake, quote here a paragraph from the "Mineral resources of the United States" for the year 1891, which is as follows:—

"Colorado continues to lead as the greatest lead-smelting State. Returns from every works, which in some instances differ slightly from the published figures, show a total product of base bullion of 95,871 short* tons, which is equal to about 92,000 tons of refined lead.

All the companies reported the lead contents of "Mexican" ores smelted during the year 1891, the total reaching 4,259 short tons, thus showing that this supply constitutes a relatively unimportant addition to the ores of the State."

The same authority gives the production of copper for the nine years, 1883 to 1891 inclusive, as follows:—

Year 1883	...	...	...	...	...	1,152,652 lb.
" 1884	...	...	...	...	...	2,013,125 "
" 1885	...	...	...	...	...	1,146,460 "
" 1886	...	...	...	...	...	409,306 "
" 1887	...	...	...	...	...	2,012,027 "
" 1888	...	...	...	...	...	1,621,100 "
" 1889	...	...	...	...	...	1,170,053 "
" 1890	...	...	...	...	...	3,585,691 "
" 1891	...	...	...	...	...	6,336,878 "
						19,447,292 lb.
					Total	...

and the gold and silver for the year 1891 is given as:—

Fine gold	...	...	222,525 oz., value	4,600,000 dollars.
Fine silver	...	...	21,160,000 "	27,358,384 "

The above figures give the State of Colorado the distinction of second rank in the production of gold, and first rank in the production of silver amongst the States of the Union.

I might in addition quote figures upon the production of ironstone and limestone, since these two bodies play an important part in smelting, but as the amount of those minerals which was actually used in silver-lead smelting is not tabulated, the publication of the total figures alone would be misleading.

From the above figures the magnitude of the silver-smelting operations in this State may be gathered, and it will readily be seen that, to adequately describe the processes involved in the treatment of the large masses of mineral from which the above-mentioned fine metals have been derived would, in the space allotted to this short report, be impossible.

I will, therefore, at the outset, disavow any intention of making this little paper a "complete" report upon the metallurgical practice of this section of America, either from the scientific or the purely practical standpoint. I have, indeed, disregarded the former aspect of this question almost entirely, and have introduced chemical formula in their symbolic form only where their presence was deemed necessary to the elucidation of some particular phase in the description of a process. There are so many text books published upon industrial chemistry and kindred branches, which give *in extenso* the whole range, as far as they have been determined, of blast and reverberatory furnace reactions, that they need not be repeated here.

The smelting practice has undergone many changes within the last ten years, many innovations have been introduced, some of which have proved themselves to be improvements, and have held their ground, whilst others have died a natural death, and have disappeared from practice; but their remains may still be seen among the lumber that has been allowed to accumulate about the works of some of the older companies, silent witnesses of the amount of experimenting that has been done in this line of research.

Although it has been said that a great many improvements have been made, none of them can be justly considered distinct inventions, but rather as alterations in the mechanical construction, and design of the various parts of the smelting appliances, and it is a noteworthy fact that those departures from the beaten track of German and Welsh practice, which have done most to advance the economy of argentiferous lead-smelting in Colorado, are those aiming directly at increased capacity, not of the works as a whole, by the multiplication of the furnaces, but by an increase in the size of the furnaces themselves, whereby a reduction in the labour charges has been effected, and more refractory ores successfully treated.

How

* 2,000 lb.

How great this increase in size has been may be well shown by comparing the area of a cross-section at the tuyeres of one of the furnaces in operation in Leadville ten years ago, with the area of the same section through one of the furnaces in operation to-day.

According to "Guyard," the furnaces in use at Leadville at that time were, with but few exceptions, of the circular type, the largest of which had at the tuyeres a diameter of 40 inches, which is equal to 1,256.6 square inches, and the capacity was from 18 to 20 tons per day of twenty-four hours.

The ordinary bullion furnace of the present time measures 96 inches x 36 inches in the crucible, which is equal to 3,456 square inches at the tuyeres, and has a capacity of from 70 to 90 tons in twenty-four hours, showing that in ten years the size of the stacks has been almost trebled, and the capacity nearly quadrupled.

Nor has this striving after increased capacity been confined to blast furnaces alone, Dr. Richard Pearce, of the "Argo" works, near Denver, has for several years been using reverberatory furnaces, which are still believed to be the largest in the world.

Next in importance in their bearing upon the economy of the process, come the various mechanical devices for the separation of matte from slag, the collection of flue-dust, and the condensation of the more subtle fume, and the extraction of the valuable metals from those two troublesome bye-products. After these come the artifices for the transportation, sampling, and general handling, of ores, mattes, slags, &c., &c., about the works, and in the minimising of labour in the roasting of ores, by the introduction of automatic furnaces.

Although the improvement in plant has done so much towards making smelting a profitable pursuit, and has enabled the metallurgist to treat successfully a class of ores, which a few years ago could not be handled, there are other factors whose influence in this direction must not be overlooked. Two very important ones are, firstly, the railroads; and secondly, the excellent system of public sampling, works for which purpose are established in most of the mining centres. The wonderful spread of the rails throughout the State, and the consequent increase of transportation facilities has perhaps done more than anything else in developing the mining and smelting industries.

I have in the following notes confined myself to what appear to be the most important of these points, and have endeavoured to make my descriptions of them sufficiently minute, without being too prolix, to be readily understood by practical men. And in order to remove all possible ambiguity I have appended scale and detail drawings of nearly all the machines described; these drawings have been prepared from the writer's notes, supplemented by data kindly furnished by the manufacturers of some of the furnaces described.

I should like to take this opportunity of thanking the following firms and individuals for assistance rendered:—The Colorado Iron Works, Denver; Messrs. Fraser and Chalmers, Chicago, Ill.; H. F. Brown, Esq., Chicago, patentee of the "Brown Horseshoe Roasting Furnace"; and to all others who have kindly rendered assistance.

CHAPTER I.—SAMPLING.

The sampling of ores, although an operation of the first importance, does not appear to have had as much attention paid to it as it seems to deserve. It is true that numerous schemes for the performance of this operation mechanically have, from time to time, been brought forward, and there has been an almost constant struggle on the part of the inventors and manufacturers of mechanical sampling machines to replace the old hand sampling methods by the machines in which they are most interested. Hand sampling still continues to hold its own in the works of some, if not in all, of the largest and most important of the smelting companies, and is generally considered more accurate and satisfactory; although somewhat more costly than any of the mechanical means put forward up to the present time, nevertheless, the machines of Bridgeman and of Brunton are gradually creeping into favour in other mining States.

Hand sampling.

Hand sampling by the various methods of quartering by split shovelling, fractional selection, channeling, coning, and reducing by halves with shovels, &c., differ so little with the locality in which they are practised, and are so universally known that a detail description of them need not be entered into. It will suffice to give a brief description of the method in most general use, that of coning and quartering, for obtaining the final sample.

The exact manner in which the hand sample is taken varies with the grade and nature of the ore. With low grade siliceous and oxidised basic ores it generally suffices to take during the unloading of the cars, every fourth, fifth, tenth, or twentieth shovelful, which is dumped into a bin or truck, and, if too coarse for the rolls, is conveyed to the crushers; after crushing, if the sample is too large, it may again be reduced in the same manner as when taking the first sample; it is then passed through the rolls and carefully mixed by coning, and further reduced by quartering. It is reconed and requartered as often as is necessary to reduce it to proper bulk, each operation of quartering results in the elimination of one-half of the sample. It is now passed through a grinder, or small mill, resembling that in which coffee is ground, until it will pass through an eighty-mesh sieve, after which coning and quartering is again resorted to. Finally the sample is divided into three portions, one of which is sent to the seller, another to the assay office, and the third is bottled, labelled, sealed, and preserved as umpire sample in case of disputes.

There

There are three cases in which the first sample is not taken by the fractional selection method, as given above; they are: 1st, when the ore is a sulphide; 2nd, when it contains scales or metallics; 3rd, when it is of exceptional richness. In the first and third case the entire parcel is treated as described above. In the second case it is usual to pulverise the entire lot after careful weighing, and sift it to remove the metallic particles, and the determination of values is made upon pulp and scales separately.

The moisture sample, however, is in any case taken as soon as the ore is received, and is quickly cut down, and the moisture determination made in the usual way.

Several tools have been patented which aim at shortening the time needed for quartering; while performing practically the thing, amongst these may be mentioned the split shovel, which resembles, both in its appearance and operation, the riffle of the assay office—

And the Brunton quartering shovel, which is about 10 inches wide, with its face divided into three compartments, the central one of which is just one-fourth of the whole, and is enclosed on three sides with raised strips, and has its open end situated at the front edge of the shovel. The other two compartments are enclosed on two sides only, both ends being open. The operation of this shovel is confined to the sampling of moderately fine ores only, and is as follows:—

The first stroke of the shovel into the ore fills the three compartments; it is then raised, and a sharp forward movement given to it in the direction of the rejected ore heap, which causes the contents of the two side compartments to slide backwards off the shovel; the ore in the central space, however, is retained by the third strip; the workman now turns towards the sample heap, and projects the selected portion on to it. The speed with which one man can quarter a 1-ton sample down to from 90 lb. to 100 lb. is variously estimated at from twenty to thirty minutes. The same work done by the coning and quartering method would occupy two men for from one and a half to one and three quarters of an hour for its completion. The results with the Brunton shovel are claimed to be quite accurate; but, notwithstanding the fact that many of its users speak very highly of it, it has not been generally adopted.

The split shovel has been very little used in this section, and need not be described further than to say that the assayer's riffle is a modification of it, which should render its form and the manner of using it clear.

It is not proposed to describe in detail the various mechanical sampling machines in use in different parts of Colorado, for, as has been said, they have not been generally adopted. In fact a trial given to them in certain of the smelting works has resulted in their rejection.

They may be divided into two classes, which are distinguishable from one another by the different principles upon which they are constructed. The first of these classes, comprises, amongst others, the machine known as the "pipe" sampler. It allows the ore, in a fine state of division, to fall through a pipe or chute in a continuous stream; at a point or points in this chute are situated stationary deflectors, so arranged that their positions may be altered so as to withdraw any desired part of the falling ore, which is deposited in the sample bin.

The machines comprised in the second class have a movable deflector, which is made to oscillate upon a hinge or similar device. Its oscillations are intermittent, and may be regulated so as to make any desired number of movements in a given time across the falling stream of ore, so as to abstract the entire stream for a certain time—that is, while the deflector is making the passage across the chute. As the frequency of these movements is arbitrary, any desired proportion of the whole may be taken for sample.

In plates 18 and 19 (figs. 64-66) will be found drawings in elevation, plan, and vertical section, of the sulphide sampling mill of the Arkansas Valley Smelting Works, at Leadville, which is, perhaps, one of the best designed and most complete mills in the State. The drawings are carefully made to quarter-inch scale. The principal dimensions and parts have been given in figures and letters, so that the drawings are self-explanatory, and the general arrangements of the mill may be readily understood.

CHAPTER II—ROASTING.

THE different methods of roasting ores which have been in use from time to time in Colorado, may be briefly summarised under the following heads:—

- (1) Heap or stall roasting, used chiefly for copper ores and mattes, but rarely for lead ores.
- (2) Kiln roasting, used more or less upon all kinds of sulphide ores, but more especially upon pyrite, in connection with the manufacture of sulphuric acid.
- (3) Reverberatory roasting-furnaces, which may be divided into two classes—
 - (3a) When they are hand stirred, and
 - (3b) When they are mechanically stirred.

Of the first two classes little need be said, as they have almost entirely disappeared from practice in this State. They are still in use to a limited extent at Argo, where the class of ores treated by the reverberatory matting plant in operation there, being chiefly copper ores, are quite suitable for that kind of roasting, but even there they are being replaced by reverberatory furnaces of the automatic type, class (3b), and no doubt will have disappeared altogether in a very few years.

The furnace in almost universal use in Colorado is the long hearth reverberatory calcining furnace, which is a modification of the German "Fortschaufelungsofen," and is figured in plate 17, figs. 58 to 63 inclusive. Figures 58 and 59 represent the furnace inside and end elevation respectively; figure 60 a vertical longitudinal section through the centre of the roasting and fusion hearths; figure 61 is a cross section through
roasting

roasting hearth at the stirring doors; figure 62 is a horizontal section through the entire combination above the hearth; figure 63 is a cross-section through fusion hearth, showing the position of cooling flues.

This furnace is one of a battery of nine in operation at the works of the Arkansas Valley Smelting Company at Leadville, and may be taken as a first-class representative of this style of furnace (class 3a). It will be observed that a fusion hearth is attached to the delivery end of the roasting hearth proper. This piece of apparatus gives to the whole the appellation of "fusion" or "slagging" roaster.

It has recently been discovered that this fuse-box is best not attached to the main hearth, as it has been found advantageous to preserve the charge in a powdery or pulverulent condition up to the end of the roasting operation proper. This condition, owing to the greater surface exposed, renders the charge more accessible to the oxidising influences of the furnace. In the combined furnace this condition is very difficult to preserve, for in raising the heat to fuse the contents of the first hearth, a great deal too much heat escapes therefrom to the roaster, which results in the over-heating of the ore nearest to the slagger. In the case of lead ores this frequently leads to a semi-fused or pasty condition, which not only interferes with the completeness of the roast, but also increases the loss by volatilisation, owing to the charge being subjected to the fusion heat for nearly twice the proper length of time, and at the same time, through the agglomeration of the ore, renders its removal to the fuse-box more difficult. It is also probable that a greater loss, through the seepage of the fused galena into the brick-work of the much larger furnace, is endured thereby.

It is therefore better to conduct the roasting in a separate hearth, and to convey the fine calcines therefrom to the slagger, where the heat is raised and maintained, until the reaction between the basic and acidic constituents of the charge is completed. This results in the conversion of the roaster fines to a coherent or massive condition, which is the most suitable for their further treatment in the blast furnace. And through the reaction of the basic oxides with the unaltered sulphides, and, by the decomposition of sulphates, an additional 3 to 4 per cent. of sulphur is eliminated.

It is unfortunate for the economy of smelting (lead ores particularly) that the advantages of slagging roasting should be offset by so serious a disadvantage as that entailed by the very considerable loss by flue-dust and by volatilisation. Of course the greater part of the former is recovered from the dust chambers, but excepting where special and costly bag-houses, &c., are employed, very little, if any, of the latter is recovered. It is true that up to the present time no satisfactory method of filtering roaster fume has been devised, and bag-houses are only mentioned in this connection, because of a conviction on the writer's part that before long some means of handling these corrosive acid fumes will be perfected, probably by an improvement in the manufacture of asbestos cloth.

Dr. M. W. Isles, of the Globe Smelting Works at Denver, has made the off-hand statement that his company suffers an annual loss of between 60,000 and 70,000 dollars through his inability to pass the roaster fumes through the bag-house. From the above statement it would appear that a very profitable field for investigation and experiment is here presented, and that a substantial reward awaits success in this direction.

By referring to the drawings (plate 17), which are of three-eighths of an inch scale, the details of construction of this furnace will be seen, the following is a brief description, embodying the main dimensions:

The roasting hearth proper has a length of 59 feet 8 inches from flue to flue, and is 13 feet 4 inches wide at the narrowest point, and 17 feet wide over all. It has eight stirring doors upon each side, 7 feet 4 inches from centre to centre.

The fuse box is 10 feet 3 inches in length over all, and 13 feet wide over all; both measurements are exclusive of buckstays. It is connected to the roasting hearth by means of a vertical flue, 5 feet 6 inches long, 16 inches wide, and 2 feet 2 inches deep from floor of roaster to floor of fuse box. It is 9 feet 8 inches long from the inner side of fire bridge to the inner side of vertical flue, the bridge is 2 feet 2 inches wide at the top, and rises 12 inches from the grate bars, and 8 inches from the fusion floor. It is built of fire bricks laid over strong cast iron bars, which are calculated to relieve the outer walls of the strain.

The fire-box is 10 feet 10 inches wide and 4 feet 10 inches deep over all, and has a grate area of 3,264 square inches, which is flat.

Both the fuse-box and fire-box are provided with a door on each side, which is situated at the centre of the side walls. The doorways are 22 inches wide, and are closed by rectangular wrought-iron frames lined with fire clay.

The top of roof of the furnace and the roasting hearth are 6 feet 5 inches and 3 feet respectively from the ground line, the latter measurement being that of the section of the hearth nearest to the fuse-box. Each succeeding section of the hearth occupies a plane 3 inches higher than the next lower one, thus bringing the charge 9 inches closer to the roof, at the flue end, which is horizontal. The cooling gases are in that way brought into closer contact with the charge before they escape into the dust chambers.

The fuse-box floor is built upon two brick arches, which form the roofs of two air-passages; these are connected with the ash-pit of the fire-box, the draught through which causes a current of cool air to circulate through them; this serves to prevent the overheating of the fuse-floor. In some works this floor is made by placing a mixture of ground quartz and slag over the brick and adobe face, and raising the heat until it fuses slightly; it is then paddled into shape, and allowed to cool. In other works this practice is not followed, the working bottom being formed by one layer of fire-brick laid upon their edges; the bricks are so disposed that a concavity or sump is formed.

The

The entire structure, with the exception of the lining of the fire-box, fuse-box, and the first section of the roasting-hearth, which is of fire-brick, is built of red brick, firmly bound together by buckstays and tie-rods. See the drawing (plate 17).

The cost of building such a furnace in Leadville would be 3,350 dollars, and the cost of same in Denver would be 3,000 dollars, approximately.

The materials required are—

	lb.
Cast iron	12,200
Wrought iron	3,940
Sheet iron.....	400
Old railway iron.....	10,000
Red bricks	86,300
Fire-bricks	15,000

Before touching upon the magnificent mechanical roasters of type (3b), such as the "Improved Brown O'Harra," "Brown Horseshoe," and the "Pearce Turret," furnaces, it will be well to give a short description of the process of roasting as conducted in Colorado. The writer has watched this operation in five of the largest works in the State, and has not been able to detect any essential difference in the methods adopted at any of them, and if one should strike a time when the charges being treated in the different works approximate closely in composition and in sulphur contents, the process would be practically uniform.

It will then be sufficient to describe this operation as conducted at one of the works, the name of which I am not at liberty to give, in order to illustrate the general practice.

The charge consists of from 2,000 to 3,000 lb., according to the nature of the ore. This is dumped by means of a hopper into the roaster at the flue of coolest end; it is then spread evenly over one-fourth of the hearth area, and there is allowed to remain, being stirred occasionally, until the charge nearest the fuse-box is roasted and pushed forward into the slagging-hearth; the contents of the other three sections of the roasting-hearth are then pushed forward one at a time; this requires two men, one on each side of the furnace. The tools used consist of two flat iron paddles, the blades of which measure $5\frac{1}{2}$ in. x $8\frac{1}{2}$ in. x $\frac{1}{2}$ in., and the handles are from 10 to 12 feet long, and of 1 inch round iron. The paddling has to be done carefully to avoid the raising of too much dust. The flue end is now vacant, and is immediately charged as before.

It is usual where the fuse-box bottom is composed of silicious matter to cover it with silicious ore before the calcines are drawn on to it; this is done in order to neutralize the corrosive action of the basic slags, which are formed when fusion takes place. It would perhaps be better for the fuse-box if this portion of it, which comes in contact with the fused mass, were lined with some basic material, such as magnesia bricks. As soon as the fuse-box is charged, as described above, the heat is raised and fusion begins; it is then necessary to stir the charge by means of rabblers, until the whole is intimately mixed. This rabbling is repeated at intervals of twenty minutes at the beginning, and later on it is again stirred for ten minutes, and again for five minutes just before the charge is drawn. The above will sometimes be modified by the behaviour of the charge itself. The fused mass is finally drawn into slag-pots, and, after solidifying, is turned out to cool, and then broken up and sent to the blast-furnaces.*

The chemical reactions involved in this operation are too well known to need description here. The reader wishing information upon this subject is referred to the works of Percy and others.

Considerations involved in determining what class of ores it is advisable to roast.

Although there exists amongst smelters such a unanimity of opinion about the method of roasting an ore, when once that course is decided upon, the opinions differ very greatly as to what grade of ore shall be roasted.

Since the roasting of ores effects the elimination of most of the sulphur and arsenic contained therein, and by so doing very materially reduces the amount of iron necessary to flux the charge, and at the same time reduces the amount of matter and speisse formed, and therefore increases the daily capacity of the furnace, it will be seen that the first consideration is one of economy, and involves the following points:—

1st. The character of the ore—is it pyrite, or is it galena? In the case of pyrite running over 15 per cent. sulphur, it is considered best to roast, although in cases where copper is present to a considerable extent the usual way of deciding the point is to calculate all the copper present to cuprous sulphide (Cu_2S), and roast down to within 1 or 2 per cent. of the amount needed. It is, however, on account of the non-volatility of iron pyrite, considered safe and always advisable to roast when the value of the ore leaves sufficient margin for that purpose. Another point which must be considered in this regard is what percentage of the charge will the matte be which will result from the presence of a given amount of sulphur. It is usual for convenience in calculation to assume that the matte consists of sulphides of copper and iron only; this is not strictly true, since sulphides of zinc, barium, calcium, &c., are frequently found upon analysis of the above. Sulphide of zinc is the most likely to be present in quantity, and since the atomic weight of zinc to that of iron is as 65:56, no serious error can result from so regarding it. Calculate

* When the lagging-hearth is separated from the roasting-hearth the only difference in the operation described above consists in drawing the calcines directly into barrows or cars and conveying them to the slagger, or they are drawn upon a cooling-floor, generally of brick or slag, and after cooling are taken to the slagger. In either case the fusion is conducted exactly as given above.

Calculate the whole of copper to ($\text{Cu}_2 \text{S}$) and the balance of the sulphur to ($\text{Fe}_2 \text{S}_3$); if the amount of matte thus formed is in excess of 12 per cent. of the charge, it is better to roast the sulphides entering the mixture, or to dilute the sulphur by the addition of oxidised ores until the matte percentage is brought down. This is advisable, because with a greater percentage of matte the separation of the slag therefrom becomes more difficult, and larger amounts of silver are carried into it.

When lead ores are considered, the question of treatment is much more serious, as owing to the volatility of that metal the loss of both silver and lead is very much greater, and this loss increases with the percentage of lead. According to Newhouse,* ores containing 12 to 18 per cent. of lead suffer a loss in simple roasting of from 2 to 5 per cent. of that metal and no silver, but upon slagging the charge the loss in lead amounts to from 15 to 18 per cent. and in silver to 2 per cent. From this it will be seen that it is not safe to slag high-grade lead ores; some practitioners place the safety limit at from 8 to 10 per cent. From what has been said above it will be evident that the danger of loss during roasting by volatilisation will not depend upon the amount of lead only, as it is generally understood that the greatest loss of silver in roasting and smelting is not owing to the volatility of that metal itself, but is chiefly a mechanical loss incidental to the vapourising of lead and some of its compounds; that being so, it is clear that the loss in roasting and slagging ores of constant grade, as regards lead, will vary with the amount of silver contained in them—the higher the silver the greater the loss; and as the assay value of ore rises, a point will be reached at which the considerations previously discussed will be overshadowed by this one, viz.,—Are the benefits derived from roasting an ore equal to the direct loss in silver and lead entailed thereby.

The limit at which the economy of roasting lead ores ceases is one of the points upon which metallurgists differ. The limit has been variously stated at from 50 to 100 oz. of silver to the ton.

Now comes the consideration of the presence of zincblende in the ores. When much zinc is present it creates trouble in the blast-furnace. If it is fed to the furnace in the form of sulphide, it is in part decomposed by oxides and silicates of iron. The blende becoming oxide, enters the slag, and has, according to some authorities, the same function as lime. The remainder of the blende remains undecomposed, and enters the matte. The presence of a large amount of zinc sulphide sensibly affects the specific gravity of this latter, and interferes with the separation; whilst zinc silicate, owing to its high fusion point, lessens the fusibility of the slags, and therefore has the same bad effect. The presence of much zincblende in lead ore will sometimes demand its roasting, in spite of its grade in silver; this will, however, depend upon the proportion of lead in the ore. The higher the percentage of lead the more blende is permissible† in smelting raw ores, as a general rule, the practice being to smelt raw such galena ores in which the lead is in excess over the zinc; but to roast ores in which the zinc is equal to or in excess over the lead. There are, of course, cases in which this rule cannot be followed with advantage; for instance, when small amounts of ore of extraordinary richness are to be treated, it is generally better to scorify them in a small reverberatory furnace with lead, which results in a somewhat rich bullion and a small amount of very dirty slag, which can be safely treated in the blast-furnace.

General description of the Brown-Allen Improved O'Harra Roasting Furnace.

This furnace may justly be considered the first successful mechanical roaster introduced, and may lay claim to the distinction of having reduced the cost of roasting ores of all descriptions by at least 50 per cent. The furnace has some faults of construction, which will, perhaps, lead to its replacement by the mechanical roasters of the circular type.

The Brown-O'Harra furnace has been, and still is, in successful operation at the following works:—Boston and Colorado Smelting Co., Argo; Globe Smelting Co., Denver; the Pueblo Smelting and Refining Co., Pueblo; and at the Anaconda Smelting Works in Montana.

The following description of the furnace is given by the inventor. The advantages claimed for it have been fairly substantiated in practice, while several disadvantages have also been demonstrated. Some mention of these latter will be made later.

The Brown-Allen O'Harra is a double-hearth reverberatory furnace, stirred mechanically, being an improved form of what has long been known as the O'Harra furnace.

The original O'Harra furnace was a double-hearth reverberatory, stirred mechanically. The stirring was done by means of an endless chain, which passed through both hearths of the furnace and around wheels at either end. Attached to this chain were two triangular frames, upon whose angling sides were placed blades which acted as plows for stirring the ore.

The chain passed directly through the centre of each hearth, and to prevent its wearing, a groove about 8 inches wide and 8 inches deep was formed in the floor of each hearth its entire length. It was supposed that this groove would make room for the sag of the chain and prevent wear, but in practice the groove filled with hot pulp, through which the chain dragged, wearing it out very rapidly.

The stirrer blades or plows rested directly upon the brick bottom of the hearth, which caused them to wear out very quickly, and also destroyed the hearth itself.

This construction placed such great strain upon the chain, which was weakened by the intense heat and great wear, that it broke frequently, causing delays and expense to such an extent that the O'Harra furnace was considered a failure. To

* *Engineering and Mining Journal*, 28th February, 1891.

† *Hoffman's Metallurgy of Lead*, page 155.

To overcome these objections various improvements were made which have resulted in the furnace now built and known as the Brown-Allen Improved O'Harra Roasting Furnace.

In referring to illustrative cuts, the following descriptions will be readily understood.

By referring to cross-sections on plate No. 14, it will be seen that the roasting hearths are divided into three compartments, the centre one of which is the main roasting hearth, and the two side compartments for the tracks and moving mechanism. Wheeled carriers are placed upon these tracks and connected to two chains, which are operated in a similar manner to that employed in the original O'Harra.

From these wheeled carriers an arm is extended laterally through the slit or opening in the partition or diaphragm which cuts off the side compartment from the main roasting hearth, to the centre of the hearth as shown on plate No. 13 and on the cross-section sheet, plate No. 14.

To these arms are attached the stirrer blades or ploughs, which stir the charge constantly, and gradually work it through the entire length of the furnace.

By this construction the wheel carriers and all the moving mechanism is cut off from the intense heat and dust of the furnace, and so effectively protected that it has no perceptible wear, beyond that of ordinary machinery.

The stirrer blades are composed of sheet metal, and, when worn by the attrition of the ore through which they are drawn, can be quickly replaced.

The charge is fed into the furnace through the feed hopper A, plate 13, figs. 48 and 49, and gradually worked the entire length of the upper hearth, where it drops through an opening to the lower hearth.

The stirrers pass out through the revolving doors, and, passing around the carrying-wheel, again enter the furnace, where they take up the ore and gradually work it the entire length of the lower hearth, where it is discharged in the hopper B, inside of the inside wall of the furnace, or carried out to hopper C, and discharged into cars.

The hopper B, plate 13, fig. 49, is designed for accumulating the calcined material when used for hot charges—that is, when required for charging into a matting furnace in red hot state, and is now being done in the Anaconda works in Montana.

When not required to be used in hot charges, the calcines are discharged into hopper C, plate 13, fig. 49, comparatively cool.

Where ore or other materials require fusing after being calcined, the construction* shown on plate No. 20 is adopted. In this case the ore is discharged into the hoppers H H, and drawn into the fuse-box, where they are fused.

The manner of taking the heat from the fuse-box into the roasting hearth will be understood by referring to plate 20. By means of the passages and flues shown the heat is divided so as to enter the roasting hearth at four points, and in this manner is so diffused that all danger of overheating the charge is obviated.

In case the heat should be found too great, a portion of it can be passed directly to the dust chamber and stack by means of the safety-damper, as shown, or in the case of a stoppage of the machinery for any cause, the entire heat of the fuse-box can be taken directly to the stack.

The advantages of the Brown-Allen Improved O'Harra Furnace may be summed up as follows:—

- 1st. The absolute control of heat by means of the construction shown. This is very important in the roasting of mattes and for ore carrying a high percentage of iron and silica. By means of the fire-boxes, shown on plate No. 13, the heat is diffused evenly over the entire length of both hearths, which prevents the danger of partial fusing at any point.
- 2nd. In the frequency and completeness of the stirring. The entire charge is worked over the floor of the roasting hearth in a very thin layer, and is thoroughly stirred about twice each minute, and consequently every particle is exposed to the heat and oxygen, which ensures a rapid burning off of the sulphur at the lowest possible temperature.
- 3rd. In the economical distribution of air on the roasting charge, by means of revolving doors, the ends of the roasting hearths are kept practically closed, which prevents an undue influx of cold air on those points. The greater portion of air required for roasting is admitted into the small side compartments through the draft doors placed along the walls.

From here it finds its way into the main roasting chamber through the slit in the partition or diaphragm, which diffuses it in a thin sheet directly on the burning ores, and being cooler than the heated gases in the upper part of the chamber, it spreads all over the face of the burning charge before it becomes rarified enough to rise. This virtually has the effect of a gentle blast of air, and gives a much greater available supply of free oxygen than can be obtained in any other furnace known.

This excessive supply of oxygen, coupled with the frequency of the stirring and the absolute control of the heat, is invaluable in roasting mattes and ores high in zinc.

The action of the stirrers is constantly disintegrating and all the calcined products are discharged as "fines" without "balling" or "caking" at all.

We find by a careful comparison of the work of these furnaces on different ores that the following is an average of work being done. This takes in nearly the whole range of ores as treated at the works in this country, and embraces copper and iron sulphide carrying 38 to 45 per cent. sulphur, 8 to 15 per cent. zinc, 5 to 8 per cent. of lead and mattes carrying 16 to 22 per cent. silver and 15 to 40 per cent. copper.

Where

* This construction has been discontinued altogether. The fusion hearths are built separate from the roasting hearth. (See description of hand-stirred roaster.)

Where the ore is reasonably fine, 20 tons per day will roast to 2.5 per cent. silver; 25 to 28 tons, 3.5 to 4.5 per cent. silver; 30 to 35 tons, 5 to 6 per cent. silver; 35 to 40 tons, 6 to 7 per cent. silver.

The cost of roasting as above, including labour, fuel and repairs, will be from .75 to 1.00 dollar per ton, based upon average wages and prices of fuel in the mining sections of the west.

In roasting mattes the amount varies according to the richness and fusibility of the charge, but approximates very closely in results to the roasting of sulphide ores.

Plate 21 shows the arrangement where designed for chloridising silver ores, one of which is now in operation at the Cortez Mine (Limited), in Nevada.

The duty of a chloridising furnace represents a much higher tonnage, as the pulp is all crushed fine and sulphurs run much lower. The Cortez furnace has but two-thirds the area on the hearths of our standard roasting furnaces, but averages 30 tons per day to a very high per cent. of chlorinisation, making less than one-tenth the loss in flue dust as compared with the usual styles of furnaces for this purpose.

The extension of the floor shown forms a mechanical cooler and saves the room and dust incident to the usual practice. Cost of chloridising, 50 to 75 cents per ton for fuel, labour and repairs.

The chief disadvantages of this furnace are briefly the frequent stoppages for repairs, caused chiefly by the difficulty of keeping the furnace in alignment, owing to the sagging of the central horizontal wall which supports the upper hearth, this wall becomes excessively hot, through being strongly fired from both top and bottom. This exposes the vertical walls to a very heavy strain.

2ndly.—The enormous amount of brickwork and stays necessary to stand the above strain.

3rdly.—The great loss of fuel and time entailed in heating up this mass of brickwork, and in cooling same before repairs could be effected, before and after each stoppage.

The Brown Horseshoe Furnace,

As shown in plates 9, 10, 11, and 12, figures 30 to 47 inclusive, has been designed to remove the objections urged against the double-hearth "Brown O'Harra Roaster." And the labour and ingenuity which have been expended upon it, have resulted in the production of a machine which seems to possess the ideal qualities of a roasting furnace, to an eminent degree, inasmuch as that it is of simple design, is inexpensive to construct, easy to control, is almost entirely automatic, is cheap in operation, has a large hearth area, has reduced the cost of repairs, through ordinary wear and tear, to a minimum, and does perfect roasting.

The following description and drawings of this furnace should make its construction and operation clear:—

The furnace, as its name implies, is of a circular or horseshoe form, about four-fifths of its entire area comprising a roasting-hearth, and one-fifth an open cooling-floor for cooling off the calcines and the stirrers. By referring to the cross-section, it will be seen that the roasting-hearth comprises the central portion of the furnace between the main outside walls. By means of vertically disposed partitions (one-half being built on the floor and the other half forming part of the arch), with their adjacent ends a short distance apart, the tracks and working mechanism are entirely cut off from the roasting-hearth. This protects the moving mechanism and the tracks from the direct action of the heat, fumes, and dust of the furnace, and it has overcome all the objections hitherto urged against mechanically stirred roasting furnaces.

In construction, aside from the vertically disposed partitions, the furnace is exactly the same as an ordinary hand-stirred reverberatory, and does not require any more expense or skill to make a good furnace than is required in the construction of any hand-stirred furnace.

One objection to double-hearth furnaces has been the difficulty in keeping up the centre-wall between the upper and lower hearths, owing to the heat to which it is subject by being exposed from both sides, and to make a furnace that would keep in a sufficient alignment for ordinary purposes, it requires quite an outlay for brickwork, and a heavy expense for necessary buck-stays and binding-rods. The extreme simplicity in the construction of the horseshoe furnace in these particulars, will commend itself to practical men at once. There being but one arch to keep up, and that arch being exposed to the heat only one side, it will not become excessively hot, and also it will have elasticity enough to rise and fall with the varying heat of the furnace without putting such severe strains on the outer walls.

In the practical operation of this furnace there are no new features developed, as far as the metallurgical process is concerned, the whole practice being to expose the ore regularly and uniformly to a proper heat and a proper amount of oxygen, and, when this is done, it is apparent that the oxidation of the ore must necessarily follow. A brief description, however, of the mechanical movements will be necessary.

The ore is charged into the automatic feeder, which is a device so arranged as to feed any given amount with the passage of each stirrer. By means of a fluted-wheel the ore is forced out on to an apron which, when loaded, drops down, depositing the ore on the hearth, but, in the act of dropping, all the feed mechanism is thrown out of gear and the balance weight thrown so far forward that the apron remains down, and, of course, all feeding stops until the passing of a stirrer, which strikes a projecting lever and throws the machine again into balance, when the operation is repeated. By this simple means, the amount of ore can be regulated to a very few pounds per hour by simply adjusting the balance weight. The two ends of the roasting-hearth are closed by means of swing doors which allow the passage of the stirrers. From the feeder the ore is gradually
ploughed

ploughed along by the passing of the stirrer points until it enters the roasting-hearth, and is worked gradually forward until it has travelled the entire circle and is deposited at the discharge end of the hearth, not far from where it entered.

To prevent the overheating of the stirrers, that is, to allow them time to cool after passing each time through the furnace, the following plan is adopted:—

By referring to plate 10, fig. 35, it will be seen that there are two stirring carriages in the open space between the adjacent ends of the roasting hearths. These carriages are at rest, and, of course, being exposed to the air, are being rapidly cooled. It will also be seen that there are two stirrer carriages in the main body of the roasting hearth, at nearly opposite points. These carriages are travelling around, and when the forward carriage comes in contact with the two carriages which are at rest, they are pushed forward, and the one in the lead is attached to the drive cable, by means of an automatic grip, and travels on, while the one which has just come out of the furnace is released by means of an automatic stop, and becomes stationary. It requires about two minutes for each stirrer to make the circuit of the roasting hearth, and therefore each stirrer stands two minutes in open air. This allows the working points, which are the only ones that become heated, to cool off, and as they enter the cold ore; as they pass into the furnace they are so thoroughly cooled that they never attain a heat sufficient to cause any chemical action to take place between the sulphur thrown off and the iron. In this manner no wasting away occurs, and it is only by attrition of the ore that they are worn out.

The driving of the stirrers is accomplished by means of a cable, arranged exactly on the plan of a cable railroad going around a curve. This cable runs continuously, and one-third of it is all the time in the open air. There is also a little admitted at each guide-sheave or wheel, entirely around the furnace, so that there is a constant inflow of cold air, which assists in keeping the tracks and driving cable cool. The guiding wheels are so arranged that three-fourths of their entire surface is always in the open air, so they never become heated to a point that would make it unsafe to handle them without gloves. The slotted wall, or partition, is such a thorough protection that on furnaces which have been run a month a naked hand can be laid on the travelling cable, on the track rail, or on the inner wall, without danger of burning. It is not meant by this that the parts named do not become hot to the touch, but it is meant that they do not become sufficiently hot to effect them in any sense whatever as far as their durability is concerned.

The means employed for driving the cable are simply the well-known means for what is called road or cable drives, and consists of a grip-wheel with a tightener and guide-sheaves, so as to keep the rope always at the proper tension.

This driving cable passes around the furnace on the guide-wheels, which show on the inner wall. There is a 4-foot sheave-wheel, which runs close down to the hearth so that the bottom part of it comes on the same plane with the cable. The cable, in coming around passes under this wheel, which has two grooves, and passing up, goes over a clutch-wheel located on the top of the frame, and down under the tightener pulley and back over another pulley on the same shaft with the clutch-pulley, and coming down, passes under the lower sheave-wheel, in the second groove, and so on around the furnace. The object of the tightener pulley is to keep an even tension on the rope. The clutch-pulley, which is fitted up with a series of grips, move the rope forward as the wheel revolves and the other wheels act simply as idlers to keep the rope in position.

The stirrer carriages are formed like a triangle with a wheel under the three points. Near the forward end a gripping device is attached; this gripping device consists of a stationary jaw, which is bolted fast to the main frame of the carriage, and a movable jaw which is operated by means of a lever. When the clutch is thrown out of position, the movable portion drops down, and the lever stands vertically. The track is so constructed that at the proper point the forward end of the carriage is carried close to the rope or cable which is pressed tightly into the clutch. A fixed stop is placed, so that as the carriage moves forward the vertical lever comes in contact with it, and as the lever is forced down the jaw is raised until it grips the rope tight enough to pull the carriage. It is held in position by means of a ratchet and pawl. When the carriage has travelled the entire circuit of the furnace, a fixed stop which is secured to the track engages a lever which throws the clutch out of gear and the carriage stops. Before the clutch is thrown out of gear, however, the carriage which has been standing in the open space described above, is moved forward until the clutch is secured on the moving cable.

The fire-boxes are constructed entirely independent of the furnace walls, and the heat is conveyed into the main roasting hearth by means of a cross arch leading from the fire-box to an opening in the roof or arch of the main roasting hearth. The fire-boxes are adapted to the nature of the fuel to be used, in some cases inclined grates, in some step grates, and in other cases they are adapted for burning wood, these points being determined by the material to be used. The side walls and arch of the fire-boxes are constructed hollow, forming passages for the inlet of pure air which enters the main roasting hearth in a highly heated condition, which adds materially to the efficiency of the furnace.

It requires about $2\frac{1}{2}$ -horse power to drive the mechanism for stirring the furnace, the most of which power is absorbed in driving the different wheels, &c., the power of one man being sufficient to pull a single stirrer through a full charge of ore.

These furnaces can be made of any desired diameter and capacity.

The

The position of the stack, as regards the furnace, is not at all important, and any existing stack can be utilised by running a proper dust flue from the furnace to such stack. In the plates the stack is shown as within the interior walls of the furnace, which construction is economical where a new stack is to be built, but does not give sufficient length of dust chamber.

This furnace is adapted for roasting any material that can be roasted by hand, and will handle material, without danger of forming accretions on the hearth, that is considered very difficult to handle by hand-stirring.

The 55-foot (diameter) size requires about 100,000 red bricks to build the furnace proper and 35,000 bricks for a suitable stack, making a total of 135,000 red bricks. It requires of fire-brick and tiling an equivalent of 13,500. The price of the complete machinery and ironwork, excluding buckstays, is 3,500 dollars f.o.b. Chicago, weighing about 30,000 lb. The buckstays will cost about 150.00 dollars on the average, and are made of old railroad rails, which can usually be purchased as cheap where used as they could in Chicago.

A furnace of this size will have a capacity of from 30 to 35 tons per day, depending upon the nature of the material being treated.

The average cost of roasting the average pyritous ores of the west is from 0.75 dollars to 1.00 dollar per ton. Ores carrying a large percentage of zinc will cost a little more, but 1.00 dollar can be set down as a safe average. The roasters require but one man to a shift to run them. By this is meant that one man on a shift will attend to the furnace, keeping up the fires and looking after the machinery. The number of men to get in the ore and fuel and to remove the calcines will depend on the situation. Ordinarily one man will do all this. The ore hopper is calculated to hold a sufficient charge to run all night, and enough ore is to be put in during the day to last that time. At most an average of two men to a shift will do all the work. However, it is no more work to bring the ore and fuel to this furnace ton for ton than to a hand-stirred furnace, and while a day's labour on a hand-stirred furnace represents an average of about 2 tons, exclusive of the bringing in of ore and fuel and the removing of the calcines, with the mechanically stirred roaster a day's labour represents 12 to 15 tons.

Ordinary pyritous ores, if crushed so as to pass a four-mesh screen, can be roasted to below $2\frac{1}{2}$ per cent. of sulphur. Samples have been taken from the finer portions of the calcines where 28 to 30 tons per day were being roasted, that when below .5 of 1 per cent., and the average of the calcines was below 5 per cent. In this case the ore being treated carried 40 to 45 per cent. S., and contained a large amount of coarse pieces that were half-inch cubes.

Ores carrying 30 to 40 per cent. Pb. are roasted without difficulty, and so far there have not been any accretions of matte on the hearth. The inventor claims that 50 to 60 per cent. lead ores can be roasted without danger or trouble. Should there be a stoppage of the stirring mechanism for any cause, and the attendant should neglect to open the draught doors, there might be accretions of matte formed next the fire inlets. To provide for such a contingency I should recommend the placing of a man-hole in the furnace roof, just in front of each fire-box, which would be covered by a flat tile, so that a bar could be run in through this man-hole to raise the cakes and the stirrers would pull them out.

The constant stirring of the furnace has a tendency to disintegrate the ore, and unless the stirrers are actually stopped I do not believe accretions will ever be formed on the hearth.

The furnaces should have a connection with a system of dust chambers. The chambers and flues should be the same with these furnaces as are used with any other construction, but much less is lost by mechanical dust, and far less volatilisation. Owing to the frequent and uniform stirring, a much lower heat is required than has usually been thought necessary to break up the compounds, and much less loss of the more volatile metals is experienced.

The Pearce "Turret" Roasting Furnace.

Is another important addition to the roasting plant of the west. It very strongly resembles "Brown Horseshoe Furnace" in its general design; there are some minor differences in the details of the driving gear; and the furnace as constructed up to the present time is smaller—36 feet in diameter against 55 feet in the Brown Furnace. The most essential difference, however, consists in the forcing of heated air through the hollow stirrer arms upon the surface of the roasting charge, whereby (theoretically) a more rapid and more nearly perfect oxidation is obtained; it is, however, claimed that this constant stream of air under pressure playing upon the charge results in the raising of the finer portions of it, into the current of heated gases escaping to the flues, and in that way causes an undue amount of flue dust to be formed.

It is to be regretted that time will not allow of the preparation of drawings and a fuller description of this furnace, as it is an admirable one. However, it is so similar to the "Brown" furnace, and the claims made for it are very much the same, and are substantiated in the same satisfactory manner in practice, that a minute description of them both would entail a good deal of useless repetition.

There appears to be some dispute between the originators of these furnaces, owing probably to the striking similarity of detail which exists between them, as to the priority of right. With this, however, we have no concern.

It is unnecessary, owing to their being so well known, to do more than mention the other roasting furnaces, used to some extent in the west, such as the "Bruckner Cylinder," the "White Howell Revolving Cylinder," the upright roasting furnace of "Stetefeldt" (used chiefly for chloridising). These furnaces are not new, nor have they been particularly successful.

CHAPTER III.—THE BLAST FURNACES.

Owing to the amount of silica in the ores of the west, blast-furnace smelting is the almost universal practice in Colorado. In the whole of the great smelting centres of Leadville, Pueblo, Denver, and Durango, but one exception to this rule exists, viz., the Boston and Colorado Smelting Works at Argo, near Denver, where the practice is entirely reverberatory. They do not, however, treat lead ores for the reason given above.

The furnaces used vary but little in general construction. They are almost exclusively of the oblong form, either with rectangular corners or with the latter more or less rounded. The oval or round smelting furnace has almost disappeared, and is seen only in the works of small companies in remote parts of the State.

The furnaces vary in size considerably, ranging from 36 in. x 50 in. to 36 in. x 140 in. The tendency has been to increase the length of the furnace, but to keep the width within somewhat narrow limits, which is the most satisfactory proceeding, since, with a tuyere section of great width, the blast is unable to penetrate to the centre of the charge. Crucibles have been tried up to 50 inches wide, but have been abandoned for the reason mentioned. The general type of blast furnace, with its various modifications, is shown in plates 1, 2, 15, 16, 16a, and 20.

The height of the stacks has also been the subject of much experimentation, the result of which has been a very large increase in the distance between the tuyere centres and the feed-floor, which latter has gradually crept up from 12 feet to 22 feet above that point.

The writer is informed that a trial is now being given to a furnace whose feed-opening is 27 feet above the foundation line, and which is water-jacketed the whole way up. For a good many years metallurgists have been deterred from trying this experiment by the fear that the large increase in the power of the blast, which would be necessary to overcome the resistance of so deep a column of charge, would result in the reduction of iron to the metallic form, which would destroy the health of the furnace by forming iron sows, in addition to which it was feared that the force of the blast would carry quite a large percentage of the charge into the dust chambers. Dr. Iles, of the Globe Works, who is, perhaps, the most indefatigable experimenter in the Colorado corps of metallurgists, was, the writer thinks, the first to put these points to the test. He ran the brickwork of his stack up to about 7 feet above the feed-floor, which is 22 feet above the tuyeres, replacing the flush feed-opening and cast-iron cover plate with vertically disposed sheet-iron doors, which cover feed-openings springing from the floor. The down-take pipe, instead of tapping the stack at the side or end, as is the usual practice, rises from the top of the brickwork above the feed-doors, and, making an abrupt bend, continues down to the dust chambers. The furnace is kept filled with charge almost up to the feed-floor level, and the blast has been increased from 16 oz. to 32 oz., which is supplied to this furnace by an independent engine and blower. The result of the above alterations will be seen in the record of the furnace, given by Dr. Iles, which is as under:—

The capacity of the furnace was increased from 80 tons to 125 tons of net ore in twenty-four hours, the highest day's run being 135 tons. The furnace ran continuously for nine months without barring down, excepting, of course, such barring as would be done without stopping the furnace. This unusually long run is attributed to the manner in which the gases are conducted from the furnace. When the down-take taps the shaft at the side it has the effect of disturbing the even distribution of the blast, since it tends to draw the gases in a slanting direction towards itself. This causes wall accretions to form at points immediately opposite and under the flue orifice. These keep on growing towards each other until but a narrow chimney is left for the passage of the gases. The duty of the furnace is thereby reduced, and barring down has to be resorted to. Dr. Iles claims that when the down-take is disposed as mentioned in the description of his furnace, no such irregular air currents are induced, but that the draught rises evenly and naturally upwards until drawn off by the flues. In this way the formation of wall accretions is much less liable to occur. The result of the experiment seems to bear this statement out, and is eminently satisfactory. The loss from flue-dust has not proved so great as was anticipated. It would seem that the length of the ore-column has increased the filtering action of the charge, and that a considerable amount of the fines in the furnace is caught thereby.

The thickness of the brickwork at the bottom of the shaft of the recent furnaces has increased with the general dimensions, but in a more than corresponding ratio, the general tendency has been towards greater solidity.

A furnace of the following dimensions (at the Globe Works), 30 in. x 126 in. crucible, and with feed-floor 18 ft. 2 in. above centre of tuyeres, requires the following material for its construction:—

Cast-iron	27,450 lb.
Wrought-iron	3,280 „
Beams (steel)	4,300 „
Red bricks	17,500
Fire-bricks	9,600

The cost of erecting the above furnace in Denver was about 1,500 dollars, about 375 dollars of which was for labour.

The furnace shown in plate 15, figs. 53, 54, and 55, may be taken as a type of the lead furnaces in use in this State. The telescope stack is not so frequently seen, the top of the furnaces being generally arranged as shown in the matting furnace (which is designed for outside separation), and shown on plates 16 and 16a. Both of these furnaces are manufactured by the Colorado Iron Works, Denver, Colo., U.S.A. The latter

latter furnace is used in connection with a forehearth, as shown on plate 8, various figs. (figs. 20 to 29 inclusive), illustrate one of the most satisfactory of these hearths, which has been in constant use for some years at the works of the Arkansas Valley Smelting Company, at Leadville, and leaves but little to be desired. The other forehearth shown on the same plate has been described under "Pyritic Smelting."

There have been no new metallurgical features developed in the smelting practice of the west, but the scientific principles underlying the operation appear to be much more generally understood than was the case a few years ago. This improved state of things has been largely contributed to by the increase in the number of technical schools. These latter are now very numerous in this country, and are of excellent quality. The advent of the scientifically-trained metallurgist has had the effect of driving the rule-of-thumb man out of the field; he has been obliged to play a subordinate part in works where he was once supreme.

Slags, and the method of calculating them.

In the calculation of slags, the method adopted is that known as the "oxygen ratio," which means that the different slags are designated as singulo-silicate, bi-silicate, tri-silicate, &c., according to the ratio which exists between the oxygen combined with the basic constituents, and that in combination with the acidic constituents—for instance, the slag which is of greatest importance in lead-smelting is the singulo-silicate of lime and iron.

No. 1— $(\text{FeO}\text{CaO}) \text{SiO}_2$, the general formula being where R represents a diad base.

2 $(\text{RO}) \text{SiO}_2$, or $2\text{R}_2\text{O}_3$ plus 3SiO_2 , in which the basic oxygen is to the oxygen of silica as 1:1.

The calculated percentage composition of which is:

FeO equals	38.29	per cent.
CaO " 	29.78	"
SiO ₂ " 	31.91	"

99.98 per cent.

Manganese acts in the same manner as iron, and the latter may be replaced by it in the slags.

Baryta, alumina, magnesia, and zinc oxide are regarded as acting in some measure like lime, which may be replaced to some extent by those bodies; it is, however, not safe where barium and zinc are fed as sulphate and sulphide respectively. To calculate the whole of them as slag-forming constituents, since BaSO_4 is in the presence of carbon reduced to BaS, a portion only of which (generally speaking) reacts with metallic oxides, &c., and becomes BaO, which is then available as a base in slag formation. The undecomposed BaS is generally found dissolved in the slag, a very small amount also remaining with the matte.

In the case of zinc blende, it is generally thought sufficiently close for practical purposes to calculate one-half as ZnO to the slag, and to regard the remainder as going partially into the matte, and partially into the dust chambers. In regard to such bases as magnesia and alumina, the rule is to calculate them as silicates, although in the case of the latter it is supposed that it sometimes acts as base and sometimes as acid (as in aluminates), but just at what point this change of behaviour takes place there is, up to the present time, no satisfactory method of determining. These replacements hold good in any silicate, no matter what its designation may be, so that in extreme cases the formula of a singulo-silicate slag may have to be written thus:

No. 2— $(\text{Mn Fe}) \text{O} (\text{Ca Mg Ba Zn}) \text{O Si O}_2$, in which the lime and ferrous oxide may be, in part, replaced by any or all of those elements bracketed with them.

The bi-silicate slag of (Fe O and Ca O) has the following formula and composition.

No. 3— $\text{Fe O Ca O plus } (\text{Si O}_2)_2$ or $2 (\text{RO})$ plus $2 (\text{Si O}_2)$, or $(\text{RO}) (\text{Si O}_2)$ or $(\text{Fe Mn}) \text{O} (\text{Ca Mg Ba Zn}) \text{O } 2 (\text{Si O}_2)$ in which the oxygen ratio is as 1:2.

Composition—

Si O ₂ equals	48.38
Fe O " 	29.03
Ca O " 	22.58

99.99

A true bi-silicate is never run in silver-lead smelting, its fusion point being too high; the slags range from the singulo-silicate through mixtures of singulo and bi silicate in varying proportions to a slag having the composition—

$4 \text{ R O. } 3 \text{ Si O}_2$ or

$(2 \text{ R O plus Si O}_2) \text{ plus } 2 (\text{R O plus Si O}_2)$ or

$(\text{Fe Mn}) \text{O} (\text{Ca Mg Ba Zn}) \text{O Si O}_2 \text{ plus } 2 (\text{Fe Mn}) \text{O} (\text{Ca Mg Ba Zn}) \text{O}$
 $(\text{Si O}_2)_2$

which is equal to a mixture of one part of singulo to two parts of bi-silicate, and has an oxygen ratio of 1:1.5.

The ideal slag in smelting oxidised lead ores is the singulo-silicate of iron and calcium; the lime may replace the iron until its oxygen equals that of the ferrous oxide, but beyond that point it is considered disadvantageous to go. A slag of the above description has most of the essential points of a good smelting combination. It is readily fusible, very fluid when melted, has a low specific gravity (about 3.4 to 3.6), and

is

is sufficiently solvent to prevent the formation of serious hearth accretions; it is run with ease and satisfaction in districts where lime and iron fluxes are not too expensive, but the growing competition amongst smelters and the preponderance of low-grade acid ores, have resulted in the crowding of silica into the charges, since every additional unit of silica that can be run without effecting the working of the furnace means an increase in the smelter's profits.

In cases where much raw galena is being smelted the singulo-silicate slag is, owing to its low fusion point, not suitable. It melts readily at a temperature which is below that needed to decompose the galena, which results in too little lead being reduced, and too much going into the matte. In order to obviate this it is necessary to raise the fusion point of the slag. It is usual in such cases to run a mixture which approximates in composition to the sesqui-silicate slag given in No. 4.

Below is given a few slags that have been run with continued success at some of the principal works, and may be regarded as typical:—

	SiO	(Fe Mn)O	(Ca Ba Mg)O	Total.
Pueblo Smelting and Ref. Co. ...	32.0	30.0	22	84
Omaha and Grant Co. ...	30.0	36.0	20	86
Globe Smelting and Ref. Co. ...	32.0	33.0	23	88
Philadelphia Smelting Co. ...	35.0	28.0	26	89
Colorado Smelting Co. ...	30.0	40.0	20	90

The following are the slag analyses for ten consecutive days at one of the smelting works with which the writer was connected:—

Lead Furnaces.

	SiO	(Fe Mn)O	(Ca Ba Mg)O	Pb	Ag. oz.
1	31.72	30.50	24.00	0.8	0.7
2	32.10	29.7	23.20	0.1	0.8
3	30.9	30.20	22.10	0.6	0.4
4	30.7	31.30	23.0	1.1	0.1
5	34.2	28.90	22.0	1.2	0.1
6	30.8	31.50	23.0	0.8	0.7
7	31.2	32.00	22.6	0.9	0.8
8	32.1	31.70	23.10	1.0	0.9
9	33.4	29.60	24.20	1.2	1.0
10	31.6	30.40	22.80	0.8	0.7

Matting Furnaces.

	SiO	(Fe Mn)O	(Ca Ba Mg)O
1	32.1	39.8	20.20
2	30.9	38.9	22.10
3	31.4	38.6	21.90
4	32.1	39.1	21.60
5	33.00	38.4	20.70
6	32.20	39.20	21.90
7	32.70	40.10	21.30
8	32.60	39.40	21.70
9	33.10	38.60	22.00
10	32.10	39.40	21.80

The large furnaces, with a 20-foot column of charge, gave slags as follows:—

Day	SiO	(Fe Mn)O	(Ca Ba Mg)O	Pb	Ag. Oz
1	38.32	27.80	18.50	0.9	1.0
2	39.10	28.00	19.10	1.0	1.0
3	39.60	27.30	20.20	1.1	1.2
4	40.20	26.40	19.70	1.2	1.2
5	40.70	26.20	20.00	1.1	1.0
6	40.10	26.90	20.40	1.0	1.0
7	41.20	25.30	20.10	1.4	1.2
*8	42.40	24.80	19.30	1.5	1.3
9	39.20	25.90	20.50	0.9	0.6
10	38.40	26.00	21.30	0.7	0.5

It will be observed that the silicas in the above table are very high. They are evidence of the struggle that is being made to run more acid charges than any of the type slags call for.

It will also be seen that the lead contents of the slag increases almost uniformly with the silica, and that the amount of silver is affected in the same manner. At no time during the period in which the above slags were made could the condition of the furnaces be considered healthy or normal, and that an extraordinary effort was being made manifested by the almost strained alertness of the furnace gang, which was composed of the most experienced men on the staff, and by the frequency with which the various tap holes had to be opened up with the sledge and drill.

The attempt to run a 40 per cent. silica was certainly a praiseworthy one, and will, the writer thinks, prove quite successful when the proper amount of blast has been made available. In this case the run was made with the ordinary pressure of 16 oz., which is manifestly too low for such a tall column of highly silicious charge.

The

* This called for an alteration in the composition of the charge. In these large furnaces a change of feed did not manifest itself in the slag until from ten to twelve hours had elapsed.

The slags that were most popular a few years ago may be illustrated by the following, which is by Eilers. $3(2\text{FeO} \cdot \text{SiO}_2) \times (2\text{CaO} \cdot \text{SiO}_2)$ which is a mixture of three parts of singulo-silicate of iron, with one part of singulo-silicate of calcium. The calculated composition of which is—

Si O ₂ ...	...	...	...	...	...	30.61
Fe O (group)	...	...	...	...	...	55.10
Ca O	„	...	...	...	...	14.29
100.00						

That slag would, of course, work very satisfactorily, and upon high grade ores and a plentiful supply of cheap iron-flux would leave very little to be desired. Such a slag is, however, seldom seen to day, the nearest approach to it is the 30, 40, and 20-type, which is still run in some parts of the States.

Reference to the analysis of slags given in the preceding pages, will point to the fact that while the silica has been on the increase the iron has been decreasing, and the lime being cheaper than iron has been made to replace that metal until the limiting practical ratio in which the two bodies may exist in silver-lead slags has been approached.

In the face of all these signs it cannot be doubted that the most successful metallurgist of the immediate future will be he who can make his furnace treat profitably, a charge containing the greatest percentage of silica, and of such refractory bases as zinc, alumina, baryta, and magnesia.

Fuels used in Colorado.

The fuel used in blast-furnace smelting consists principally of coke and charcoal, coke alone being used by some smelters, and a mixture of the two by others. Chemically charcoal is the better of the two for the purpose, but physically coke is its superior, as owing to the greater strength of its cell walls it is more coherent than charcoal, and, therefore, better able to resist the crushing strain to which it is subjected in the furnace, and by thus retaining its form prevents the charge from packing, and thus causing uneven blowing.

The principal coke centres of Colorado are El Moro, Crested Butte, and Grand River, while a great deal of the coke supply used to be derived from Connelsville, Pennsylvania, the coke from which region is probably the best in the United States. The high cost of transportation has, however, operated in favour of the local product, which, though not quite so good, is (minus the freight upon the foreign article) cheaper.

The following table of analysis will show the comparative qualities of the American coke with that of Cardiff, Wales:—

	Cardiff, Wales.	Connelsville, Pennsylvania.	Crested Butte, Colorado.	Grand River, Colorado.	El Moro, Colorado.
Fixed Carbon	95.00	87.46	92.03	93.75	87.47
Volatile matter .....	.....	0.011	1.35	.....	1.85
Ash	4.26	11.32	6.62 ap	5.49	10.68ap
Moisture	0.01	0.49	.....	.....	.....
Phosphorus	0.02	0.029	.....	0.10	.....
Sulphur	0.68	0.69	.....	0.76	0.85

From the above table it will be seen that some of the local coking coals are of good quality, the cost of coke varies at the ovens from 3.25 dollars to 3.50 dollars per ton according to the grade. The general method of coking the coal is very similar to that in use in the Connelsville region—the ovens are chiefly of the beehive form, built of bricks, and vary in size from 10 to 12 feet in diameter, and from 5 to 7 feet in height, with an opening in the crown through which the coal is fed. The method of working is simple, and consists mainly in dumping the coal through the crown opening on to the floor of the oven. It is distributed evenly, and the thickness of the layer is dependent upon the time in which the coking is to be accomplished. For a 48-hour burning the stratum of coal is about 2 feet in thickness, for a 3-day burning it is increased to from 2½ to 3 feet. The discharge door is a rectangular opening, situated at the floor-level of the oven, this is partially bricked up and luted before the charge is thrown in as the burning proceeds, this orifice together with others that are provided to allow an ingress of air, are more and more completely luted up with clay, and the roof openings are finally closed up.

The firing of the coal is generally brought about by the residual heat of the oven left by the last charge. When the coking is complete the crown opening is removed and the coke quenched by the injection of water; when sufficiently cool the coke is withdrawn through the discharge opening, and the oven is immediately recharged.

The charge of an ordinary oven amounts to about 110 bushels, or about 8,360 lb. of coal, which yields on the average 132 bushels, or 5,280 lb. of coke. The percentage yield is equal to about 63.64, which requires about 1.58 tons of coal to 1 ton of coke.

The effect of increasing the time of burning is generally to render the coke harder; if at the same time its porosity or oxidibility is not impaired, this firmer coke should be more serviceable for blast furnaces, but this point has not yet been decided. Sometimes the burning is completed in twenty-eight hours, but the average time is forty-eight to fifty hours.

The coal deposits are very well distributed throughout the State and are very extensive, the aggregate area being estimated at upwards of 50,000 square miles. Curiously enough, the carboniferous periods in Colorado do not, with but one exception, *i.e.*, at Telluride, produce any coal, the chief deposits being in the much more recent Upper Cretaceous.

The

The groups which are designated the "Laramie Cretaceous Group," the "Fox Hill Cretaceous Group," and the "Colorado Cretaceous Group." The carboniferous period proper is, in Colorado, separated from the Upper Cretaceous by about 5,000 feet of strata.

The coal ranges in quality from a superior kind of lignite, through all the various conditions of bituminous, semi-bituminous, &c., up to very good anthracite.

The southern part of the State has the largest output; the northern division is perhaps second in that regard.

Good coking coal is found in the following counties:—Park county, at "Como;" Las Animas county, at "Cucharas" and "El Moro;" Fremont county, at "Oak Creek," and at "Coal Creek." The coal is semi-bituminous, which when mixed with El Moro bituminous coal cokes very satisfactorily.

These coals are composed as follows:—

Northern Division.

Golden lignites.

No.	Water.	Fixed carbon.	Volatiles.	Ash.	Total.
1	13.24	45.61	37.25	3.90	100.00
2	13.57	47.54	34.85	4.04	100.00
3	13.19	46.72	35.95	4.14	100.00

Ralston Creek.

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Total.
1	13.72	44.47	35.95	5.86	100.00

Langford, Boulder county.

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Total.
1	11.82	58.96	26.08	3.14	100

Fremont County—Semi-bituminous coal.

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Sulphur.
1	4.50	56.80	34.20	4.50	0.35
2	5.49	51.00	39.33	4.17	0.36

Las Animas County, El Moro—Bituminous coal.

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Total.
1	0.36	65.66	29.76	4.22	100.00
2	1.46	60.18	34.58	3.78	100.00
3	1.44	54.95	35.69	7.92	100.00

Crested Butte—Bituminous Coal.

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Total.
1	3.60	61.17	30.97	4.47	100.00
2	0.54	72.20	24.07	3.19	100.00
3	1.20	72.51	25.10	3.19	100.00

Crested Butte—Anthracite.

The following is the mean of a large number of analyses, made at different times and by different Chemists, the writer among the number:—

No.	Water.	Fixed carbon.	Volatile matter.	Ash.	Total.
1	1.25	90.19	5.18	3.38	100.00

The wages paid to coal-miners varies from 85 cts. to 1.40 per ton of coal raised.

Average value per ton of the entire production of the State varies, year in and year out, from 2.15 dollars to 2.35 dollars at the mines. The retail price in Denver varies from about 3.00 dollars to 8.50 dollars per ton, the latter figure being for the best grade anthracite; the lignites, similar in quality to those of the "Golden," "Ralston," and "Marshall" beds, are worth on the average 4.00 dollars per ton, although at the present time, owing to a rate war which is raging between the various coal companies, these can be purchased for 2.50 dollars per ton delivered.

CHAPTER IV.—THE PYRITIC SMELTING PROCESS.

The "Pyritic" or "Austin" process is specially designed for the treatment of low-grade, argentiferous, and auriferous iron and copper pyrites, associated with zinc-blende, &c.

Foundation of the process.—The above is essentially a fire concentration process, and is founded upon the fact that when "sulphides" of the metals, *i.e.*, iron pyrites, chalcopyrite, zinc-blende, &c., are smelted in a furnace, the air supply, or blast to which, is heated to a given temperature; in practice this is generally about 600 degrees Fahr.; they are at first, it is supposed, reduced to a lower state of oxidation (FeS_2 to FeS) in the case of iron pyrites. The ferrous sulphide formed above is in turn decomposed; in part, either by reaction with the oxides present in the charge, or by the direct oxidising action of the hot-blast, into FeO and SO_2 , the formation of the latter compound is accompanied by the evolution of much heat, which is turned to account in the furnace. Of this we will have occasion to speak more fully later on. A portion of the iron is in this way rendered available for slag formation, together with such oxides as ZnO , BaO , Al_2O_3 , MgO , &c., resulting from the decomposition of the corresponding sulphides, sulphates, silicates, carbonates, &c., of those bodies. It will be evident that the amount of iron (FeO) formed above will depend directly upon the amount of sulphur oxidised or burnt off in the furnace, and as this will vary considerably with the conditions of temperature, atmosphere, the amount of carbonaceous matter on the charge, &c., the amount of ferrous oxide which will go to form slag, and, therefore, the amount of ferrous sulphide that will remain as matte cannot be pre-determined.

Difficulty of calculating the slag.—From the above it will be seen that the composition of the resultant slag, and the weight of the resultant matte, cannot be accurately calculated.

The effect of uncontrollable variations in the percentage of silica in the slags.—And since the amount of silica from any given mixture going into the slag will remain constant, whilst the amount of iron varies, up or down, the percentage of silica will vary in like proportion; experience has shown that this variation may, at times, be quite considerable, so much so that in ordinary cold-blast or silver-lead smelting the danger of frequently freezing the furnace up, with its attendant inconvenience and expense, would be great. The effect, however, of these variations in the composition of the slag in "pyritic" smelting is not so serious, as, owing to the great size of the furnace, (140 in. x 33 in. crucible), and the much higher temperature at which it is run, a much more refractory charge can be treated than in the lead furnace; this is one of the chief points of advantage claimed. The next most important point of advantage which this process possesses lies in the fact that, notwithstanding the much higher temperature at which this furnace is operated, there is a very decided saving in fuel [*see* comparison further on]. This saving is directly attributable to the utilisation of the heat produced in the oxidation of the sulphur in the charge, the ignition of the sulphur does not appear to be confined to the region immediately above the fusion zone, but seems to take place throughout the entire mixture in the stack, and soon reaches the furnace top, which it is impossible to keep cool. The contrast between this and the lead furnace is, in this respect, very striking, the top of a properly-handled stack of the latter type showing no evidence of the combustion which is taking place a few feet below; the top of the former, however, presents quite a fine spectacle with its gorgeous mixture of parti-coloured sulphur flames.

The unsuitability of this process for the treatment of lead ores.—It is this hot top which renders it impossible to profitably smelt in the pyritic furnace, ores containing any considerable amount of lead, as the loss by volatilisation of lead and silver would be very

very great. It has been claimed by some metallurgists engaged in pyritic smelting that in running a straight or dry charge, the loss in fume and flue-dust was too small to render its collection profitable. There are, on the other hand, however, many experienced smelting men who hold contrary views. The justice of these contrary views is in a measure proved by the fact that extensive flues and dust chambers are being constructed at one, at least, of the pyritic smelting works at Leadville.

Separation of matte from slag.—The portion of the ferrous sulphide which is undecomposed, as mentioned above, remains, together with any copper present, as matte, into which, theoretically, is concentrated all the gold and silver that was contained in the charge. How close an approximation to this theoretical concentration will be obtained depends largely upon the skill with which the furnace is handled. The first thing to be aimed at, after a successful fusion has been obtained, is the complete separation of the matte from the slag; this is best done at the highest temperature, and, consequently, when the matte and slag are at their greatest degree of fluidity. The composition of the matte must be such that its specific gravity will be superior to that of the slag. The pyritic process, in its original form, aimed primarily at the formation of an iron matte, and it was claimed that an almost perfect separation could be obtained; this claim has, however, not been borne out in practice. At works where the original formulæ were adhered to, very dirty slags were, in most cases, the result, some of these, of which I have records, running from 8 to 10 oz. of silver per ton; the reason of this being, that the specific gravity of iron matte approximates very closely to that of the rich iron slags made in this process; and, consequently, the matte particles had difficulty in separating themselves from the somewhat pasty slags, resulting from the refractory nature of the charge.

The advantage of small amounts of copper on the charge.—It soon became evident that some means of obviating this difficulty must be found. Previous experience in ordinary matte smelting suggested the advisability of employing a small amount of copper on the mixture. This was tried, and it has since been found that the use of a small amount of that metal (in the form of ore) adds so greatly to the efficiency of the process as to be practically indispensable in localities where the cost of obtaining copper ores does not exceed the saving in silver resulting from their use. The cleansing effect of copper in a matting process appears to be due, not only to the superior specific gravity of its sulphide to that of the corresponding iron salt, and its greater chemical affinity for the precious metals, but also to its greater fluidity, copper matte being much more fluid than iron matte at a given temperature.

Cost of fuel per ton of charge.—The use of the contained sulphur as fuel, as mentioned above, reduces the proportion of coke upon the charge very considerably. It has been claimed by the patentee that the furnace can be successfully run with but 2 per cent. of fuel, but in practice that figure is nearly always exceeded. At the Bi-Metallic Smelting Works, at Leadville, they claim a consumption of from 3 to 4 per cent. of coke, the latter figure being the maximum. The liquid fuel (residuum) used in heating the blast is estimated to be equal to an additional 3 per cent. of coke on the charge. The total amount of coke used is thus shown to be from 6 to 7 per cent., generally 6 per cent. in summer and 7 per cent. in winter. The capacity of one of these furnaces (140 in. x 33 in.) is nominally from 140 to 150 tons* in twenty-four hours. Assuming, for safety sake, the smaller capacity, the day's run will consume from 8.4 tons to 9.8 tons of coke, which costs at Leadville from 8 to 9 dollars per ton. There are times, of course, when through strikes, railroad blocks, &c., the prices of coke rises beyond the figures given above, but the former of those two figures is the one which generally obtains, and, therefore, can be safely taken as the basis of the following figures. The cost of the fuel used in smelting 140 tons of charge will, therefore, range from 67 dollars 2 cents in summer to 78 dollars 4 cents. in winter, or from 48 to 56 cents per ton. If this is compared with the fuel consumption in silver-lead smelting, the economy of the process in that regard will be apparent. In order to make the comparison a just one, the figures given by the silver-lead smelting practice in the same locality (Leadville, 10,120 above sea-level) are taken. The amount of fuel consumed ranges from 18 per cent. in summer to from 20 to 22 per cent. in winter, so that the cost of smelting the same number of tons of the much less refractory mixtures treated in the lead furnace (25.2 to 30.8 tons of coke) would be 201 dollars 6 cents in summer and 246 dollars 4 cents in the cold season, or from 1 dollar 44 cents to 1 dollar 74 cents per ton, to which would have to be added, if the same mixture were treated, the cost of roasting.

The figures upon fuel percentages given above will no doubt appear high to those metallurgists whose smelting experience has been confined to sea-level, or to but slight elevations above that point. It must, however, be borne in mind that the amount of fuel required to smelt a given number of tons of the same mixture increases with the altitude at which the operation is conducted.

And as the difference created by two extremes of elevation is considerable, that fact should not be lost sight of in comparing the rival advantages offered by different localities for the erection of a smelting plant, especially where the fuel has to be brought from afar, as in this case, the cost of smelting will not only be increased by the additional amount of fuel consumed, but also by the freight rates upon the greater quantity of coke carried.

Cost

* Of charge.

Cost of Labour.

Having considered the cost of fuel in this process, we will take up the cost of labour in running a ton of charge through the furnace. The following is the average rate of wages at Leadville:—

Downstairs—

Foreman	\$5 to \$6 per day of twelve hours.
Furnacemen	\$4 " "
Pot-pullers	\$3 " "

Feed Floor—

Feeders	\$4 " "
Weighers	\$3.5 " "
Wheelers	\$3 " "

*Labour allotted to each Furnace.**Downstairs—*

One furnaceman	\$4 per twelve-hour shift.
Two pot-pullers	\$6 " "
One man to attend to jackets*	\$3 " "

Feed Floor—

One feeder.....	\$4 " "
One weigher.....	\$3.5 " "
Two wheelers	\$6 " "

Total \$26.5 " "

Or \$53 per twenty-four hours' run.

Proportion of day foreman's pay (say) 1/3	\$2
" night foreman's pay, 1/3 (\$5).....	\$1.66
" superintendent's salary	Variable
Approximate total	\$56.66

* In large works one man is made to look after a number of furnaces.

To which, of course, must be added the proper proportion of insurance, depreciation, blowing, lighting, &c. About 40 cents will, therefore, be the cost per ton of charge through the furnace.

Nature of the Charges treated.—The mixtures treated in the pyritic furnace are made up mainly of raw pyrite, chalcopyrite, sphalerite, and arseno-pyrite, together with silver and gold bearing silica, and, where obtainable, value-bearing limestone, baryta, alumina, and magnesia may be present without seriously affecting the successful operation of furnace to much greater extent than in ordinary smelting.

NOTE.—A charge that has been run with good results at the Bi-metallic Smelting Works at Leadville is composed as follows:—The composition of the different ores, here appended, is not the result of ultimate analysis, but is taken from the figures given by the technical methods in use in the smelting laboratory, which are only approximate, such bodies as baryta, alumina, magnesia, and arsenic, if present, appear to have been totally disregarded. The approximation is, however, sufficiently close for the purpose of illustration, or even for slag calculation. These minerals, if not present in large amounts, are regarded as belonging to the lime group of bases, as they comport themselves in the furnace very much as does that body, and may, as has been stated above, be present to some extent without causing trouble.

Silicious ore, 300 lb.—

Si O ₂	70.00 per cent.
FeS ₂	10.00 "
H ₂ O	6.50 "
Undetermined	14.50 "
	<hr/> 100.00 "

8oz. of silver and a trace of gold.

Raw, 1 st. ; matte, 100 lb.—

Cu	8.00 per cent.
Fe	56.25 "
S	34.12 "
	<hr/> 98.37 "

70 to 100 oz. of silver and 0.46 oz. of gold.

Limestone, 400 lb.—

CaCO ₃	99.00 per cent.
SiO ₂	1.00 "
	<hr/> 100.00 "

Which is equal to—

CaO	55.44 per cent.
SiO ₂	1.00 "
CO ₂	43.56 "
	<hr/> 100.00 "

Pyritic ore, 800 lb.—

S	43.70 per cent.
SiO ₂	12.00 "
Fe	35.00 "
Zn	7.00 "
H ₂ O	2.00 "
	<hr/> 99.70 "

35 oz. of silver.

Pyritic

Pyritic ore, No. 2, 200 lb.—	
S	43.10 per cent.
Fe	35.00 "
SiO ₂	5.21 "
Zn	4.10 "
Cu	4.00 "
H ₂ O	8.00 "
	99.41 "
36 oz. of silver.	
Dirty slag, 400 lb.—	
SiO ₂	31.25 per cent.
FeO	40.72 "
CaO	21.80 "
	93.77 "
And from 4 to 5 oz. of silver.	

NOTE.—This slag was obtained from the dump of the old La Plata Smelting Works, which the bi-metallic people were re-running.

Calculation upon the above data gives the composition of the charge as follows:—

S	24.38 per cent.
Fe	27.33 "
SiO ₂	22.55 "
CaO	15.08 "
Zn	3.20 "
Cu	0.80 "
H ₂ O	3.80 "
	97.14 "

The smelting of the foregoing charge results in the production of a matte having, approximately, the following composition:—

Cu	8.01 per cent.
Fe	57.24 "
S	34.42 "
	99.67 "

And in the production of a slag, as under:—

SiO ₂	32.88 per cent.
FeO	40.43 "
CaO	22.00 "
ZnO	3.45 "
Undetermined	1.24 "
	100.00 "

Which assays 2.40 oz. of silver.

Another slag, which is made at the "Kokomo" works, is of the following composition:—

SiO ₂	36.25 per cent.
FeO	39.81 "
CaO	12.33 "
ZnO	10.12 "
Undetermined	1.49 "
	100.00 "

The slags run in this process, may, as a general thing, be said to range between the following limits of composition:—

SiO ₂	from 30.00 to 40.00 per cent.
FeO	" 35.00 " 45.00 "
CaO	" 10.00 " 25.00 "
ZnO	" 5.00 " 14.00 "

The matte formed above is resmelted without roasting, either by itself or with sulphide ores added. It is not usual, in this second smelting, to use any fuel other than that used in heating the blast.

The concentration effected in this operation equals from seven to eight into one, and results in the production of a matte running from 45 to 50 per cent. copper, and in some cases as high as 60 per cent. copper. The silver contents vary from 70 to upwards of 300 oz., and the gold from 1 to 4 oz.

This is the shipping product, as so far none of the works operating this process have erected plant for the further treatment of their mattes, and is either sold outright or is sent to the refinery to be treated. As an example of the treatment terms that can be obtained upon these mattes, the following may suffice:—

The refineries make a 14 dollars per ton treatment charge upon mattes running up to 200 oz. of silver, with an additional 2 dollars per ton for each increase in grade of 100 oz. Ag.

They pay for 95 per cent. of the silver at the market valuation, and for all the gold at 20 dollars per oz. The copper is paid for at the rate of 1 dollar per unit. The lead must not exceed 10 per cent., or a rebate will be made. In fact some refiners charge for each unit of lead contained in the matte. This rebate will, however, never be made in the case of pyritic products, since they do not contain any of that metal.

The

The method of conducting the "pyritic" smelting operation differs very little from that of ordinary silver-lead smelting. The charging is done in precisely the same manner, the fuel fluxes and ore being fed in the usual sequence.

The blowing in of a furnace differs only in the absence of lead in the crucible, and is done entirely upon a charge of old slag.

The bulk of the matte is allowed to settle in the crucible, from which it is tapped, through the matte tap on either end of the furnace, at intervals dependent upon the speed with which the furnace is running.

The slag, together with some matte, is allowed to flow in a continuous stream through the water-jacketed side spout shown on plates 1 and 2 into the forehearth shown on plate 8, figs. 17, 18, and 19, in which the greater part of the matte escaping from the furnace with the slag is separated, and is drawn from the lower tap shown in fig. 17, and shown enlarged in fig. 19. The almost completely cleansed slag flows continuously from the spout situated near the top of forehearth (fig. 17) into a final settling pot, which is simply a large slag pot, with three stout legs and a detachable carriage, by means of which it is placed in position, and removed therefrom when sufficient matte has been caught therein. From this final settling pot the slag overflows in a thin stream into the granulator, whence by means of the water it is conveyed to the dump in a finely granulated condition. The contents of the final settling pots are re-run. The matte is cast into thin sheets, about 1 inch thick, by being poured into flat cast-iron plates with raised rims. The plates may be of any convenient size; in this form the matte is very readily broken up into suitable pieces for re-treatment or for shipping.

The forehearth mentioned above is the result of a good deal of trial and failure. It is found to be more effective and much less costly than the somewhat complicated fire-brick lined water-jacketed hearths that have preceded it. It is used entirely at the Kokomo works. It is kept open as long as possible by means of coke or charcoal placed upon the top of the slag, but when it does freeze up, a duplicate hearth is run up to the tap upon the opposite side of the furnace, which is opened, and the first one closed; the frozen hearth is then wheeled to the end of the short length of railway, upon which it stands, where the pins are knocked out and the side plates removed; the mass of slag and matte is lifted away, the plates are put together again, and the hearth is once more ready for use.

The hearth weighs complete about 3,300 lb., and costs on the cars at Denver 125 dollars; freight to San Francisco at 1.40 dollars per 100 lb., 46.20; 171.20 dollars at San Francisco.

The granulator used in connection with the above is a very simple and remarkably effective piece of apparatus, and consists of a piece of 6-inch wrought-iron pipe of any desirable length, one end of which is closed with a screwed iron cap, through the centre of which passes a 2-inch water pipe, which continues up to within an inch or two of the opening in the upper side of the 6-inch pipe. (See fig. 67 B.B.) The other end of this pipe connects with a wooden flume of any convenient size, lined with sheet-iron to withstand the attrition of the sharp granules of slag. Sufficient fall must be given to this pipe and flume to enable the stream of water to keep them clear. The water nozzle C, fig. 67, is best made tapering as shown, or flattened, in order to increase the velocity of the jet. To operate the granulator, water is turned on by means of the valve K, fig. 67, and the overflowing slag from the settling pot is allowed to fall directly into the water jet, issuing at C, where it is instantly granulated and conveyed by the water through the flume to the dump. A neater method of getting rid of slag than this cannot be conceived; the whole operation goes on continuously without noise, without steam, or disturbance of any kind. It is needless to say that a considerable saving in pot-pullers' wages is effected by this device.

In populous neighbourhoods a market for this slag is being created, it is used in place of sand and pebbles in concrete, for which it is particularly well adapted. In addition to which a resident of Denver claims to have invented a simple reverberatory treatment, by which this substance is converted into hydraulic cement.

Mr. Bretherton, of the American Smelter, at Leadville, has tried the experiment of granulating matte in the manner mentioned above, in order to remove the necessity of pulverising before roasting. The idea promised well, but I am informed that the matte in being so suddenly cooled, takes the form of shot, the outer surfaces of which resemble chilled metal, and are too hard to be accessible to the roasting action of the furnace. The experiment has, therefore, not been quite successful.

Specification for Hot Blast Water Jacketed Smelting Furnace, 33 in. by 140 in., as used in the "Austin" or "pyritic" process, for the treatment of low-grade argentiferous and auriferous iron and copper pyrites, zinc-blende, &c.

Columns.—Four cast-iron columns, 8 inches diameter at the bottom, and tapering to 7 inches diameter at the top, 1 inch metal; a flange cast solid on bottom end of column, 16 in. by 16 in., and one bracketed flange at top end, 16½ in. by 16½ in., all 1½-inch metal. The columns are faced off on both ends, making them of uniform length. The necessary lugs are cast on the columns; all holes drilled to receive deck-beams and brace-brackets for carrying bustle-pipes.

Deck-beams.—One set of deck or mantel beams, as follows:—Two girders of two 12 in. 32 ✕ beams, 16 ft. 7 in. out to out; two girders of two 12 in. 32 ✕ beams, 7 ft. 8 in. out to out. The girders fitted with cast-iron separators, and bolts about every 30-inch centres, and 16 inches across over all. All necessary holes drilled for lugs, bracket-irons, and skew-back castings, the necessary lugs and brackets forged and attached for receiving irons to carry the bustle-pipes. The girders are fitted together with heavy splice-plates bolted with eight bolts at each joint.

Skew-backs.

Skew-backs.—Four skew-back castings bolted to girders on the corners to receive the thrust of the brick arches. They are made of 1-inch metal, with brace brackets cast on the inside.

Buck-stays.—Twelve cast-iron corner buck-stays, 4 in. by 4 in., 1-inch metal, 6 feet long, and four 5 ft. 1 in. long, with the necessary lugs for receiving the tie-rods.

Tie-rods.—Twenty-two buck-stay tie-rods, $\frac{7}{8}$ -inch diameter, 17 feet long, nuts at each end. Twenty-two buck-stay tie-rods, $\frac{7}{8}$ -inch diameter, 8 ft. 1 in. long, nuts at each end.

Lintel girders.—Two girders for top of charging-doors, each of two 4-in. $7\frac{1}{2}$ ✱ beams bolted together with five sets of separators, and bolts 10 inches across flanges; length over all, 14 feet 2 inches.

Charging doors and frames.—Four cast-iron door-jambs for 13-inch wall, $\frac{7}{8}$ -inch metal, 4 ft. 10 in. long. The guides are cast solid on jamb, returning on the outside of wall; two $\frac{5}{8}$ -inch grooves made smooth to receive the sliding doors. Two centre columns, 10 in. by 6 in., $\frac{3}{4}$ -inch metal, 5 feet long, faced off to make uniform lengths, columns are flanged inside on both ends; two guide-plates (one for each column), are provided and bolted to the 6-inch side of the columns, grooves made smooth to receive sliding door. Eight $\frac{7}{8}$ -in. by 14-in. anchor-bolts, with 6-in. by 6-in. anchor-plate for anchoring the jambs into place. Four feed-doors of 12 ✱ iron, 5 ft. 6 in. by 6 ft. 5 $\frac{1}{2}$ in., fitted with draw-lugs and stiffening angles. Each door is attached by lugs on the doors, which is brought together and fastened at centre with a ring to attach the wire rope to, necessary wire rope, and with eight iron sheave blocks with eye, and four iron buckets to load up and form balance weights.

Charging floor.—Eight cast-iron charging floor-plates, 3 ft. 2 $\frac{1}{2}$ in. by 6 ft. by 1 $\frac{1}{4}$ in. Four cast-iron charging floor-plates, 1 ft. 10 in. by 4 ft. 2 in. by 1 $\frac{1}{4}$ in., with all necessary holes drilled therein.

Jack-screws.—Eight complete jack-screws for holding up and adjusting the furnace bottom. Said screws are 10 inches square at base, and 22 inches long over all. The screw proper is 2 $\frac{1}{2}$ -inch diameter, square-cut thread; are all thoroughly fitted.

Furnace bottom.—One cast-iron furnace bottom, made 62 inches over all in the widest part, and 13 ft. 1 in. over all extreme length, 2 $\frac{1}{2}$ inches thick, with strengthening ribs 3 in. by 2 $\frac{1}{2}$ in., and a 1-in. by 2-in. flange around it to form shoulder for jackets. This bottom is made in two pieces, planed joint, drilled holes, and bolted together with 1 $\frac{1}{2}$ -in. bolts, 16 inches centre to centre. Seat pockets are provided to receive the jack-screws. All necessary lugs are provided, holes drilled to receive the screws for adjusting the spouts.

Jackets.—One set complete, comprised of fourteen side jackets, four end jackets, two water blocks, four side and two front sump jackets. Two of the fourteen jackets are made of steel; balance of all the jackets are made of cast-iron, made in dry sand. All jackets have planed joints, all necessary hand holes and all holes tapped for the required piping. The side jackets have two tuyere holes in each, bored out to receive tuyeres; the end jackets have but one each, which are bored out in like manner. Each jacket has dovetail lugs cast on it to receive the loose lugs, and 112 cast-iron lugs, with necessary bolts for securing jackets in place.

Spouts.—Two cast-iron water jacketed spouts, fitted ready for adjusting screws; two square thread-adjusting screws, fitted with forged jack-screw head one side, and a loose nut, tapped and secured to furnace bottom plate. This device, with all necessary straps, &c., is for adjusting the above spouts at will, as required.

Bustle pipes.—Bustle-pipes are made of cast-iron $\frac{3}{4}$ inch thick, 12 $\frac{1}{4}$ inches outside diameter. They are made in sections; flanged ends, faced, drilled, and bolted with all necessary bolts. There are two pieces 6 ft. 8 in., two pieces 8 ft. 6 in., and one piece 6 ft. 11 in. long, with four elbows, one tee 5 ft. 7 in. long, with branch to receive main, 16 $\frac{3}{4}$ in. in diameter. The above bustle pipe has sixteen branch elbows; said branches are faced to true joints. The drop pipes are sixteen in number, with top end elbow shape faced off. Between the elbows on bustle pipe and drop pipe is placed a finished adjusting flange. These are secured together, and to the bustle pipe with $\frac{7}{8}$ -inch bolts, each fitted air-tight. The lower end of drop plates are cast with an outlet on each side. Each outlet is fitted with a tee for tuyere pipes, and between each tee and the drop pipes there will be tight-closing air valves; said valves are made of steel, finished to work against a finished iron seat. The valves are worked by fulcrum levers and link, and are held in any position by lock nuts, and are all thoroughly fitted in place. The above-mentioned tees are made tapering and bored out to receive the tuyeres.

Tuyeres.—Thirty-two forged steel tuyeres, turned to fit into the tees mentioned above; the small ends of tuyeres finished to fit the bored tuyere openings in the jackets. The large end fitted up with a double-handled reducer, containing the peep-hole. The said peep-hole is covered with mica, and held in place by a brass peep-hole cap, screwed into place. All the necessary wrought-iron clamps, bolts, and cap-screws, supplied to fit all into position.

Brackets to carry Bustle Pipes.—Eight brackets for carrying bustle pipe, made of tee and bar iron, fitted up with necessary bolts and with bolts for securing them to the columns and deck beams respectively.

Water Pipes.—A complete set of water pipes, as follows, to wit:—The main pipes are of cast-iron, provided with branch pipe openings, drilled and tapped to receive their respective pipe. All sections with flanged ends, fitted together with gaskets and bolts;

bolts ; all flanges faced to joints. The sections are all 3-inch inside diameter, and there are two sections 8 ft. 8 in., two 8 ft. 1 in., one 8 ft. 6 in., and one 2 ft. 6 in. long, three ells, and one flange cap. The branch pipes for supply are comprised of 1-inch fittings, excepting the hose, which is $1\frac{1}{4}$ -inch.

Sundry fittings as follows:—

Sixty-eight nipples.		
Four pieces of pipe	6 inches long.	
Two	"	$6\frac{1}{2}$ "
Ten	"	7 "
Two	"	$7\frac{3}{4}$ "
Two	"	3 "
Eight	"	8 "
Two	"	$20\frac{1}{2}$ "
Four	"	14 "
Six	"	15 "
Two	"	16 "
Three	"	18 "
Two	"	$28\frac{1}{2}$ "
Fifty ells.		
Two unions.		
Thirty angle valves.		
Eighteen pieces of $1\frac{1}{4}$ -inch rubber hose	17 inches long.	
Two	"	28 "
Four	"	26 "
Two	"	$26\frac{1}{2}$ "
Two	"	29 "

Discharge Pipes as follows (1-inch diameter):—

Fifty-two ells.		
Eighteen nipples.		
Two pieces of pipe	6 inches long.	
Two	"	7 "
Six	"	5 "
Two	"	8 "
Four	"	16 "
Two	"	10 "
Two	"	15 "
Two	"	18 "
Eight	"	21 "
Two	"	24 "
Two	"	22 "
Two	"	30 "
Two unions.		
Two pieces of $1\frac{1}{4}$ -inch hose	20 inches long.	
Two sections of trough made of 16 \times galvanized iron	6 inches wide, $3\frac{1}{2}$ -inch radius,	
	with necessary discharge nipples. All the wrought-iron brackets and bolts required	
	to carry supply and discharge pipes are supplied.	

The specification given above is that of the furnaces in operation at the works of the Summit Mining and Smelting Co., at Kokomo, Colorado.

The area of the iron-shod feed floor is 176 square feet. The buckstays run straight up to 20 feet above the feed-floor, which is 15 feet above the foundation ; and there are seventeen courses of brick above the top of buckstays.

Foundation.—The foundation is made of stone or brick laid in cement, with flag-stone blocks embedded flush at top to receive columns and jack screws. The thickness of the foundation will, of course, depend upon the ground in which it is laid. If the furnaces are being erected at existing works, the foundation may be very economically made of a sort of slag "breccia" made by cementing together coarsely-broken fragments of slag by means of fluid slag.

The furnaces used in pyritic smelting are of two kinds ; the first one is that specified above, in which no dust chambers are used. The furnace top is finished off with a sheet steel or iron stack about 30 feet long, through which the products of combustion and decomposition are discharged directly into the atmosphere. This is not a good practice, for not only are the fumes very disagreeable to inhale but they are actually injurious to both plant and animal life ; and in addition to that there is the economic objection to be urged, that the strong current of heated gas escaping from the furnace draws with it solid particles which carry more or less value, and their ejection into the air results in some loss.

It appears to the writer that a very good proposition is presented here, in connection with this furnace. If, in one of the districts of New South Wales in which large bodies of argentiferous pyrite and highly zinciferous galena occur, in which the zinc carries silver as well as the lead, a plant of this nature was erected to work the pyrite directly, and connected with a crude system of sulphuric acid chambers, an acid of sufficient strength to leach the zinc from the roasted galena could be very cheaply produced. The silver in this solution could be inexpensively recovered by cementation, and the zinc could be recovered as sulphate, or as metal by electrolysis.

By referring to the analysis of the charges treated by this furnace (page), it will be seen that a single stack in twenty-four hours discharges 27.90 tons of sulphur into the air, which is equal to 69.75 tons of sulphuric anhydride SO_3 , or 85.44 tons of absolute sulphuric acid H_2SO_4 . The whole of this sulphur is already paid for in the treatment charges made upon smelting the pyrite ; and moreover, some of the sulphur leaves the furnace in the form of the higher oxide SO_3 , which simply needs to be dissolved in water. To convert the whole of the SO_2 to H_2SO_4 would require a lead chamber, steam, and either potassium or sodium nitrate. The acid produced would necessarily

necessarily be crude, and would most likely contain metallic sulphates derived from particles of ore which would, in the absence of special means for their collection, be carried into the acid chamber. It would, however, be quite good enough for the purpose, and might, in addition, find a ready sale at a low figure in other localities.

Bricks required to construct the furnace.—21,000 common red bricks and 5,000 fire bricks.

Weights and prices of complete ironwork.

Price of complete ironwork as specified above, on the cars at Denver ...	3,700·00 dollars.
Weight is 59,000 lb.	
Freight to San Francisco at dol. 1·40 per 100 lb.	826·00 ,,
Price at San Francisco.....	4,526·00 ,,
Manufactured by the Colorado Iron Company, Denver, Colorado, U.S.A.	

In the second case the design of the furnace is somewhat modified, the feed-floor is 18 feet above the top of the foundation, and a downtake is provided to make connection with the dust chambers. The feed-hole on furnace top is simply an aperture in the floor, closed by a counterpoised cover plate of cast-iron. The following additional specifications will cover all the points of difference:—

Bottom plate.—One heavy cast-iron bottom plate 12 ft. 9 in. long, and 3 ft. and 10 in. wide inside the flanges, $2\frac{1}{2}$ inches thick, heavily ribbed, and with a flange around the top-side to form a shoulder for the water-jackets, and eight lugs on underside to form seats for the top of jacket-screws.

Water-jackets.—

12 side-jackets 20 inches wide by $55\frac{1}{2}$ inches high.
2 " 20 " " 45 " "
4 side sump-jackets.
2 front " "
4 end-jackets $22\frac{1}{2}$ inches wide by $55\frac{1}{2}$ inches high.

All joints in the jackets are planed on a machine. Each side-jacket is supplied with two bored tuyere holes, and one hand-hole fitted. Each end-jacket is supplied with one bored tuyere hole, and one hand-hole fitted. The front sump-jackets are fitted with an adjustable spout adjusted with a temper-screw, said screw passing through a stationary lugged-nut attached to the bottom plate. All jackets are fitted with necessary tapped-holes for water connections, and with lugs on same dovetailed to receive bolt-lugs. Each set of jackets has 120 bolt-lugs, dovetailed to fit the lugs on jackets, and sixty bolt-rods with brass nuts. These are used for securing the jackets in place, making it exceedingly easy to remove any one or more, and replace when necessary. The jackets are made of select pig-iron. The cores are made in iron core-boxes, making the metal thickness uniform and of exceeding durability, if attention is paid to the cleaning. Every section is tested by hydrostatic pressure.

Water-pipes.—One set of cast-iron pipes fitted together with flanged face-joints, fitted with gaskets and bolts with all necessary drilling and tapped connections for the branches, and with a tapped flange to receive the main water-pipe. All necessary ludlow-valves with nipples, ells, pipe, and fittings, to make connections with jackets for supplying the cold water including the wrought-iron hangers for same. All necessary galvanised-iron troughs with connections and hangers for receiving the discharged hot water from the jackets. One piece of rubber hose with hose-pipe attached to main furnace water-pipe for wetting down around the furnace.

Columns.—Four cast-iron columns 8 ft. 5 in. long (to top of brackets) flanged bottom to said columns faced off in a lathe to make all a uniform length. The column is 8 inches diameter, 1 inch metal. These columns are used to receive the mantel plates which carry the brick-work above.

Mantel-plates.—Each mantel-plate is made of heavy channel-steel, curved to a proper radius to carry the brick-work above. The ends are fitted to the top of the columns, and eight heavy rods fitted to reach from column to column around the furnace, two to each section. These hold the thrust of the mantel-plates.

Water-jacketed mantel girders.—A set of auxiliary water-jacket girders made of steel-plate riveted to form. Fill the space from the top of the furnace-jackets to a point above the top of the arched mantels and inside of the latter. (See figs. 56 and 57, plates 16 and 16a.) These mantel girders carry the fire-brick lining of the stack, and at the same time protect the curved mantels carrying the main brick-work from the heat.

Petticoat-pipe, branch pipes, and tuyeres.—All fitted complete with metal joints, universal in action. Thirty-two tuyeres arranged in pairs with universal joints and independent shut-off valves for each, whereby the blast may be shut off from any one or any number of tuyeres, at pleasure, and any tuyere nozzle may be withdrawn for the purpose of introducing bars for removing obstructions inside the furnace. One flanged-blast valve fitted to pipes 24 inches.

Corner Buckstays.—Four corner buckstays, 8 feet long, of heavy cast-iron, provided with lugs to receive the rods.

Tie-rods.—Eight tie-rods, 17 ft. 6 in. long, 1 in. iron, with nuts both ends; eight tie-rods, 8 ft. 7 in. long, 1 in. iron, with nuts both ends. These are to secure the buckstays to place.

Floor-plates.—One set of feed floor-plates, $1\frac{1}{4}$ inches thick, equal to 193 square feet. The joints are made lap, and fitted with countersunk head-bolts. The inner edges are reinforced with wrought-iron, 4 in. by 1 in., riveted to place flush on top.

Cover-

Cover-plate.—One heavily-ribbed cast-iron cover-plate, to use over feed opening, fitted with eye-bolts, chain, and link for wire-rope attachment. One set of sheave-blocks, with bucket-weights, and wire-rope for raising the said feed-plate.

Down-take Irons.—One set of irons for brick-flue. Said flue connects furnace with dust-chamber, to wit—four 4-in. by 4-in. steel angles, about 16 feet long, with the bolts and nuts complete, and necessary lugs.

Hoods and Stacks.—Two sheet-steel hoods, with stacks, are furnished to carry off the fumes from furnace discharge-spouts, one each end or side.

Brick required.—Nine thousand common, for furnace; 5,000 fire-brick. Brick for dust-flue (down-take flue) not included.

The foregoing specifications are for one complete stack, ready for main blast-pipe and main water-pipes. The distance from top of foundations to feed-floor 18 feet.

Specifications for Hot-blast Stove.—Capacity to suit the above-specified Furnace.

Foundation.—The foundation is prepared in the same manner as for the smelting-furnace.

Doors and Frames.—Fourteen 14-in. by 18-in. iron doors and frames, with fifty-six anchors for same. The doors are hinged. Two fire-fronts, each with double fire-doors, lined, and with double ash-doors; doors hinged, and necessary anchors for same.

Steel Beams and Pipe-hangers.—Eight steel I-beams, 13 lb. per foot, 13 feet long. Ninety-six hangers, of flat wrought-iron, to loop over bearers and fasten to U-pipes, with iron bolts through lugs on the pipes, and each hanger fitted with two wedge-keys.

U-pipes.—Forty-eight cast-iron U-pipes, made of select pig-iron, and cast on ends in dry sand moulds. Each U-pipe has two flanges cast on same; said flanges faced off in a lathe; holes drilled and fitted with bolts and gaskets for fitting one to another, and with the main pipes.

Main Blast-pipe.—Four sections of cast-iron main blast-pipes, of square-box pattern, 1,233 inches area; all the necessary flanges cast on same, faced, drilled, and fitted with bolts and gaskets to secure the U-pipes to same, and to connect the sections together. One cast-iron Ell fitted ready to receive the cold blast, and to conduct it to the U-pipes, and the necessary box blast-pipe, with ells, flanges, gaskets, and bolts to connect the blast-stove with the smelting-furnace, said distance not to exceed 27 feet centre to centre.

Stacks.—Two cast-iron stack bases.—Two stacks, 18 inches diameter by 30 feet long, made of No. 16 steel, each fitted with stiffening bands and guy band, 300 feet of guy wire-rope.

Buckstays and Tie-rods.

Four old rail buckstays,	10 feet long.
" "	12 feet 6 inches long.
" "	6 feet 9 inches long.
Two "	6 feet 3 inches long.
" "	17 feet long, bent to suit contour of furnace.
" "	16 feet 6 inches long.
" "	5 feet 6 inches long.
Six loop rods,	17 feet 10 inches long.
Two "	20 feet 10 inches long.
" "	4 feet 6 inches long.
Eight loop anchors.	

Grates.—One set of grate bars to fill fire-box, 3 ft. 1½ in. x 14 ft. 5 in., with four rests for same.

Tiles and Asbestos.—Fifty-nine sections of special tile to form a ceiling over the U pipes, and 336 square feet of magnesia covering, and one barrel of plaster and 500 feet of copper wire for covering the hot-air pipes.

Bricks required.—Bricks required for one hot-blast stove to suit the above specified irons:—32,000 common bricks (red), 11,000 fire bricks, 6 tons of fire clay (ground).

Weight and price of complete ironwork and tiles of stove as specified.

On the cars in Denver.....	3,400 dollars
Weight, 85,000 lb.	
Freight to San Francisco, at \$1.40 per 100 lb.	1,190 "
Price in San Francisco	4,590 "

The general construction and design of the hot-blast stove will be understood by referring to plates 5, 6, and 7, figs. 10 to 16 inclusive. Fig. 10 represents a longitudinal section through fire-box and system of U pipes, showing general arrangement of the latter, which are forty-eight in number and 6 inches in diameter, internal measurement, and are connected to main air-pipe and blowers in eight series of six each, by means of the square cast-iron box-pipe shown at A and A', A being the induction and A' the eduction pipe. This latter is connected to the bustle or petticoat pipe of the blast furnace by means of a cast-iron service pipe, 16½ inches in diameter, and ¾-inch metal. This is completely lagged with magnesia fabric secured in place by copper wire, and carefully luted with a plaster of the same material.

The U pipes are suspended from I beam girders by means of wrought iron links, made adjustable by taper wedges. [See fig. 12, plate 6, and fig. 10, plate 5.]

The

The roof of the stove is made up of flat fire-clay tiles, made to embrace the U pipes just below the bend, and carefully luted with fire-clay at the joints, and the whole rendered fire-proof.

The combined capacity of the U pipes is very much greater than that of the induction and eduction pipes, so that the speed of the air current is very much reduced upon entering the stove, and at the same time the surface exposed to the heat is greatly increased.

The air enters the stove at the ordinary temperature of the blower room, and leaves it at between 600 and 700 degrees Fahr.

Fig. 11 shows the plan of the same combination, giving position of grate, fire, and inspection doors, the fire-brick wall which promotes the distribution of the heat amongst the heating tubes, and the escape flues leading to the double stack, and also showing completely the fire-brick lining of the stove.

Figs. 14, 15, and 16, plate 7, represent the stove in side elevation, stack-end elevation, and furnace-end elevation respectively, and are self-explanatory.

This stove has given satisfaction so far, wherever tried; it is, however, only capable of supplying one blast-furnace. Where a number of furnaces are operated it would be necessary to build additional stoves, or else to very largely increase the capacity of the general one. The erection of a stove for each blast-furnace would entail a very heavy expenditure, besides taking up a great deal of room, thereby increasing the area of the works, and, consequently, the cost of transporting ores and products about them.

Perhaps, with a stove built upon the principle of the "Siemens" regenerative furnace, the hot blast supply for a battery of smelting stacks could be more satisfactorily and inexpensively obtained.

The stove, as used, is either fired with solid fuel (coal, &c.), or with liquid fuel (residuum). The latter is the more convenient of the two, and is no more expensive than the former. Residuum results from the distillation of the more volatile constituents in the manufacture of coal-oil. It is a greenish-black semi-fluid mass, and costs at Leadville about 1 dollar 25 cent. per barrel. Where used, it is kept in zinc-lined tanks. Its fluidity is increased by means of a steam-coil, connected with the exhaust from the engine.

It is conducted to the stove or boiler room through a compound pipe, which consists of an outer iron steam pipe, surrounding an inner oil pipe. The outer pipe is constantly supplied with live steam. It is a good practice to pass the last few feet of this pipe through the fire-box. In this way the steam becomes superheated, and the oil is supplied to the atomiser in a highly heated condition, which promotes the complete combustion of the resultant spray. From this point the heat is handled by means of fire-bridges, fire-walls, &c., exactly as when coal or other solid fuel is used.

Residuum is used very extensively in Leadville and district under steam-boilers. It has been found a very satisfactory fuel. The facility with which it is handled, and its cleanliness, being amongst its chief recommendations. Perhaps the only objection that can be urged against it is the noise made by the atomisers. It is found to be easier on the boiler-plates than either coal or coke, as owing to the strongly reducing nature of its flame, very little scale through oxidation is formed. It makes little, if any, ash; and being completely combustible, does not foul the flues and fire-tubes with deposited carbon.

CHAPTER V.—THE BARTLETT PROCESS.

This process is in operation at the works of the American Zinc-Lead Company, at Canyon City, Colorado.

The aim of the process is the solution of the great problem which presents itself in the profitable treatment of complex zinc ores running low in gold and silver values. A great deal of attention has lately been given to this question, and a vast number of schemes have been advanced. These have, for the most part, been leaching propositions. The leaching operation proper being preceded by an oxidising or sulphatising roasting. The zinc sulphate (together with any other soluble sulphates that may be formed during the roasting) is leached with acidulated wash-water—the acid used sometimes being sulphuric, and sometimes sulphurous, &c. Few if any of these schemes, owing to their costliness, and to the limited market for the zinc salts produced by them, can be regarded as successes up to the present time, nor can it be said that any of them promise much in the near future.

In addition to the many leaching methods proposed there have been some few electrical methods propounded. None of these have, however, had any extensive trial, and may be regarded as still in the experimental stage.

The Canyon City process is a modification of the "Joplin Missouri" ore-hearth method for the production of paint pigments from lead ores.

Mr. Bartlett, in a paper upon the subject, written for the *Colorado School of Mines Scientific Quarterly*, says, "The basis of the patents used at the works is the fundamental principle that unroasted zinc ores can be mixed with coal, and the zinc and lead expelled by heat and air, without loss of silver, provided there is kept in the charge an excess of sulphur. This addition of sulphur is made preferably in the form of iron and copper sulphides."

Mr. Bartlett leaves his readers in doubt as to the exact meaning of the term excess of sulphur, as applied in this case; and, with a certain amount of inconsistency, goes on to say, in a latter paragraph of the same paper, that the pigment, as put upon the market, contains from 4 to 5 oz. of silver per ton.

Perhaps

Perhaps it will be well to give here a description of the process, as given in the originator's own words. The following is from Mr. Bartlett's paper quoted above. The writer will append some additional data which have been gleaned from independent sources.

Mr. Bartlett says: "The process is brief, consists in blowing up on a perforated grate, with a heavy air blast, the raw ores mixed with about 75 per cent. of their weight of any fine coal. This eliminates a large portion of zinc, lead, and sulphur. The process is stopped before the sulphur contents are too much reduced, thus retaining the silver. A cinder or scoria is formed which retains nearly all the gold, silver, and copper.

"This scoria is then smelted into a matte, in a peculiar blast furnace, mixing with the cinder other ores, principally copper. In this case, as in the other, sulphur is present in excess, and the process is, strictly speaking, a pyritic smelting, since the sulphur largely replaces the fuel. The slag formed in these furnaces is kept very silicious, and rarely contains more than $\frac{1}{4}$ oz. of silver. While the zinc contents are from 2.5 to 7 per cent., the silica contents range from 35 to 42. Any less percentage of silica would retain the zinc and cause more loss of silver. The charge is run low and hot, and a complete volatilisation of the zinc and lead is intended.

"The zinc contents in the charge, including fluxes added, usually run from 12 to 20 per cent. Lime is used to a limited extent. Any more than 5 per cent. of lime, however, causes a sticky, pasty slag, hence iron is used mostly for slagging off silica. The loss by volatilisation is greater in the blast furnace than in the first or blowing-up process, and is greatest when the matte produced is the least in quantity.

"The fume produced in both the blowing-up process and in the blast-furnace process is a mixture of ZnS , $ZnSO_3$, $ZnSO_4$, PbS , $PbSO_4$, $PbSO_3$, containing some carbon, and many of the rarer elements, as well as Sb and Hg . This fume is submitted to a roasting and grinding process, whereby the more volatile elements are driven off, carbon burned out, and the sulphites reduced. The completed product is a dense white homogeneous compound, consisting mainly of zinc oxide and oxysulphate of lead. This product finds a ready sale as a substitute for white lead and zinc white. It makes a fine opaque body for painters' use, which is equal to the best white lead, and the sale of these goods is constantly being increased.

"The Canyon City works are the only ones in the world treating silver-bearing zinc ores. The different processes used are covered by fourteen patents. The chief drawback is the limit in production. The trade at most cannot absorb more than 50 tons daily of the pigment, and as 200 tons of ordinary zincy ores will produce this amount, it follows that Colorado will always have a sufficiency of ores for the purpose. Modifications of this process can be used, however, in treating any class of zinc-bearing ores. By allowing the zinc fumes to escape, and only saving the silver, gold, and copper, the process becomes applicable to any ore, the only requisite being a fairly cheap supply of coal. So far as the writer knows, it is the only reliable process in use to-day which will profitably extract silver from zinc ores.

"Modifications of the process can be worked out to apply to any ore which does not contain any material value in lead, as any lead in the ore is bound to be lost when pigment is not being made. But as any quantity of ores exist which contain valuable quantities of silver and gold, with little lead, the lead question can be ignored.

"Take many of the ores of Gilpin County, for instance, especially the concentrates, which often run up as high as 35 or even 40 per cent. zinc, with 1 to 2 oz. gold, 40 to 100 oz. silver, and from 2 to 8 per cent. lead. Such ores can be treated by a modified process at much less loss and expense than is now incurred at the lead smelters.

"It may be added that the process as carried out at Canyon is made up out of old, well-known methods, by combining and improving with the addition of but few really new processes. One great advantage is that fine ores can be used. The cementation which takes place in the blowing-up process makes a cinder of the finest kind of ores, which will hold together in any blast furnace.

"Summing up, the process as used in Canyon is as follows:—

"I.—*Blowing-up Mixture*.—Zinc ore crushed to pea and dust size, plus 75 per cent. of fine coal. Average contents: Zn., 30 per cent.; Pb., 8 per cent.; FeS. and silica to balance; Ag., 10 to 20 oz.; Au., 1–10 oz.; Cu., 1 to 2 per cent. Treatment, by blowing four hours. Results: Fume (a) and cinder (b).

"II.—*Treatment of Cinder*.—Cinder (b), containing ZnS., 12 to 15 per cent.; Pb., 1 per cent.; Ag., 10 to 20 oz.; Cu., 1 to 2 per cent.; balance, FeO., FeO., SiO₂, FeS., &c. This is mixed with 5 per cent. lime and copper ore added, which may contain Ag., Pb., Zn., Fe., S., and SiO₂. If too silicious, iron fluxing ore is added. This is smelted in the blast furnace with a small per cent. of coke. Results: Fume (a), slag (c), matte (d).

"III.—*Treatment of the fume*.—The fume, which is collected in woollen filter-bags, is submitted to the roasting and grinding process, and is sold for pigment. The impurities driven off contain a mixture of As., Sb., Hg., Fe., SO₂, Fl., Cd., and many rarer elements. The pigment contains 4 to 5 oz. of silver per ton.

"IV.—Slag (c) is thrown away. This contains .75 oz. Ag., 2 to 7 per cent. Zn.; no lead or gold.

"V.—Matte (d) is either refined on spot or sold for refining; contains 75 to 200 oz. Ag., $\frac{1}{2}$ to $\frac{1}{4}$ oz. gold, 30 to 40 per cent. Cu., 2 to 4 per cent. Zn. While the process looks simple and easy, it requires experience in working. Especially is this true if pigment of a pure white is to be made, as the slightest colour in the goods would injure their sale. The matting furnaces also require quite a different treatment from that

that in use in copper and lead smelting. The great excess of zinc and sulphur, together with silica in excess, makes a different charge to run and one which, if attempted in the ordinary blast furnace in the usual way, would almost instantly freeze the furnace.

"Success in working this scheme, as in many others, depends largely on experience and practice."

The process, if not successful at Canyon City, cannot be successful anywhere; the situation of the works is, perhaps, the best possible; they are supplied by the local coal mines with an unlimited amount of slack at 50 cents per ton,—indeed, the writer is informed that a contract for a large amount of this slack has been made at 25 cents per ton. Then again, it is on the direct line from Leadville, which is the source of the most favourable kind of zinciferous tailings for the process. Mr. Bartlett claims to be able to treat profitably the immense bodies of tailings, such as the "Colonel Sellers," which are lying at Leadville, and which can be purchased on the ground for 75 cents per ton, and landed at the works at Canyon City for 4 dollars per ton. The average composition of these tailings is as follows:—

SiO ₂	=	10·00 to 12·00	per cent.
Fe.	=	20·00 ,, 24·00	,,
Zn.	=	19·00 ,, 24·00	,,
Pb.	=	4·00 ,, 8·00	,,
Ag.	=	10·00 ,, 15·00	oz. per ton.

Although it is claimed that the process is entirely covered by patents, there is a remarkable amount of reticence displayed by those connected with the concern in regard to what is being done at the works; in fact it is impossible to secure the privilege of an independent examination of the works, and, therefore, precise information in regard to the process is very difficult to obtain. The following additional data have, however, been gleaned.

The mixture of coal slack and ore is treated in furnaces not unlike assay muffles in form, the capacity of which is about 1 ton per diem each; the works contain forty-six of these furnaces, in a current of heated air, introduced through tuyeres; the resultant zinc-lead fume is conducted over a regenerative fire to long flues, where it is cooled and finally collected in woollen bags [see description of the Bartlett Bag House]. This "raw pigment" is refined by being passed through moderately heated (dull red) iron tubes—these are inclined at a small angle with the horizontal—uniform transit through which, and uniform exposure of the charge to the evolved gases (SO₂?)—it is claimed that this gas has a bleaching effect upon the pigment—during transit, is secured by means of revolving screws. During this treatment carbonaceous matter is burnt off, and the sulphides reduced. During the operation a carefully regulated current of air is made to circulate through the tubes, the product (white pigment) is delivered from the lower end of the tubes into the boxes, bins, hoppers, or any other suitable receptacle, and after packing is ready for shipment.

A sample of the product obtained from a point in the flues 400 feet from the furnace assayed 1 oz. of silver per ton. This cannot, however, be regarded as proof that no more than this amount of silver per ton of pigment is volatilised, since the flue-dust is well known to be richest at the beginning of the chambers.

The slag assays made at the company's office gave a trace of copper and 1 oz. of silver per ton; the record of lead and zinc contents of these slags was not accessible, but samples taken and assayed privately gave:—

No.	Zn.	Cu.	Pb.	An	Ag.
1	7·20	1·10	None.	oz. None.	oz. 1·4
2	5·75	1·30	„	„	1·5
3	6·45	0·96	„	„	0·94

The high-grade mattes are shipped to New York refineries, and bought upon the following bases:—5·5 cents per lb. for the copper, 95 per cent. of the contained silver and gold is paid for at the market valuation; there is no treatment charge made. The freight to New York is 14 dollars per ton.

The low-grade mattes are shipped to Argo, near Denver, where a treatment charge of 20 dollars per ton is made, and the metallic contents of the matte paid for as follows:—Copper, 5 cents per lb.; 95 per cent. of the silver and gold is paid for at the market valuation. The freight to Argo is about 3 dollars per ton.

The books of the company show that in 1892, 2,397,929 lb. of pigment were shipped, the greater part of it going to the company's warehouse in Chicago, where the product is graded, packed in barrels, and finds its way into the market. 250,000 lb. of pigment were sold directly from the works—the larger part of it went to San Francisco, the remainder was sold to paint works in Colorado. The books, however, do not show that the whole of the pigment was sold, no record of the receipt of payment for it being accessible.

A short description of the "Bartlett Bag Process," for the recovery of flue-dust and fume, as used at the Canyon City Works, and a modification of which is in successful operation at the Globe Works at Denver, may be of value, since it will help to elucidate the method of recovering, not only the paint pigment produced at Canyon city, but also the method of applying it to the condensation of silver-bearing fume produced in argentiferous lead-smelting.

The

The fumes are drawn from the furnace by any rotary suction device, such as the Sturtevant exhaust fan, the orthodox size of which is 6 feet in diameter, and makes from 290 to 300 revolutions per minute. They are conducted through a dust chamber (of brick) about 40 feet long, 18 feet high, and 26 to 27 feet wide; they are then passed out at the top of the chamber through a horizontal pipe (of sheet-iron) 5 feet in diameter, which is supported upon iron columns 20 feet in height, to the fan, and from it through another sheet-iron pipe 4 feet in diameter, supported upon 12-foot iron standards, to the bag-house, which is a brick building 96 feet long, 50 feet wide, and 45 feet high, and is divided into two sections by a partition passing through its length; the building is also divided into two storeys by a floor 12 feet from the ground. The materials used in constructing the house are ordinary red bricks and iron piping. The lower floor contains the sheet-iron hoppers, into which the dust collected in the filter-bags is discharged. These are disposed in four rows of nine each; they have the form of inverted four-sided pyramids, with their apices truncated, and the apertures thus formed are fitted with sliding doors or dampers; they are supported by iron pipes enclosed in burnt-clay drain-pipes. The upper ends of the hoppers are covered with thin sheet-iron, which is pierced by sixteen 18-inch holes fitted with thimbles, which are $12\frac{1}{2}$ inches long. The bags are made of unwashed wool, are about 58 inches in circumference, and 33 feet long when new; their upper ends are firmly closed with strong cords, which also serve to suspend them from the beams provided for that purpose near the roof. The lower ends of the bags fit over the sheet-iron thimbles, and thus the dust hoppers and the bags are brought into connection. There are 576 (?) bags in the building. There are foot-platforms or gangways built upon light iron scaffolding between every two lines of bags.

The main flue pipe is 4 feet in diameter, and varies in length from 350 to 400 feet. This is in order to allow the gases time to cool in transit from the brick-dust chamber to the bags. At the bag-house end the main is tapped by four branches, which connect with the end hopper of each of the four rows, the hoppers are connected together in series of nine, as mentioned before.

When the gases reach this point they are cool, and are forced by the fan into the hoppers, and thence upward into the bags which intercept the dust, with which the draught is laden, and also filter the fume, which falls down into the hoppers. These are emptied at intervals of two or three days.

At silver-lead works the greater part of the flue-dust proper is caught by the dust chambers, but not so the fume. This generally escapes into the atmosphere. It is this fume, together with a small amount of dust, which the flues fail to arrest, that the bag-house system is designed to catch.

The writer understands from Dr. Iles that the saving effected by the introduction of this system at the Globe Works is quite considerable. When applying the bag-house to the collection of silver-lead smelter fume the series of flues described above may be replaced by the ordinary flue chambers, providing that the latter are of sufficient length to allow the gases to cool before entering the bags. In this case the gases from the roasters must not be mixed with those from the blast furnaces, since the acid nature of the former would destroy the fabric of which the bags are composed.

CHAPTER VI.—ORES OF COLORADO AND THEIR OCCURRENCES.

The ores of the metals in Colorado are confined almost entirely to the rocks of the mountainous region. The richest deposits are, indeed, found in the very hearts of the various mountain systems, as, for instance, the Leadville deposits and those of Aspen, Central, Idaho Springs, Silverton, Telluride, Ouray, &c., &c. As the mountains are forsaken for the plains, mining, other than placer, becomes scarcer and scarcer; even the foothills are productive of coal only.

Although the metals are confined to a few geographical localities, they are by no means so restricted in their geological occurrence, as deposits of these ores are found in nearly every geological age. The veins of Boulder, Central, and Georgetown occur in the Archean age, but are sometimes found at the contact between porphyry and gneiss. The great deposits of Leadville and the lesser ones of Alma occur in the Silurian and Carboniferous ages. The veins of the former occur at the junction of quartz porphyry and dolomitic limestone generally.

Those of Gunnison and Crested Butte occur in the Cretaceous age, which is also characterised by the occurrence of iron ores.

The rich veins of the San Juan region are in the rocks of the Tertiary, and in the Triassic eruptive rocks.

The Quaternary age has its representative in the gold of the placer regions, but this has probably been derived from the detritus resulting from the degradation of some of the older rocks.

Although the metals are very well distributed among the different formations, those of the older periods, *i.e.*, the Archean, Silurian, and Carboniferous, are by far the greatest producers.

The minerals with which the precious metals are associated are, in Colorado, varied and complex.

In Leadville the ore deposits are almost invariably found in limestone. It would appear that the limestone had derived its mineralisation from the eruptive quartz porphyry with which it is in juxtaposition, since the latter is nearly always mineral-bearing, while, on the other hand, the former rock is always barren, excepting in the vicinity of its contact with the porphyry.

The

The oxidised ores are chiefly carbonates and sulphates, of which the principal bases are iron, manganese and lead, and silicates, such as crysocola and calamine. The carbonates are of two classes, the hard or massive, and soft or sandy carbonates. The silver in these ores is chiefly in the form of cesargyrite, embolite, and occasionally pyromorphite and wulfenite. Latterly minetite has been found in considerable quantities.

The great superstratum of oxidised ores in Leadville, as has been the case in nearly all the mining camps, has been nearly used up, and the sulphides now comprise the greater part of the ores that offer themselves to the miner. These sulphides are for the most part galena, pyrite, and chalcopyrite, with more or less blendeinter mixed. They seem to contain silver disseminated through their mass in various forms, associated with the following:—Argentite, polybasite, tetrahedrite, stephanite, &c.

In the San Juan region, the veins occur chiefly in the eruptive rocks of the Tertiary and Triassic periods, and are fissure veins penetrating eruptive sheets of igneous rocks, and consist of hard gray quartz, which sometimes resembles jasper in its general colouring, structure, and hardness. The veins contain mineral in various forms, as galena, tetrahedrite, polybasite (tellurides, petzite, and hessite), pyrite, argentite, proselite, pyrargyrite, stephanite, cuprite, azurite, malachite, crysocola, bismuthinite, &c., &c. The principal productive mineral is, however, argentiferous galena.

Pitkin County.

The Aspen deposits occur in the same geological horizon as those of Leadville, *i.e.*, the lower carboniferous limestone, but, unlike those of the latter place, they do not occur in contact with the eruptive porphyries, but are found principally in the contact between two kinds of limestone, *viz.*, the pure blue carbonate of lime and the brown double carbonate of lime and magnesia (dolomite). The productive ore is limestone, pierced by small gashes or fissures, filled with silver-bearing galena, polybasite, and stephanite. Barite is very common in this camp, and so also is magnesia, from the dolomitic limestones.

A few analyses of the characteristic ores of the principal mining districts are given below.

It has already been said that the oxidised ores of Leadville have disappeared as the depths of the workings increased, and sulphide ores are now the rule. In addition to this, the percentage of zinc has increased, and the silver contents decreased, so that the profitable smelting of the ores of to-day is a much more difficult proposition than was presented ten years ago, at which time the ores were simply mined and smelted directly. Such a thing as a roasting furnace was scarcely known in the camp. A very good idea of the altered conditions of mining and smelting of to-day and of ten years ago may be obtained by comparing the two following analyses, the first of which is taken from Guyard's monograph, "Argentiferous Lead Smelting," written ten years ago, and represents an average sample of 1,000 tons of ore, collected from every producing mine at that time.

The second is taken from "Hoffman's Metallurgy of Lead," p. 37.

H ₂ O	5.58	per cent.
CO ₂	5.58	"
PbO	25.77	"
Ag	0.31	"
SiO ₂	22.59	"
S	0.90	"
FeO	0.89	"
Fe ₂ O ₃	24.86	"
MnO	4.03	"
Al ₂ O ₃	3.99	"
CaO	2.36	"
MgO	3.04	"
As	0.01	"
Sb	0.02	"
(KNa) 2	0.98	"
Cl	0.09	"
Au	Trace.	"
Cu	"	"
Zn	"	"
Total	101.00	

	Minnie Mine.		Moyer Shaft.		Colonel Seller's Mine	
	Galena.	Mixture.	Galena.	Mixture.	Lead Ore.	Zinc Ore
Pb	72.65	50.86	44.0	15.0	27.40	10.70
Zn	5.66	12.86	13.0	24.0	25.00	24.50
Fe	1.60	9.30	11.0	16.0	6.00	16.60
S	15.66	24.50	30.0	40.0	35.00	40.00
Ag., oz.	41.50	11.50	14.0	11.0	26.90	54.30
Au	Trace.	Trace.	.....	.....	Trace.	Trace.
Insol	4.12	1.88	.....	.....	3.00	3.40
H ₂ O .....	.....	.....	.....	.....	2.00	2.10

It cannot be said that the above represents an average of the ores of Leadville to-day, but it will serve to show how greatly the character of the ores have changed. Further evidence of this is given by the presence of the costly roasting-plants, which are attached to each and every smelter in the camp, excepting, of course, the "pyritic" smelters.

The

The following analyses of Aspen ores have been made by the writer for the purpose of showing their principal constituents :—

No. 1.		No. 2.	
SiO ₂	15·2	SiO ₂	16·20
Fe.	6·0	Fe.	1·20
BaSO ₄	5·70	BaSO ₄	25·30
CaO.	26·90	CaO.	14·00
Ag.	18·00 oz.	Ag.	32·50 oz.
H ₂ O	3·00	HO	3·30
		Pb.	4·40
No. 3.		No. 4.	
SiO ₂	20·00	SiO ₂	14·80
Fe.	7·10	Fe.	2·00
BaSO ₄	39·70	BaSO ₄	30·00
CaO.	11·50	CaO.	6·20
Ag.	40·00 oz.	Ag.	70·30 oz.
H ₂ O	4·20	Pb.	17·10
		HO.	3·00

Ores of San Juan region may be represented by the following :—

No. 1.		No. 2.	
SiO ₂	42·20	SiO ₂	38·17
Fe ₂ O ₃	16·92	Fe ₂ O ₃	18·76
Al ₂ O ₃	5·71	Al ₂ O ₃	3·94
Pb.	19·10	Pb.	23·24
CaO.	2·00	CaO.	1·74
ZnO.	1·52	ZnO.	3·40
SO ₃	4·46	SO ₃	5·00
CO ₂	2·41	CO ₂	·96
H ₂ O	5·31	H ₂ O	5·60
Ag.	115·4 oz.	Ag.	94·00 oz.
Au.	24·00	Au.	0·30

To give an idea of the comparative cost of smelting in Colorado and in New South Wales, the writer thinks that since there are no data to hand upon which to calculate the cost of smelting New South Wales ores of given composition in Colorado, the purpose will be served by giving the method of calculating the smelting charges upon samples of ore which are submitted for bids in the latter place. This method can readily be applied to any ore of known composition in New South Wales, and thus the miner can, for purposes of comparison, find out just how much his ore would cost to smelt in this country.

The general principle of the method is as follows :—

The smelter makes what is termed a minimum charge for smelting, which is based upon the average cost of running a ton of ore through the furnace. This is 3·00 dollars at some works and 4·00 dollars at others.

An ore in which the sum of the metallic iron and manganese is equal to the silica, and which contains 13 per cent. of lead is called a neutral ore, but for ores in which the silica is in excess of (Fe. and Mn.) a debit of 15 cents per unit is made, and a credit of 15 cents per unit of iron in excess of SiO; 50 cents per unit for Zn. in excess of 10 per cent. This latter, however is subject to contract.

Let us arrange the items in columns.

Dr.	\$4·00 minimum smelting charge.	Cr.	Nothing for Pb. up to 10.
	·50 unit of Zn. over 10.		95 of total value.
	·15 unit of SiO. over (Fe. Mn.)		25 cents per unit of Pb. between 10 and 20.
	·10 unit of Pb. under 13.		30 cents per unit of Pb. between 20 and 40.
	2·00 for roasting.		35 cents per unit of Pb. between 40 and 50.
	1·00 per 50 oz. Ag. over 100 oz.		

Let us take for an example the case of an ore of the following description :—

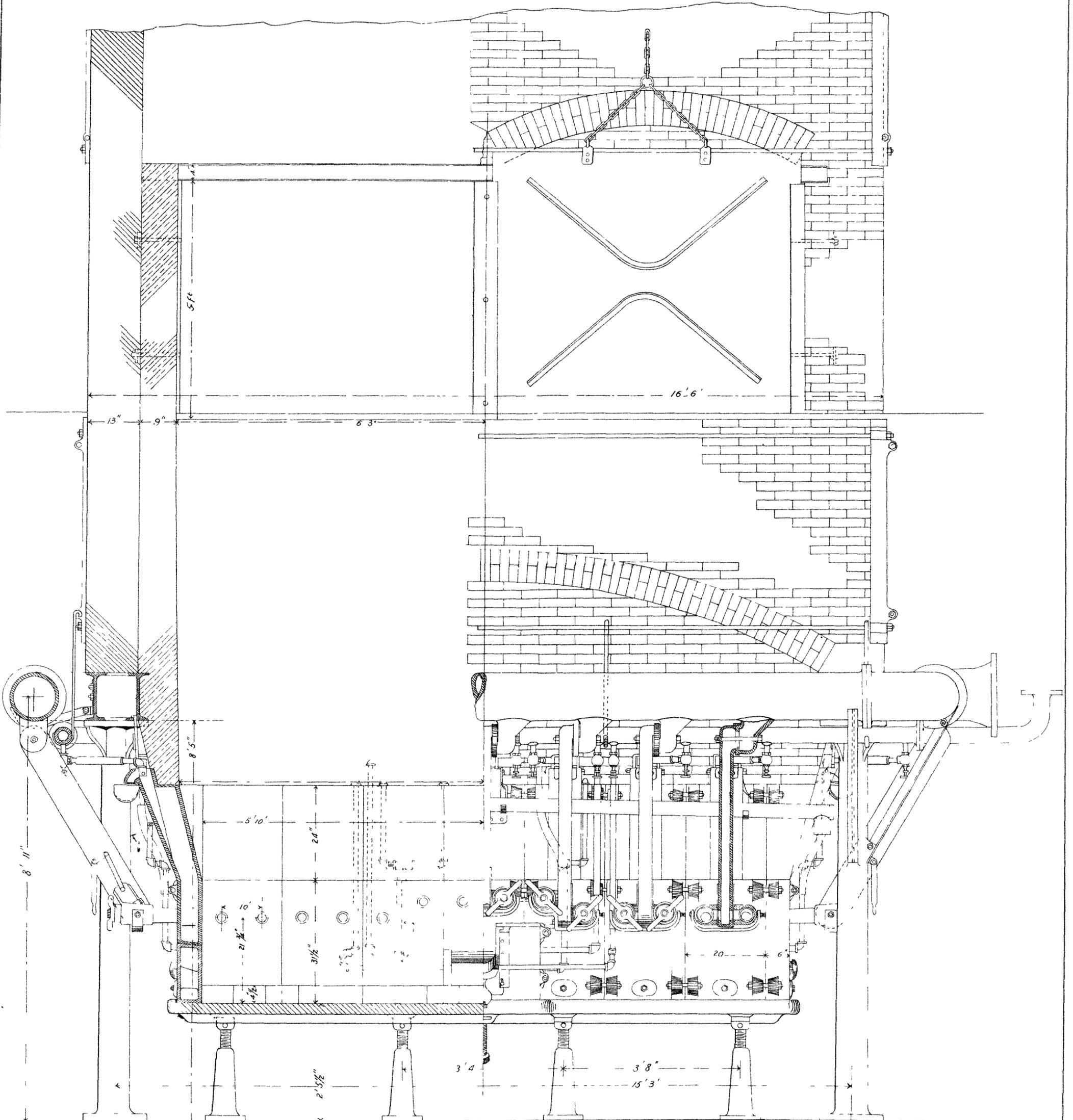
No.	Au.	Ag.	Pb.	SiO ₂ .	Fe.	
1.	20 oz.	80 oz.	35 per cent.	45 per cent.	6 per cent.	
Dr.						
	39 units SiO. at 15 cents					\$3·85
	Minimum smelting charge					4·00
	Smelting charge					\$7·85
Cr						
	20 oz. Au. at \$20·00					\$4·00
	80 oz. Ag. at \$0·78					62·40
	36 units of Pb. at 30 cents					10·50
						73·06
						\$76·90
	Deduct 5 per cent. for loss ...					3·84
	Smelting charge					7·85
	Net value of ore					\$65·21

Then

HOT BLAST OR "PYRITIC" SMELTING FURNACE

COLORADO IRON WORKS,
DENVER, COLORADO.

Scale
0 1 2 3 4 5 6 FT

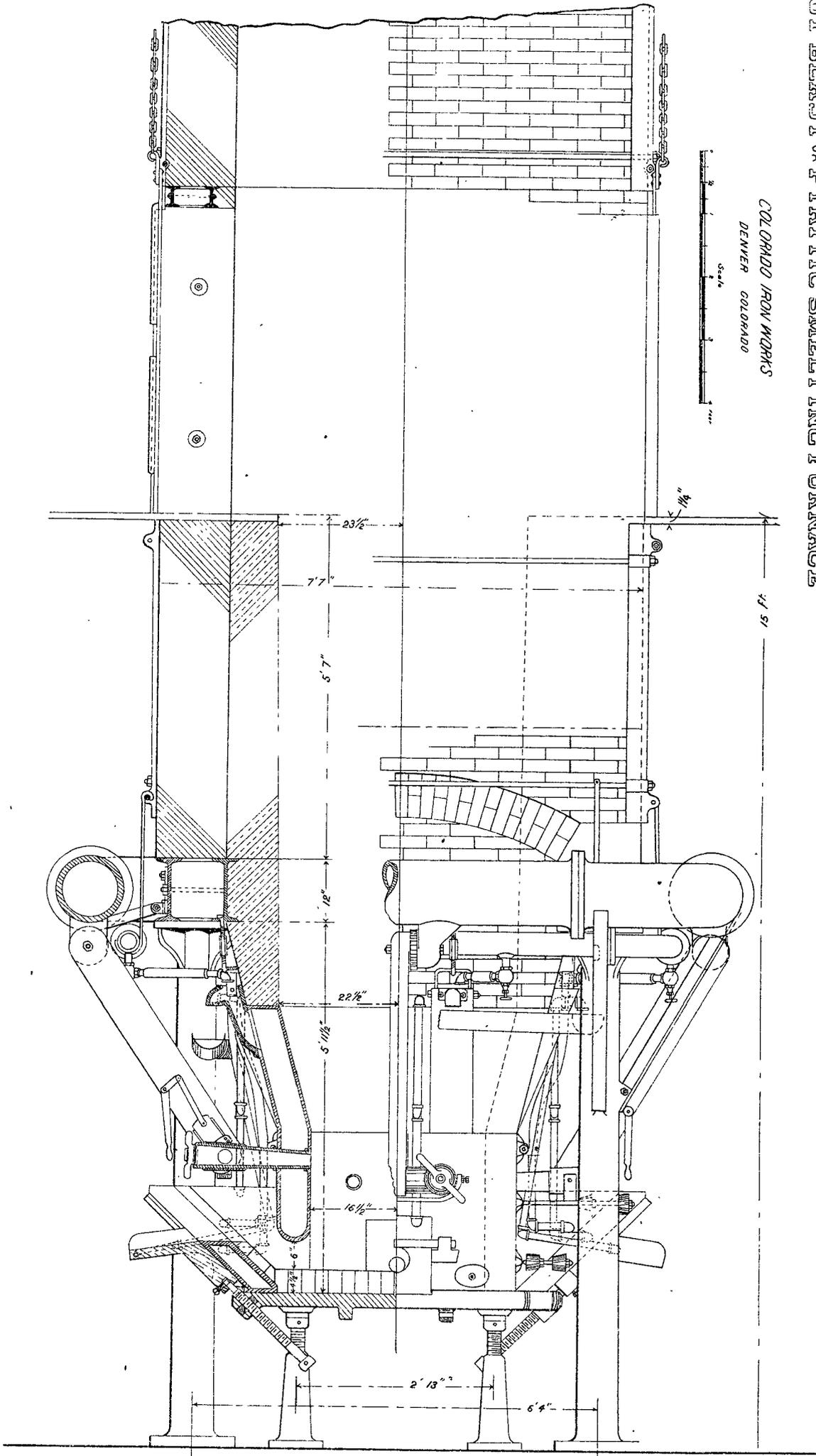


—SIDE ELEVATION IN PART SECTION—
Fig. 1.

(y 293)

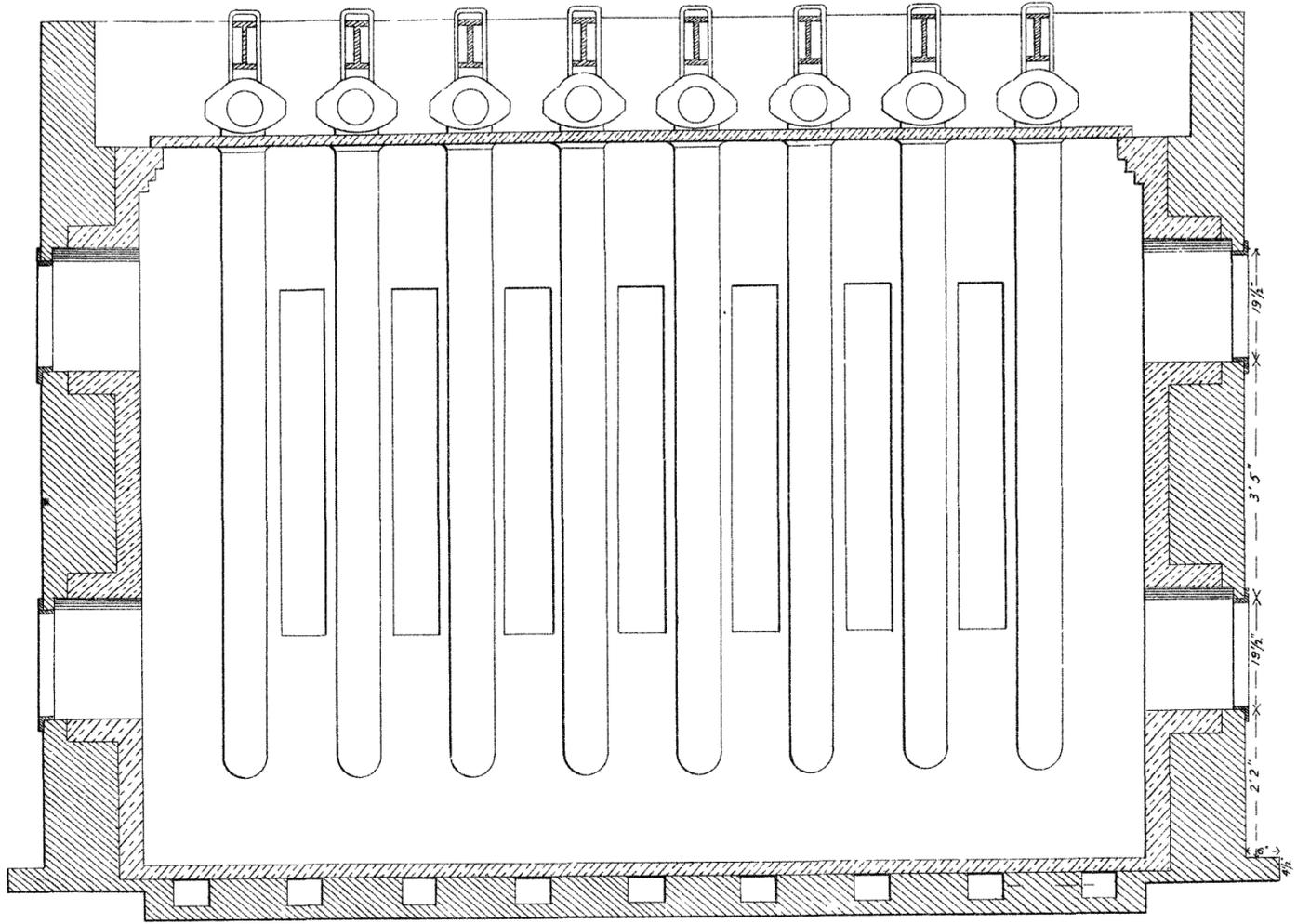
HOT BLAST or PYRITIC SMELTING FURNACE

COLORADO IRON WORKS
DENVER COLORADO



END ELEVATION IN PART SECTION

Fig 2

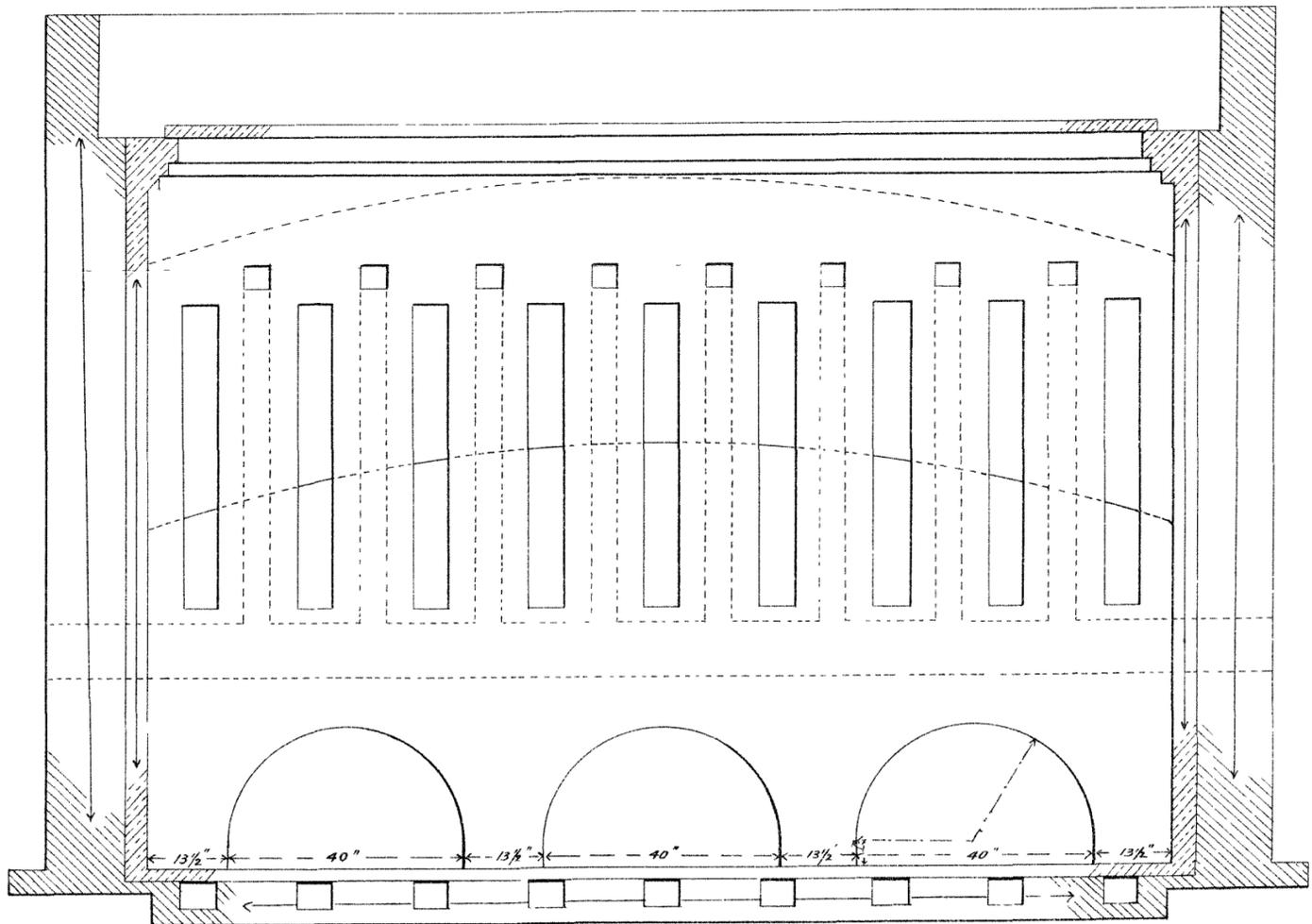


Transverse Section
Fig. 12

HOT BLAST STOVE
FOR PYRITIC SMELTING FURNACE

Scale
0 1 2 3 4 FEET
226 sq ins effective pipe area

COLORADO IRON WORKS



Fire Wall showing Furnace Arch
Fig. 13

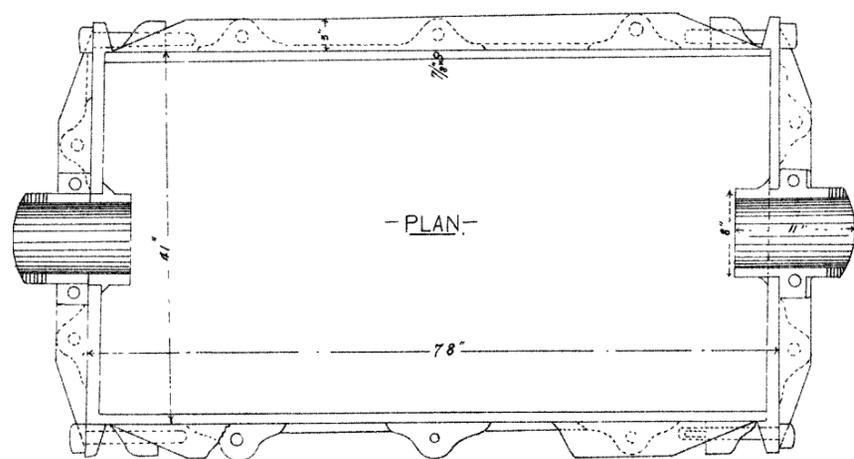
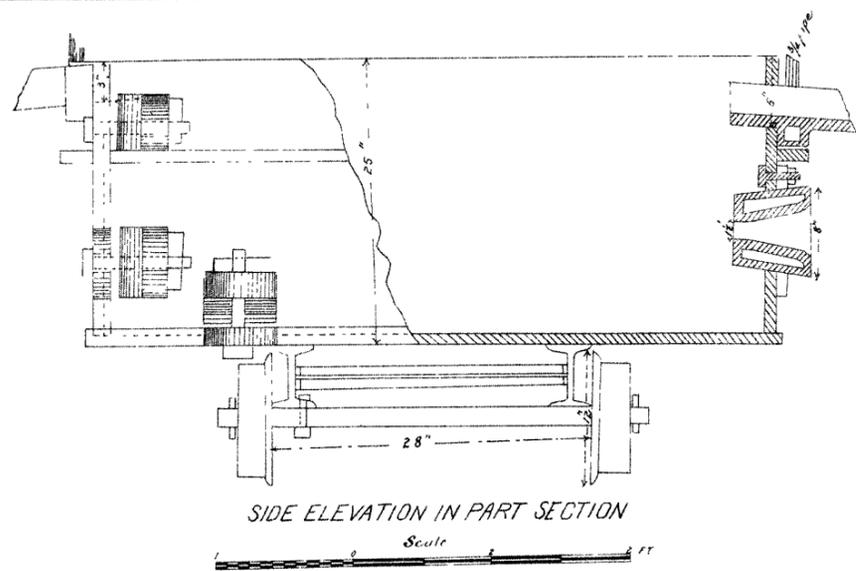


Fig. 18.

PLATE VIII.

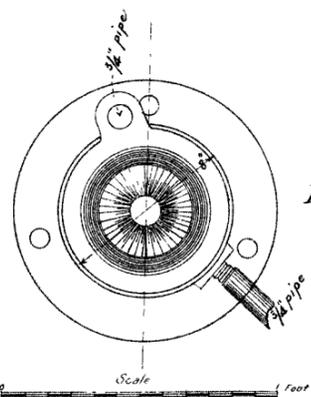


Fig. 19.

FORE HEARTH
— FOR PYRITIC SMELTING FURNACE. —

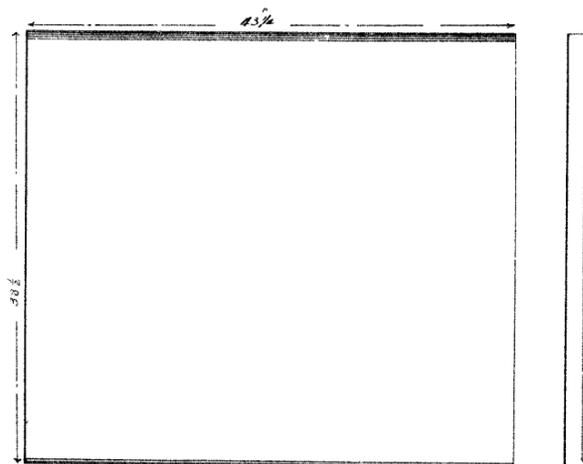
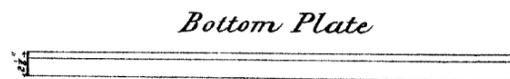
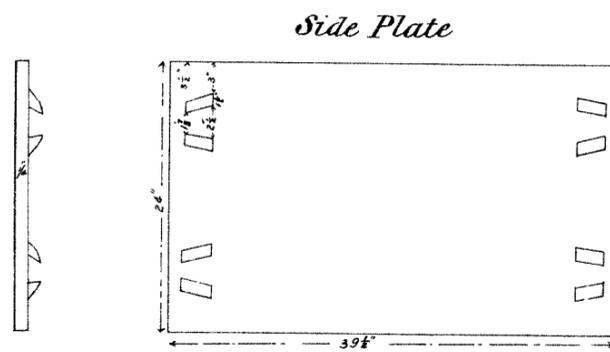
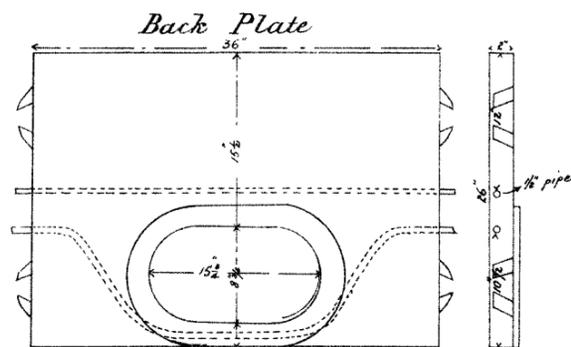
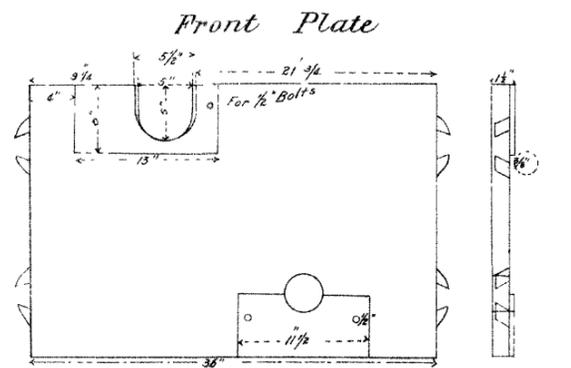


Fig. 29

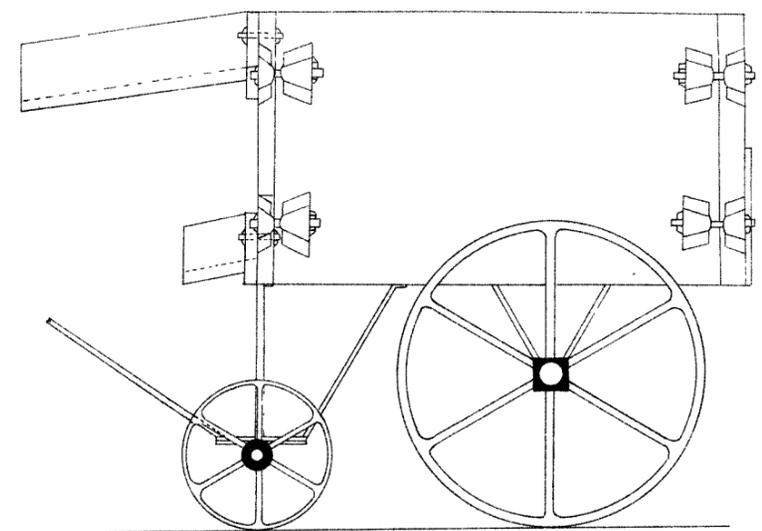
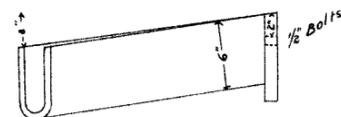
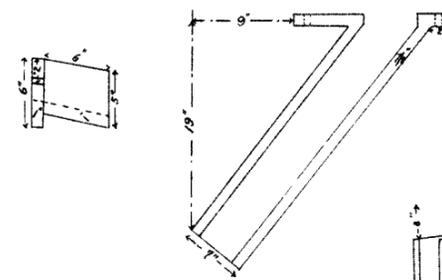
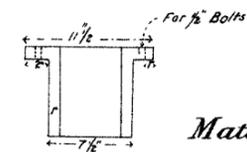


Fig. 20



FORE HEARTH
— FOR CONTINUOUS FLOW —
— MATTING FURNACE —

WATER-JACKETED SMELTING FURNACE
—DESIGNED FOR MATTING AND FOR OUTSIDE SEPARATION—

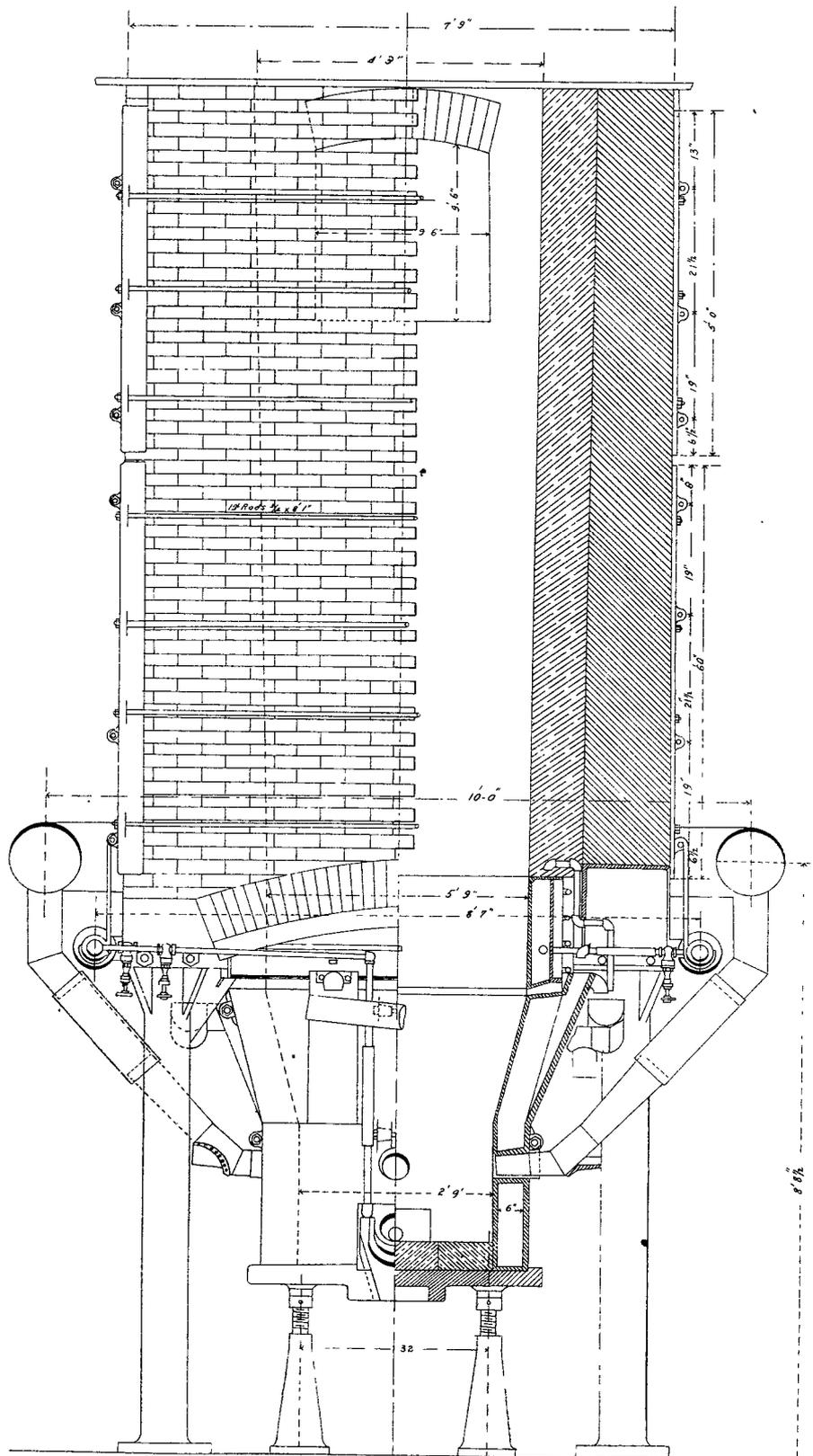
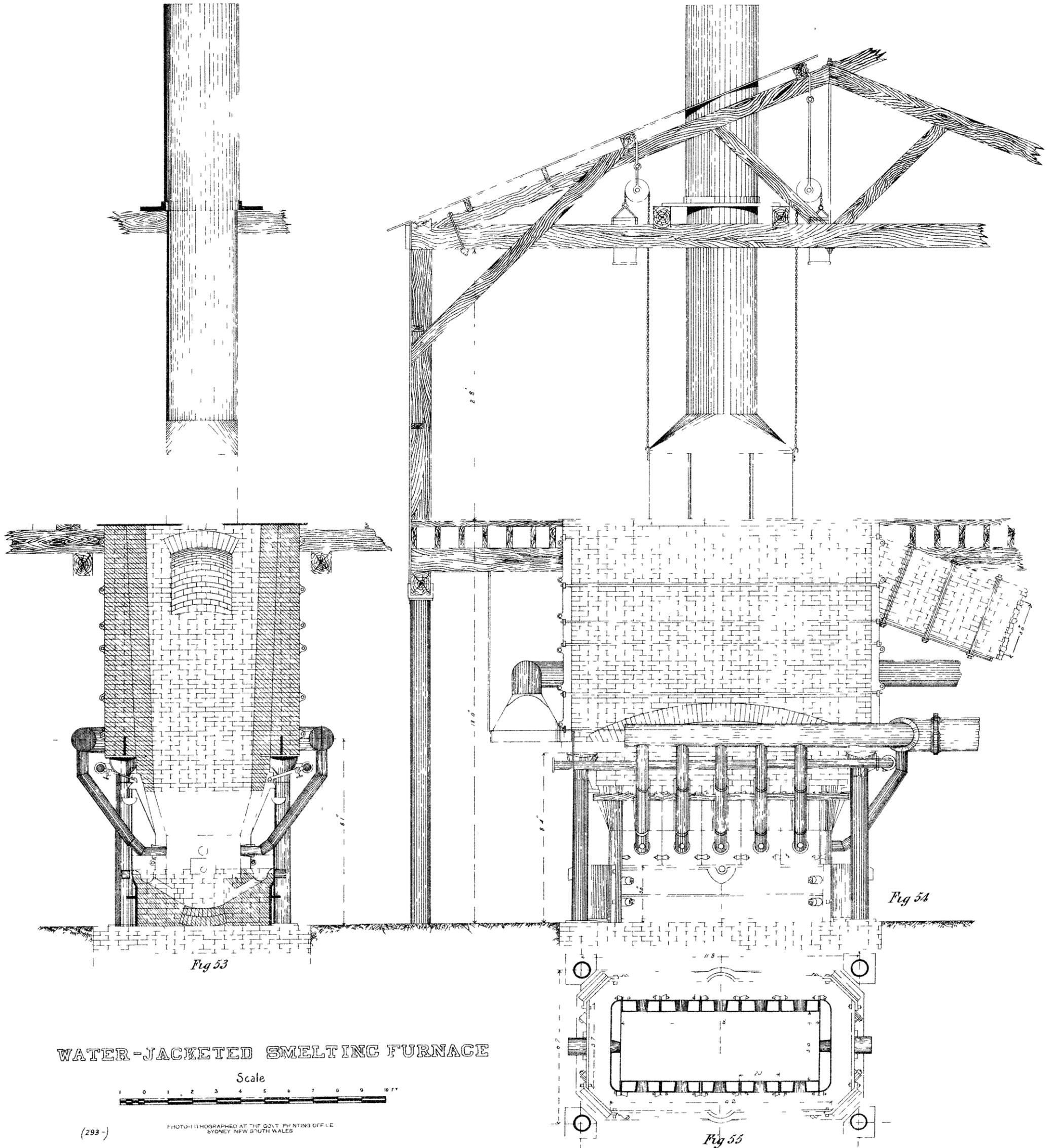
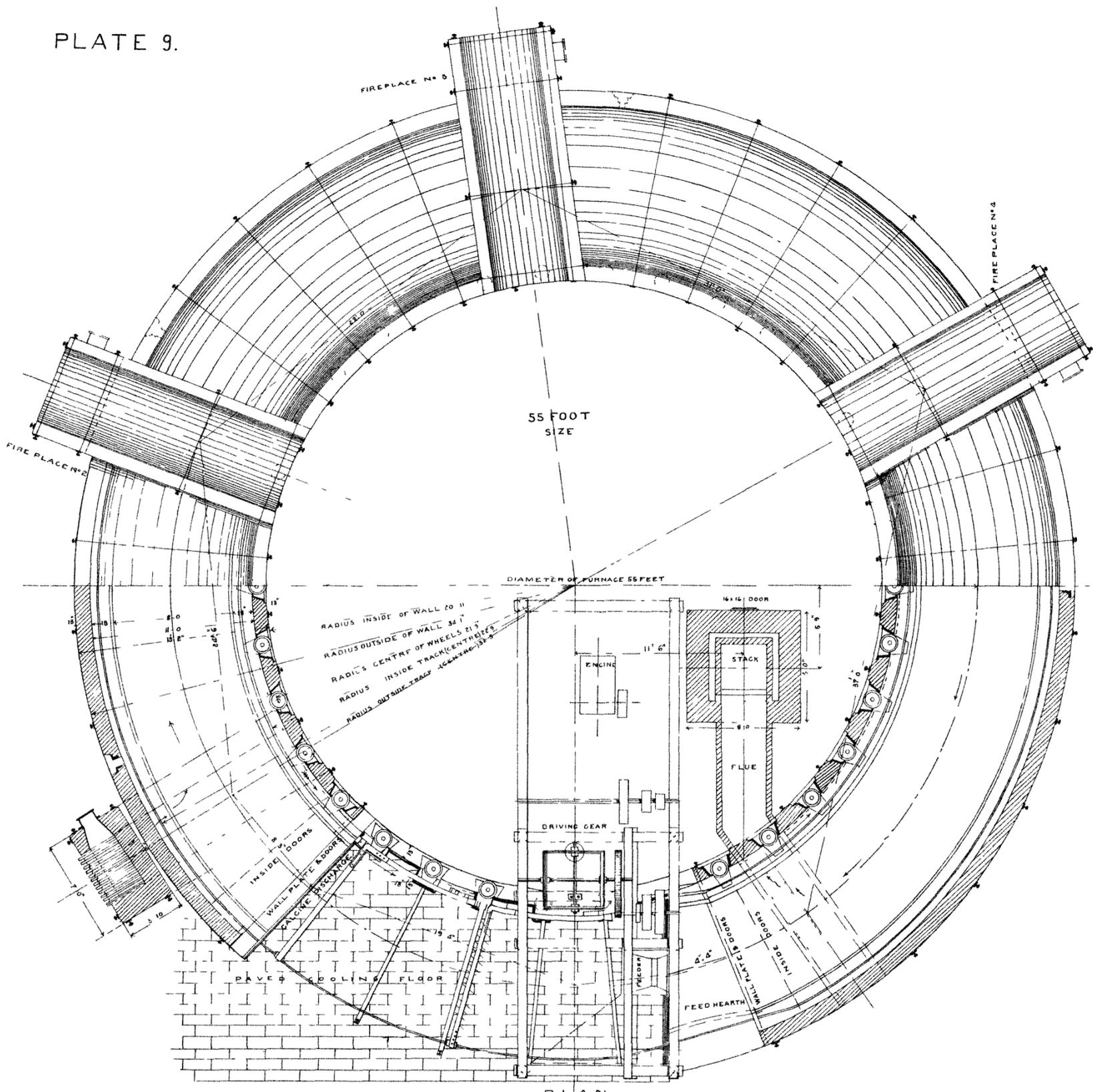


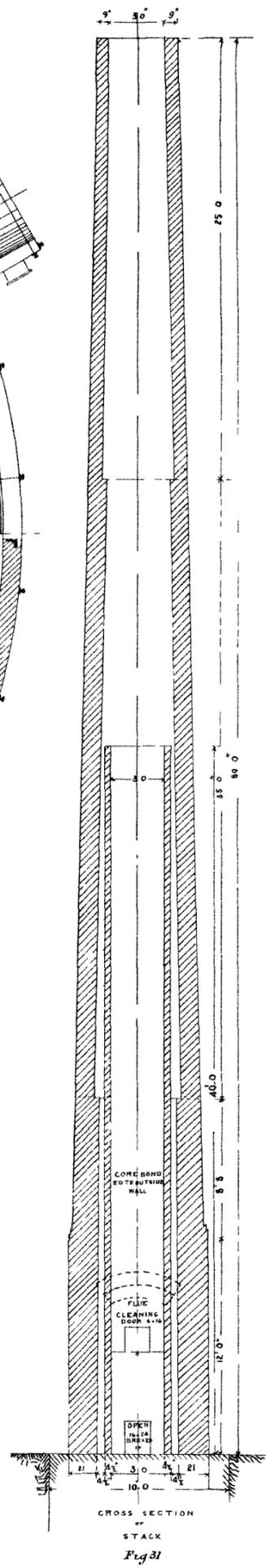
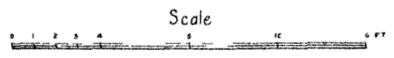
Fig 57.



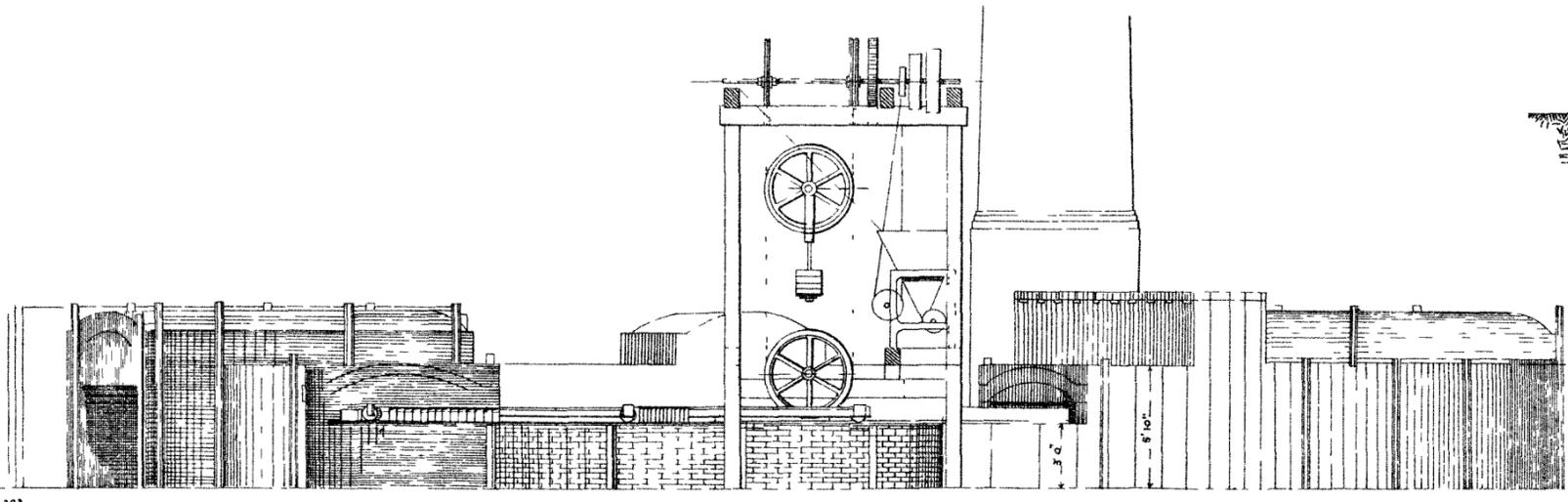


PLAN
Fig 30

HORACE F BROWN'S
"HORSESHOE" ROASTING FURNACE.
GENERAL DRAWING

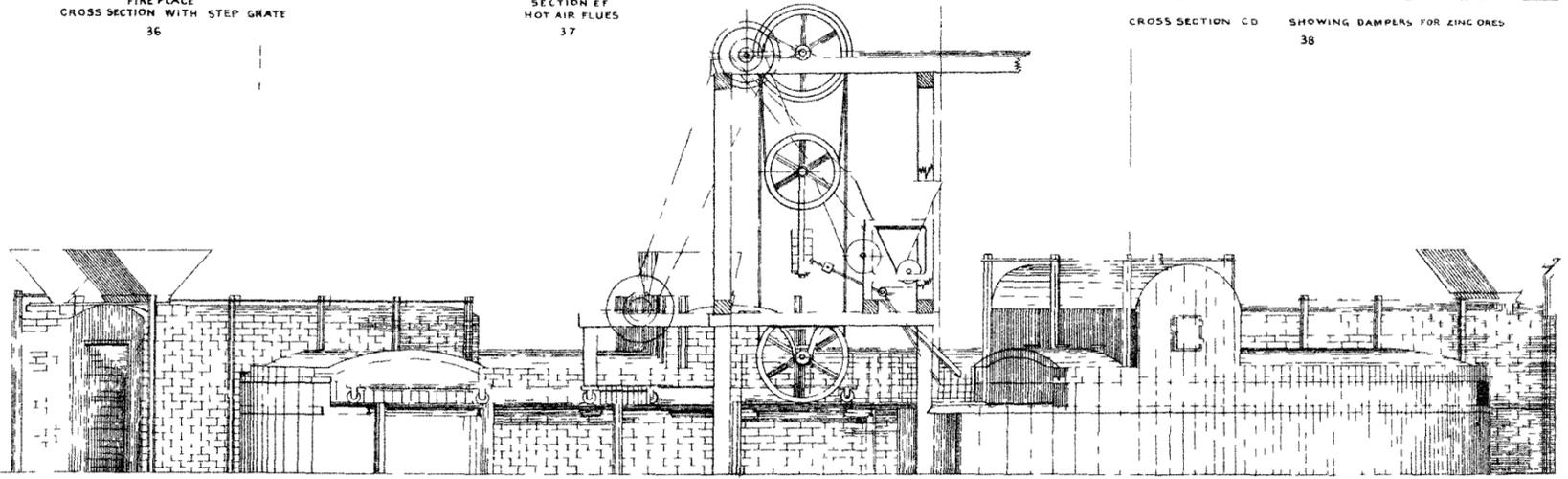
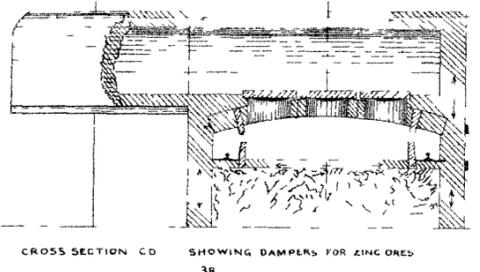
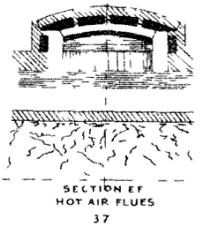
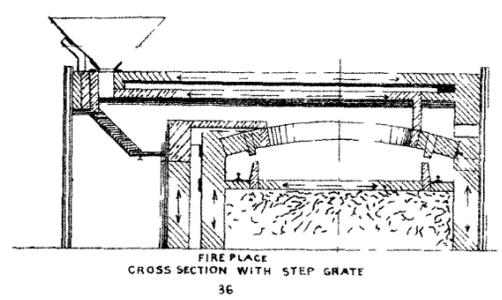
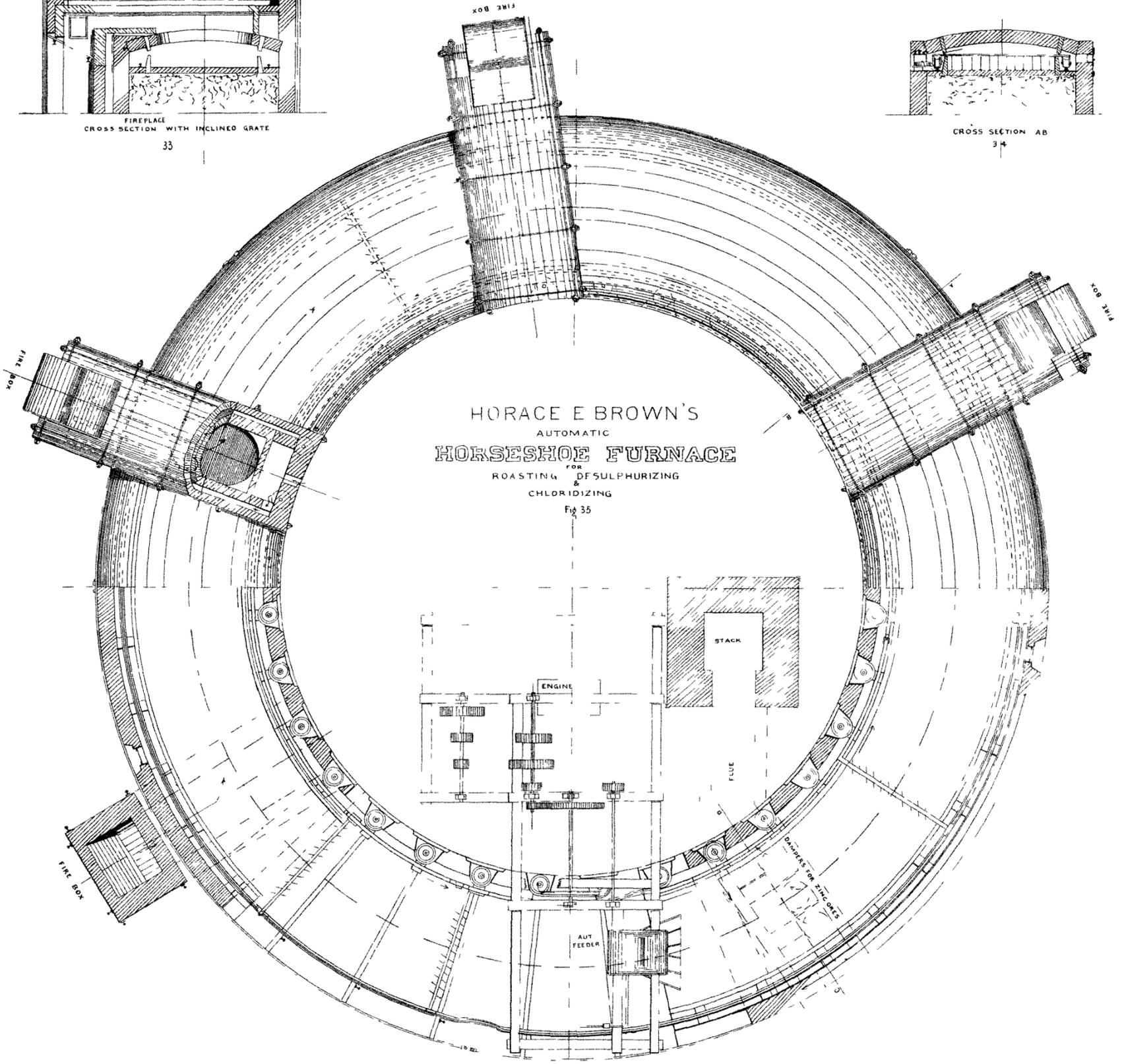
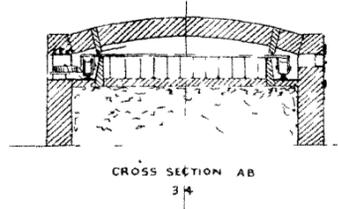
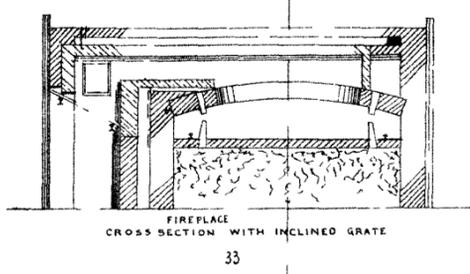


CROSS SECTION OF STACK
Fig 31

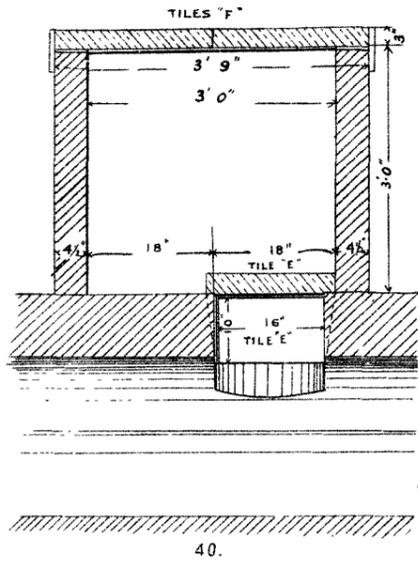


FRONT ELEVATION
Fig 32

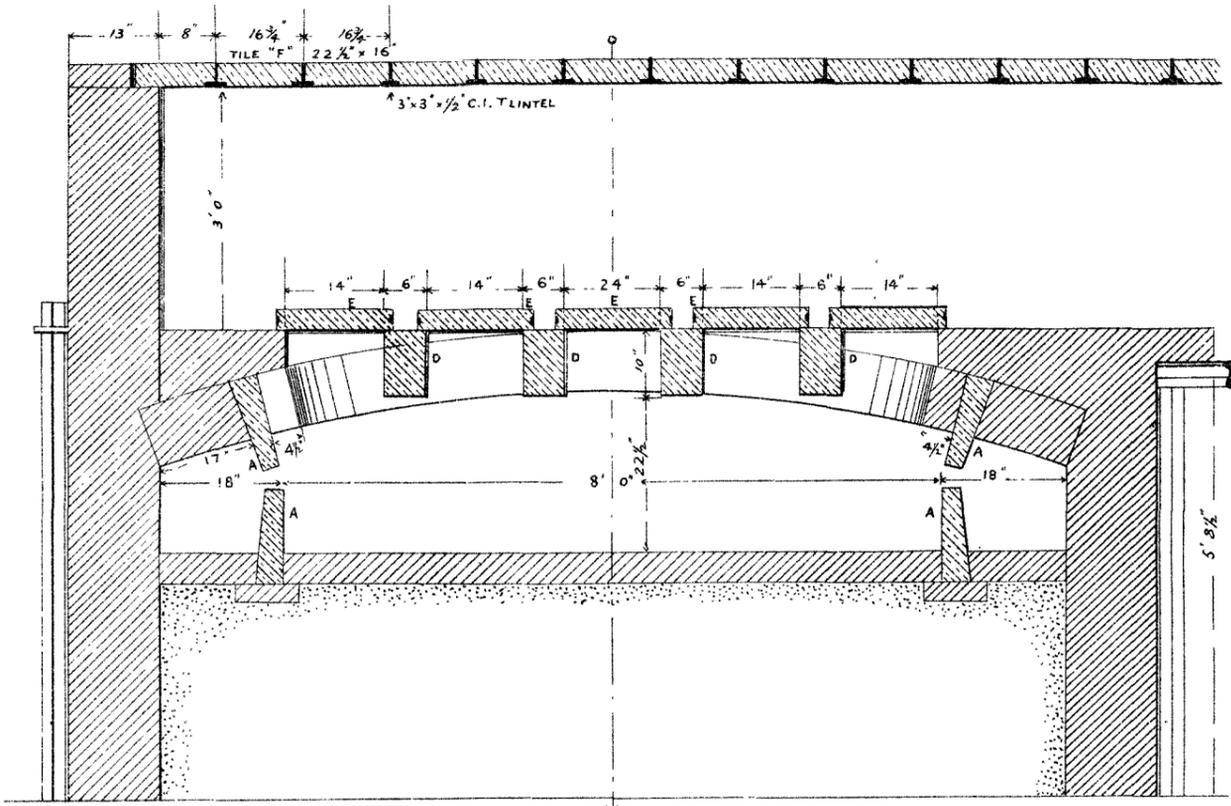
PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE
SYDNEY NEW SOUTH WALES



(5 of 200)

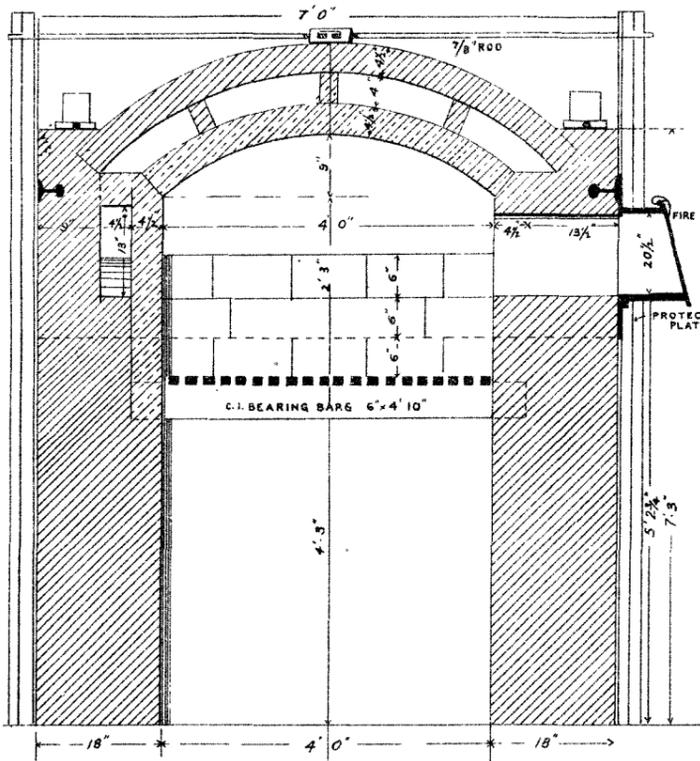


SECTION "OP"

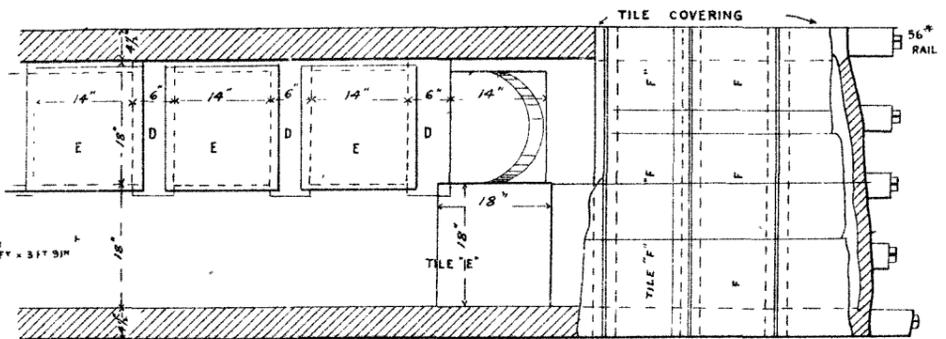


CROSS SECTION FLUE & DAMPERS

(FOR ARCHED FLUE, ETC }
SEE

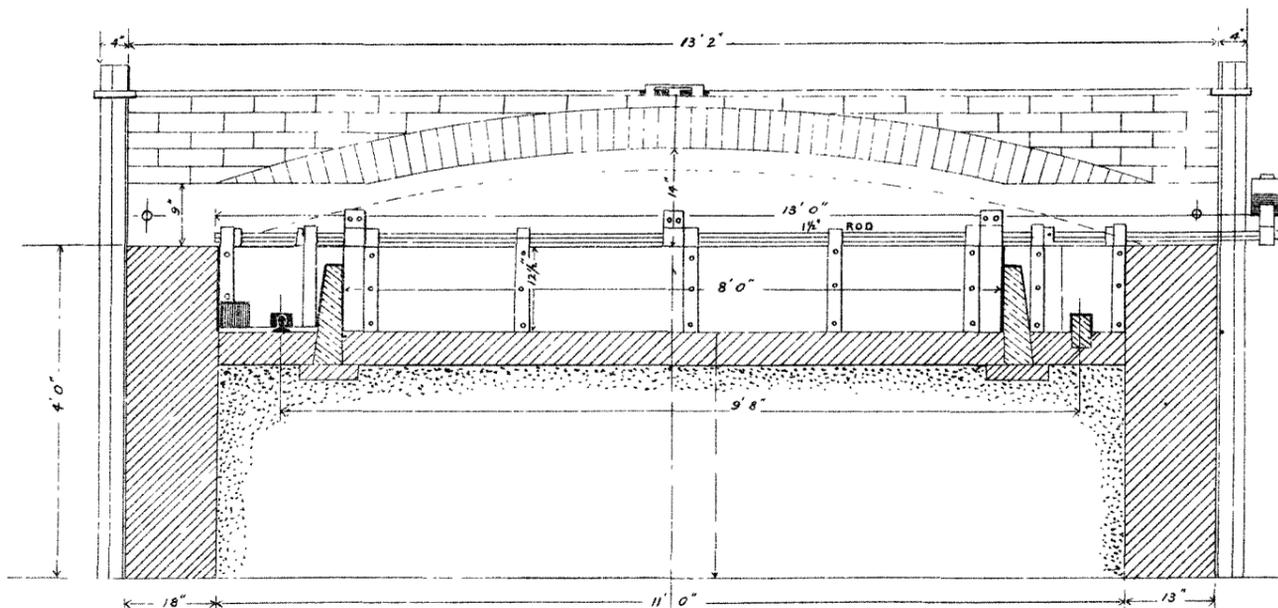


SECTION "MN"



PLAN OF FLUE & DAMPERS

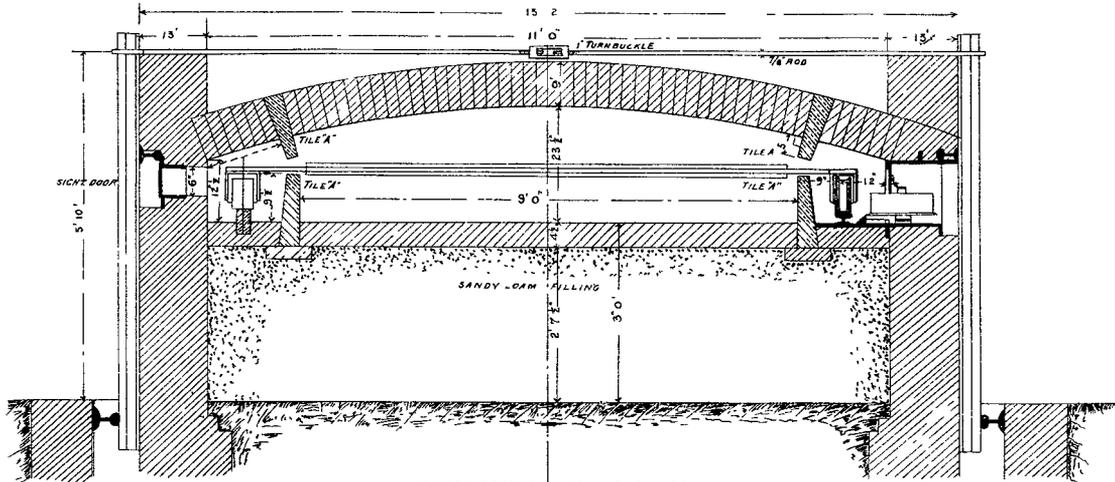
H.F. BROWN'S HORSESHOE FURNACE
CROSS SECTION SHEET N°1



DISCHARGE END

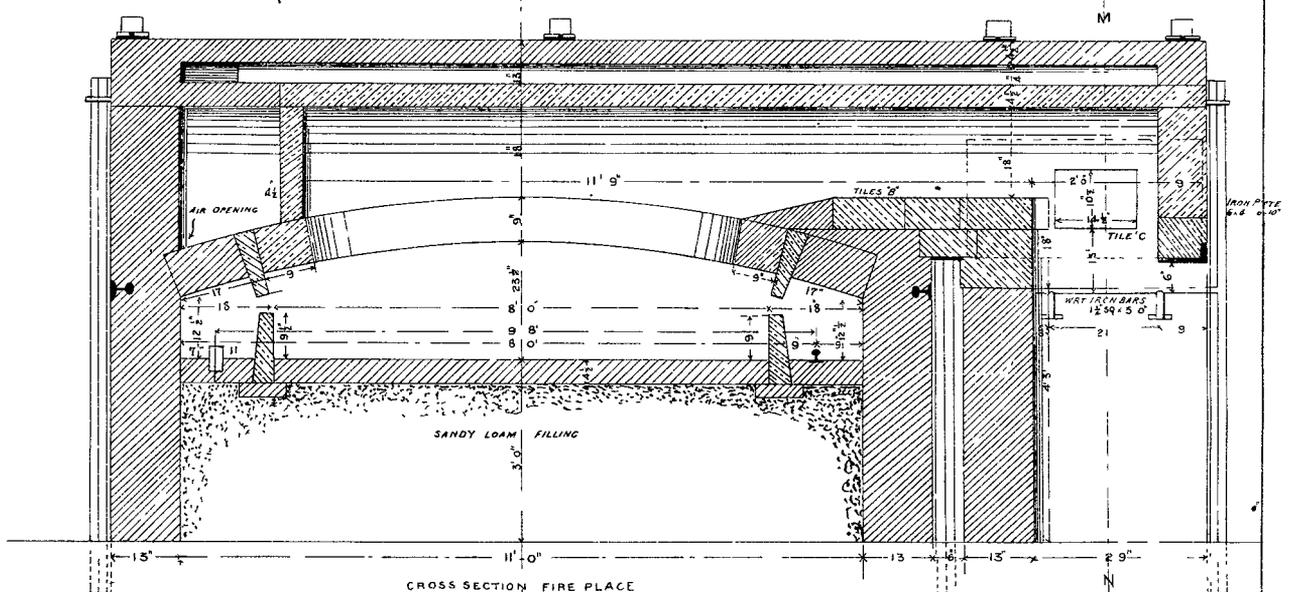
H.F. BROWN'S HORSESHOE FURNACE

CROSS SECTION SHEET N° 2



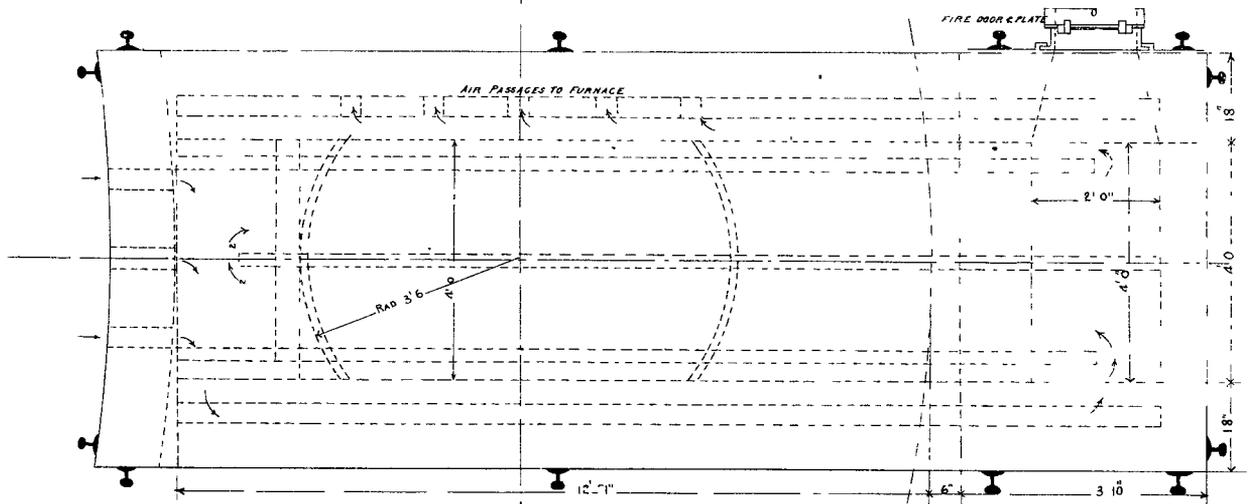
CROSS SECTION MAIN FURNACE

Fig. 45



CROSS SECTION FIRE PLACE

Fig. 46



PLAN OF FIRE PLACE & HOT AIR PASSAGES

Fig. 47

HORACE F. BROWN IMPROVED O'HARRA ROASTING FURNACE.

DETAIL CROSS SECTION SHEET.

Scale

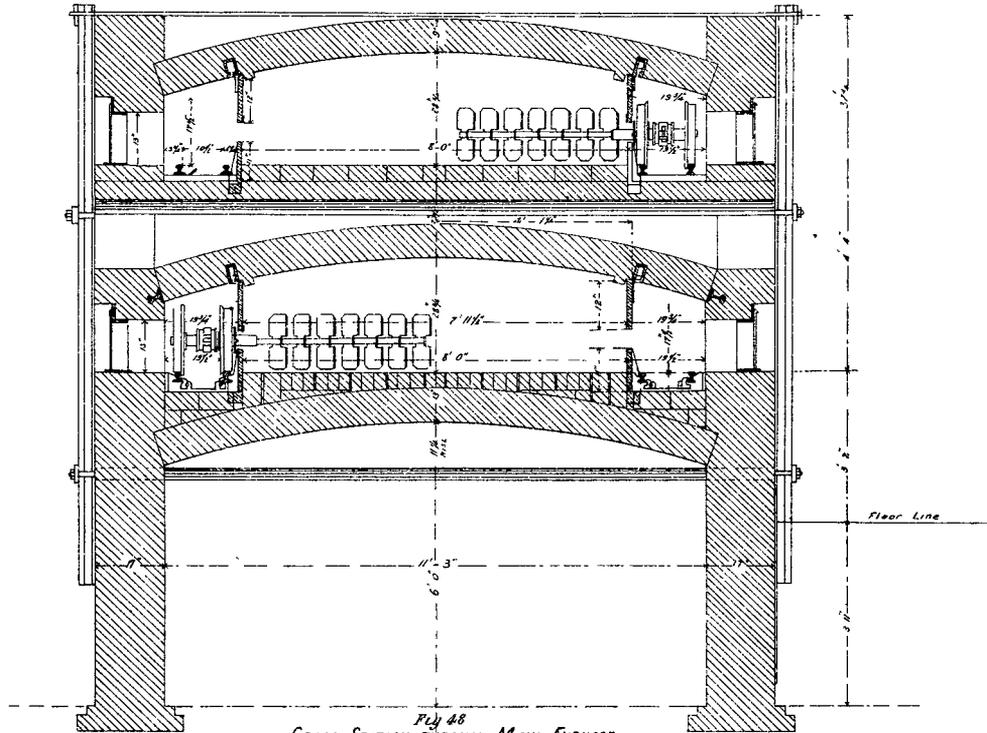


Fig 48
CROSS SECTION THROUGH MAIN FURNACE
E F

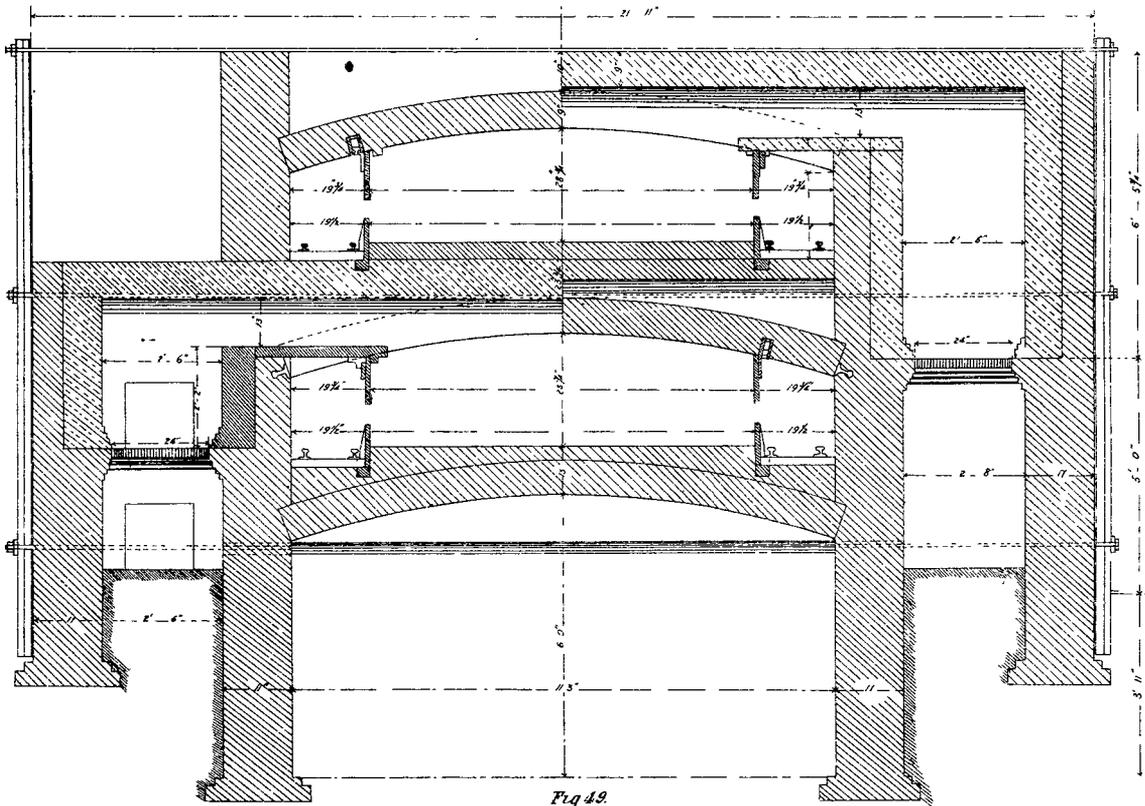
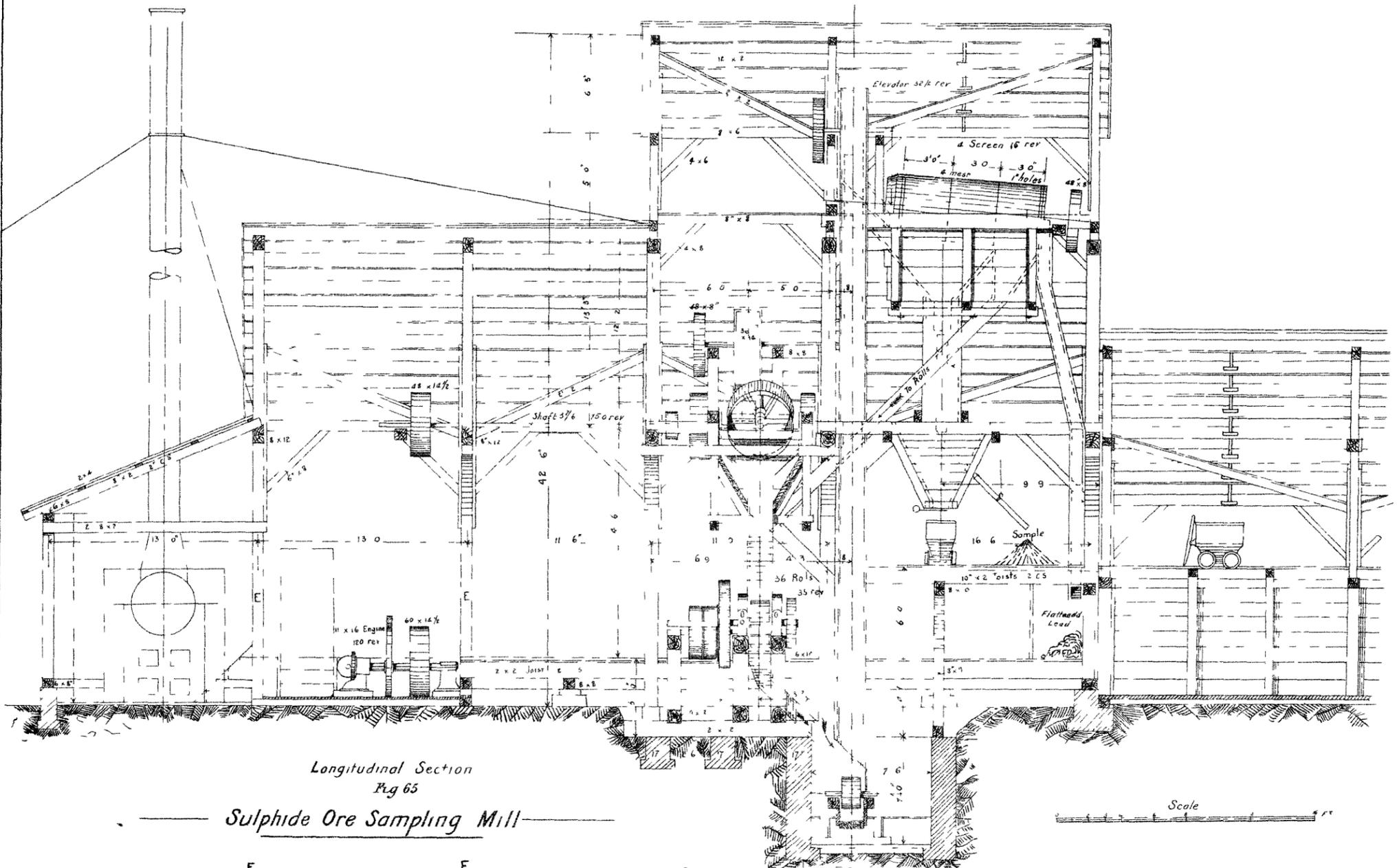
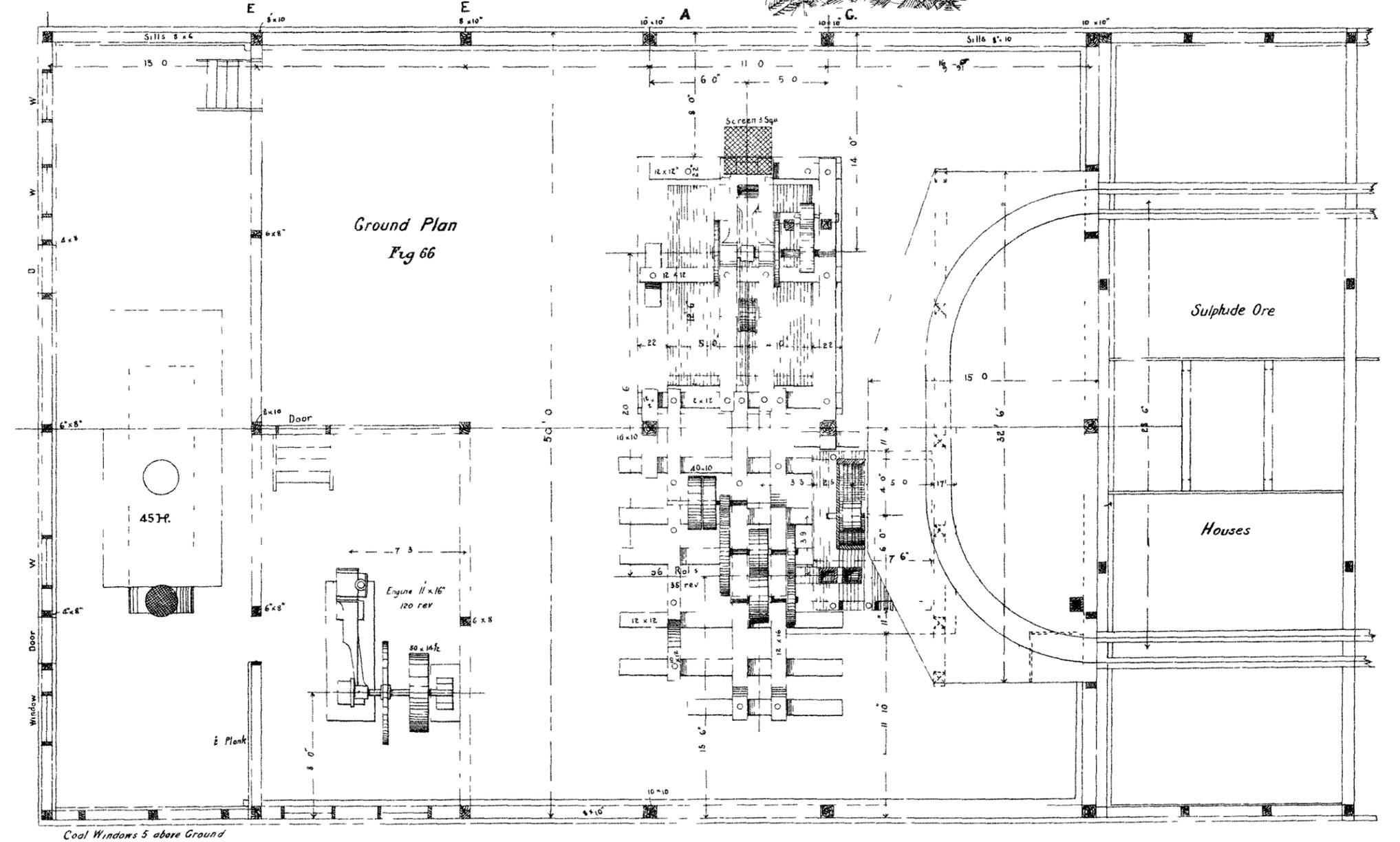


Fig 49
CROSS SECTION THROUGH FIRE BOXES

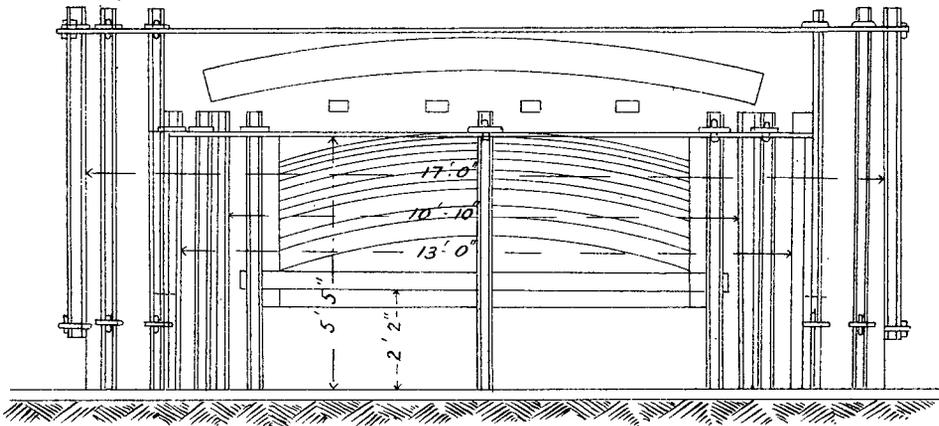


Longitudinal Section
Fig 65
Sulphide Ore Sampling Mill



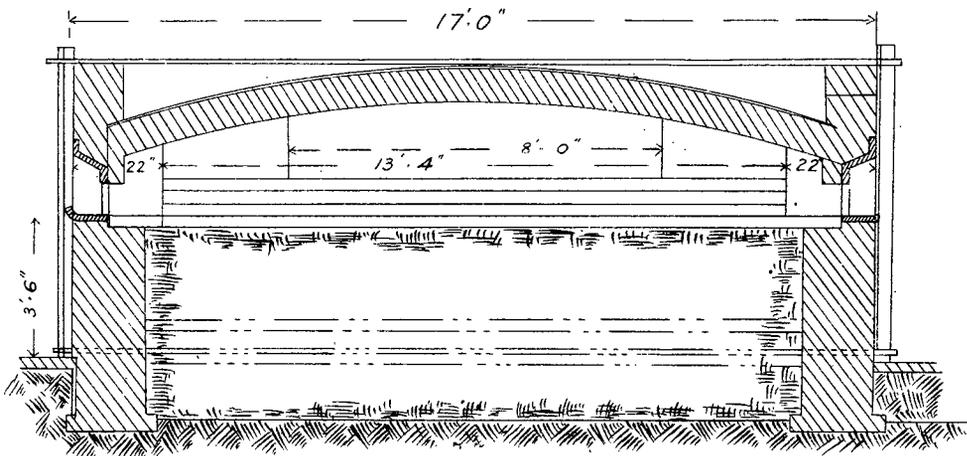
Ground Plan
Fig 66

CALCINER WITH FUSE-BOX



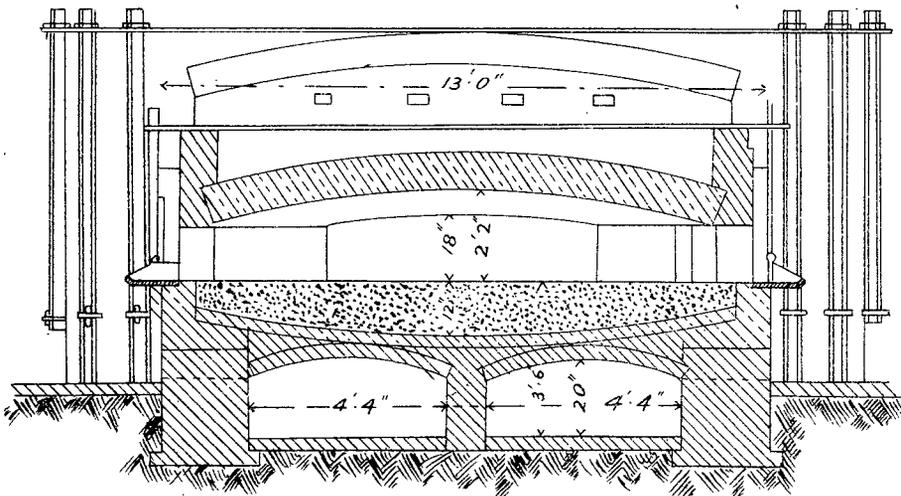
END ELEVATION

Fig. 59



SECTION C-D

Fig. 61.



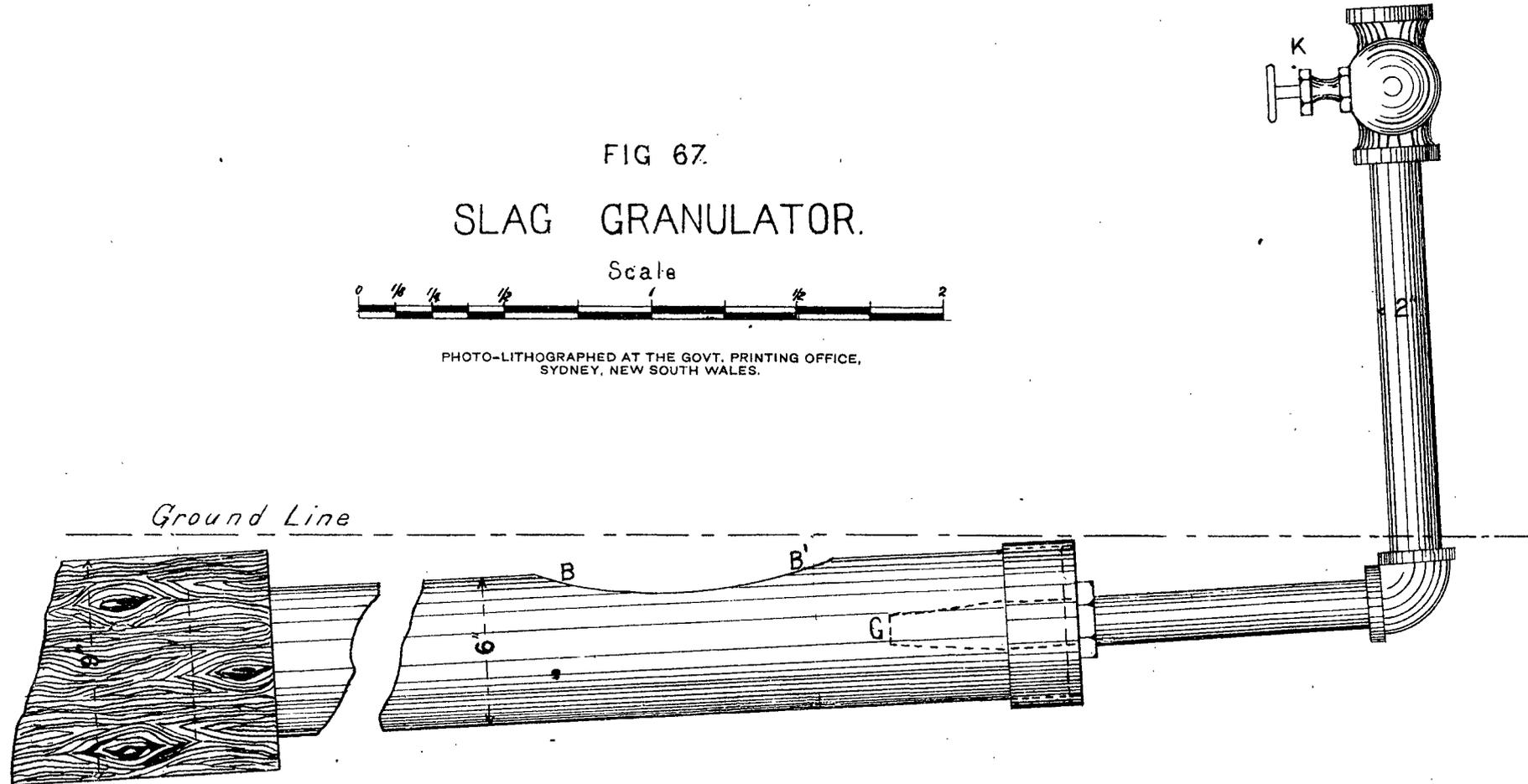
SECTION A-B

Fig. 63

FIG 67.
SLAG GRANULATOR.



PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



Then smelting charges and deduction for loss equals—

\$7·85
3·84

\$11·69 Total cost of smelting.

No. 2.

1 oz. Au., 100 oz. Ag., 40 per cent. Pb., 30 per cent. SiO₂, 5 per cent. Fe., and 15 per cent. Zn.

Dr.

25 units SiO at 15 cents	\$3·75
15 units Zn. at 50 cents.....	7·50
Minimum smelting charge	4·00

\$15·25

Cr.

1 oz. Au.	\$20·00
100 oz. Ag. at 78 cents	78·00
40 units Pb. at 30 cents	12·00

\$110·00

5 per cent. loss

5·50

\$104·50

Smelting charge

15·25

\$89·25 Net value of ore.

Then in the case of sulphides :—

Ag., 75 oz. ; Pb. 13 per cent. ; AuO., 6 oz. ; SiO₂, 25 per cent. ; Fe., 30 per cent. Zn.

Dr.

Minimum smelting charge	\$4·00
Roasting	2·00
Fluxing.....	.....
Zinc, 15 units at 50 cents.....	7·50

\$13·50

Cr.

75 oz. Ag. at 78 cents	\$58·50
0·6 oz. An. at \$20	12·00
5 units Fe., 10 cents	50

\$71·00

5 per cent. for loss.....

3·55

\$67·45

Smelting charge

13·50

53·95 Net value of ore per ton.

APPENDIX M.

Description of the Steam-Engine Plant at the
Exposition.

(Adapted from one of the leading Chicago Daily Newspapers.)

THE exhibit of steam-engine plant in the Palace of Mechanic Art was of representative character, comprising no fewer than fifty-two boilers, furnishing steam to sixty-nine engines of thirty-two different makes, aggregating 26,500 horse-power, and requiring the care of a chief engineer, eight assistant engineers, 100 operating engineers, and 100 oilers.

Having such a great diversity of motors and appliances, the main power plant at the Fair could hardly be called a model of its kind. But it was representative, and that was exactly what it was intended to be. Every type of stationary engine to be found, and nearly every American engine builder of prominence was represented by from one to fourteen engines in operation, while two English types not common on this side of the Atlantic and three German engines helped to drive the machinery, and half a dozen Canadian engines were listed as a "dead" exhibit. The visitor could here gain a pretty clear idea of the latest practice in engine building. These engines offered a subject for study that, judging by the crowds constantly to be found in their vicinity, was found interesting.

Of the sixty-two American engines, thirty-four, or more than one half, were built in States lying in whole or in part east of the Alleghanies, Pennsylvania leading every other State with twenty-three engines. New York and New Jersey were each represented by five engines, and Rhode Island by two. Coming west of the Alleghanies, Ohio stood second in the list of engines with fourteen, then came Illinois with four, Indiana and Wisconsin each with three. California and Iowa each sent one engine.

As already stated, the aggregate indicated horse-power at the maximum of economy was 26,500 indicated horse-power, maximum load about 35,000. Big engines were largely in the majority. There was one of 2,000 horse-power. Engines of 1,000 horse-power were quite common at the World's Fair, there being no fewer than twelve of that capacity. Five more engines were rated between 500 and 1,000 horse-power, six between 350 and 500, and fourteen between 200 and 350. The smallest engine on the Chief Engineer's schedule was rated at 40 horse-power. It was of German build, and was driving line shafting in the German section.

If the engines at the Fair were to be considered as representing the latest tendency in engine building, it must be said that high speed compound engines are growing in favour. There were thirty-one compound engines running at or above 150 revolutions a minute. There were one quadruple expansion engine, six triple expansion, three double compound, thirty-nine compound, and nineteen simple engines. Thirty-eight of this number were condensing. One was speeded at 380 revolutions a minute, two at 350, one at 300, five between 250 and 300, sixteen between 200 and 250, twelve between 150 and 200, and seven between 100 and 150 revolutions. The others ran below 100 revolutions, one being speeded as low as fifty turns a minute. Thirteen were direct coupled, ten were connected with counter-shafts, and the others were direct belted.

The methods of the engine builder have undergone a constant change since Watt, a little over a century ago, introduced the present type. In Watt's day steam was used at a pressure of seven to ten pounds to the inch. Every engine had an air-pump and condenser, and was of small power in proportion to the size. They were so wasteful of heat and fuel that 6 to 8 lb. of coal per horse-power per hour were required. Then the evaporation of 1 cubic foot, or about 62 lb. of water per horse-power per hour, was the standard; the 2,000 horse-power engine at the World's Fair requires the evaporation of 11.8 lb. of water per horse-power per hour. The pressure carried nowadays is 100 to 180 lb. to the square inch. The safety-valves at the World's Fair were set at 125 lb. As the steam had to travel through pipes a considerable distance, the available pressure varied from 110 to 120 lb. This pressure was a little too high for some of the engines and too low for others, but perhaps about right for most of them.

The advances in electrical engineering during the last few years have made necessary new requirements in engine building. Innumerable devices have been placed on the market for securing close regulation and economy, some of them meritorious, others of little value. Should Edison succeed in his endeavours to convert heat into electrical energy without the intervention of boilers and engines, good, bad, and indifferent devices will be alike worthless, and the engine builder, like Othello, will find his occupation gone.

An endless controversy has been waged between the advocates of high speed and low speed engines. London *Engineering* is the authority for the statement that the practice of driving dynamos by belts is becoming obsolete in England and on the continent

continent. Prof. Thurston, one of the most eminent of American authorities, declares that "existing conditions compel us to drive the engine up to the highest safe speed and to adopt the highest practicable mean steam pressure." With the pressure of 7 lb. usual in Watt's time a piston speed equal in feet per minute to about 128 times the cube root of the length of stroke was the standard. In 1849, when Corliss brought out the modern drop cut-off engine, pressure of 60 lb. and a piston speed of 450 feet a minute were becoming usual; now a piston speed of about 800 times the cube root of the stroke is not uncommon. The high-speed men claim that by coupling the dynamo directly to the shaft of the engine from 2 to 10 per cent., or say an average of 5 per cent., in friction is saved. This in a large plant would amount to a considerable sum in the course of a year. The advantage of compactness and noiselessness is also claimed. It is further asserted that the first cost and renewals of belting is so much clear gain and that less oil is needed by absence of belt tension and that direct-coupled machines are more reliable than belted. A certain number of "lines of force" must be cut to generate an electric current. This can be accomplished either by a large dynamo at low speed or a small dynamo at high speed. The high-speed men say that there is less wear and tear in a big dynamo direct coupled, running at, say, 300 revolutions a minute, than in a smaller one belted running at 500 revolutions. On the other hand, the low-speed advocates say the saving in friction is offset by the high compression necessary in a fast-running engine; that the low-speed engine has a more effective cut-off and is therefore, more economical, and that an engine at eighty or ninety revolutions a minute will far out-last the high-speed machines. The visitor at Machinery Hall was afforded ample opportunity to compare all types. By making known that he was interested in the subject he was promptly and thoroughly convinced that not only is the low-speed engine greatly superior to the high-speed, but that the high-speed is immeasurably better than the low-speed.

Engines at the Fair might be loosely divided into two general classes—"releasing gear," or "drop cut-off," and "positive motion." The Corliss may be described as the type of releasing gear engines, changes in or modifications of the type being taken up further on. The Corliss engine has four valves, an induction valve for the admission of steam being placed transversely on the top of and at each end of the cylinder and exhaust valves below at each end for releasing the steam after the stroke has been made. On the centre of one side of the cylinder is placed a stud on which is a disc called a wrist-plate, which is oscillated by the eccentric through a rocker and reach rod. From the wrist-plate short links or radial rods extend to a bell crank on the valve stem which moves the cylindrical valves alternately as the wrist-plate is rocked to and fro by the motion of the eccentric. When the induction or admission valves had been held open until the piston has proceeded a certain distance on the stroke the valve is released from the radial rod by a cam which pushes out the latch by which the bell crank turns the valve and is suddenly closed by the pressure of the atmosphere on a piston working in a partial vacuum in a "dash pot," thus "cutting off" the steam, so that the piston is carried to the end of its stroke by the expansion of the steam already in the cylinder. The point of cut-off is determined by the governor, which moves the tripping cam backward or forward so as to release the valve sooner or later, as the speed of the engine increases or decreases. Corliss engines are limited in speed to about ninety revolutions a minute. When the engine runs much faster the releasing gear will not work satisfactorily.

The first drop cut-off engine patented by Fred. E. Sickles, in 1841, quickly met with favour. An immense step in advance of this was taken by George H. Corliss, of Providence, who in 1849, invented the most famous engine that has appeared since the time of Watt. The engine came rapidly into use, making a fortune for its owner, and affording a pattern which every builder of releasing gear engines since has followed in general though trying to improve upon it. Countless changes have been made in the Corliss engine by different makers, but the essential features and the name, coupled with that of the designer, have always been retained. Thus there are Smith-Corliss, Jones-Corliss, Brown-Corliss, and Robinson-Corliss engines without number. This type of American engine has found its way into every part of the world.

One method of securing economical working of steam is to drive the engine at the highest safe speed. At high speed it is claimed that the engine gives a more regular motion. President Westmacott of the British Institution of Mechanical Engineers, observed several years ago that at the speed of 400 or 500 revolutions a minute attained by the screws of Thorneycroft's torpedo boats the engines seemed to run more smoothly than at lower speeds. This has been noted by many other builders and drivers of fast engines. The introduction of electric lighting, with its imperative demand for regularity of speed, seems to have opened a particularly promising field for the high-speed engine. The pioneers in high-speed engine building were Charles T. Porter, a lawyer, and John F. Allen, who formed a partnership to develop a new form of valve gear, the invention of Mr. Allen, about twenty-five years ago. They met with success and paved the way for other builders of the same class.

The advent of the high-speed engine demanded a form of governor different from the "fly-ball" type in use for slower speeds. This demand was met by the invention of the shaft or wheel governor. The use of centrifugal force in the governing mechanism of engines has been so universal that it may be said no successful governor has been made without it. In all forms of centrifugal governors weights are made to revolve around an axis with a latitude of motion to and from the axis, the motion being made to regulate the steam supply. In the common "fly-ball governor," in which the two balls revolve around a vertical axis, centrifugal force is counteracted by gravity, but as gravity never changes at any one place, the position of the balls at any fixed speed is always the same.

When

When a change in speed causes the weights to move from any position they will move to the extreme limit of motion in that direction, because the same difference between the two forces that causes a movement of the weights will continue to exist when they have reached their limit of motion. This action of the weights produces the effect of throwing the steam all on and all off, one extreme following the other in rapid succession, a result which is called "racing." To prevent this and obtain a regular action at all times it is necessary to adjust the opposing forces that as the weights move outward the centripetal force increases more rapidly than the increase of centrifugal force due to the larger circle in which the weights move.

In the shaft governor the tension of a spring is substituted for gravity, and the governor weights rotate vertically instead of horizontally. With this governor whatever changes occur in the steam pressure or load, the engine is kept always at speed. In the typical shaft governor two levers are set on either side of the crank shaft in a frame or wheel to which they are pivoted, the bearings being usually on knife edges. The centrifugal force is resisted by springs placed radial to the crank shaft. Rods attached to the arms carrying the weights are attached by their other ends to the eccentric which is loose on the shaft. As the centrifugal force of the flying weights throws them outward the rods pull the eccentric around so as to reduce the throw while retaining the lead. "Throw" is the length of stroke of the eccentric; "lead" is the amount of opening of the admission part when the engine is "on the centre" or at extreme end of stroke. As the travel of the valve is diminished it cuts off earlier in the stroke, thus bringing the engine down to speed. The action is reversed when the engine runs too slowly. All high-speed engines are equipped with shaft governors varying somewhat in construction but all accomplishing more or less perfectly the same result. Any departure from the type will be taken up as they are reached. All high-speed engines have "positive motion" valve-gear.

All the engines in the main power plant are scheduled and given a number for the convenience of the chief engineer and his assistants. The engines as they are described will be referred to by their schedule number.

By reason of its size No. 17, the 2,000 horse-power engine, might be considered of chief interest to the visitor. No larger stationary engine was ever built, though there is another of equal size in a cotton mill at Providence. This engine was rated 2,000 horse-power at the maximum of economy, but it was capable of developing 3,000 horse-power. Steam was supplied through a pipe 10 inches in diameter, while the exhaust pipe was 22 inches in diameter. Its total weight was 650,000 lb. The enormous wheel was so strongly built that it could be run at 120 revolutions a minute, just double its working speed without approaching anywhere near the danger limit. The strain increased as the square of the revolutions. The wrist plates and the studs on which they work are large enough for the balance wheel and shaft of a fifty horse-power engine. The reach rods are heavy enough for the connecting rods of a 150 horse-power engine. The size of the engine seems, comparatively speaking, smaller than one would expect from the floor, because everything around was on such a large scale. To gain an adequate idea of its immensity, it was necessary to walk in between the cylinders. Then, by standing beside the low pressure cylinder and noticing that although one-third of it was below the floor line the top of a tall man's head would not reach up to the induction valve stem by several inches, one might realize that it is a big engine. And yet if one desired to take it home with him it might be obtained for a matter of \$80,000 or thereabouts—perhaps.

This engine was quadruple expansion, the only one in Machinery Hall. The cylinders were 26 and 40 and 60 and 70 x 72 inches. It made sixty revolutions per minute. The fly-wheel was 30 feet in diameter by 76 inches face and weighed 80 tons. The shaft was 21 inches in diameter and 17 feet over all. The engine drove two 10,000-light dynamos. The valve gear was Reynolds-Corliss long stroke cut-off, capable of cutting off at 11-12 stroke. Under ordinary load, and at the average steam pressure carried, 115 lb., it cut off at half-stroke. Under the present load and pressure this engine would run on an evaporation of 11.8 lb. of water per horse-power per hour. The cylinders were steam jacketed. The receivers were placed below the floor, between the cylinders, and were supplied with reheating tubes. The air-pump was 36 x 16, and driven by a Corliss cylinder. It exhausted into the second receiver, thus expanding the steam from the air-pump in the same manner as the steam from the large engine. This engine was not in motion during the day. On top of the big engine, by way of contrast, stood a complete working model of a Corliss engine, 2 x 4, with a 14-inch wheel making 100 revolutions a minute. It ran a miniature dynamo and some small lights.

On the same platform with the big engine next to the south wall stood No. 18, a triple expansion engine of 1,000 horse-power. The engine had two low-pressure cylinders instead of one. The high-pressure cylinder was 20 inches in diameter, the intermediate 34 inches, and the two low-pressure 34 inches each by 60-inch stroke. It made $64\frac{1}{2}$ revolutions per minute, and could develop 1,000 horse-power at a steam pressure of 115 lb.; at a pressure of 180 lb. it could develop 1,400 horse-power. The fly wheel was 28 feet in diameter, 69 inches face, and weighed 49 tons. The engine ran a 10,000-light dynamo. The valve gear was of the Corliss type. All four cylinders were regulated from one governor. The engine could not be reversed. This made it impossible to destroy the brushes of the dynamo. This engine, like its big neighbour, was provided with a by-pass to the intermediate cylinder, so the engine may be started at any position of the crank. The high-pressure cylinder cut off at one-third, the intermediate at one-half, and the low pressure at the five-eighths stroke. The guaranteed duty of the engine was the development of a horse-power on the evaporation of 14 lb. of water per hour. It was mounted on the usual Corliss guerdon frame in sections with round slides.

Nos.

Nos. 23 and 27 stood for six engines of 1,000 horse-power each. These engines were of an entirely new type, those in Machinery Hall being the first built, so that their merits remain to be demonstrated. They were vertical tandem compound condensing, double acting, direct coupled by flexible couplings to the dynamos. All engines heretofore built by this company have been of the single acting type. The cylinders were $21\frac{1}{2}$ and 37×22 , and the engines made 210 revolutions a minute. The weight of each engine was seventy tons. The high-pressure cylinder has a piston valve, controlled by the governor, while the low-pressure cylinder had a slide valve worked by an eccentric inside the crank chamber. The valve gear weighed about 1,000 lb., and on account of the speed, the pressure due to the inertia of the reciprocating parts increasing with the square of the revolutions, the strain on the pins aggregated over two tons. It thus became necessary to neutralise this pressure otherwise than by direct resistance. This was accomplished by a newly designed inertia balance. This inertia balance in other words was an air cushion whose varying resisting pressure at the different points of the stroke exactly balanced the inertia strain, so it was stated, thus leaving the governor free from work except for controlling impulses of the vibrating gear. The engine was solidly built. The shaft was 13 inches in diameter, the crank pin was 10×12 , and the main bearings 14×36 .

No. 22 stood for three 125 horse-power direct coupled, Nos. 20 and 21 for two 330 horse-power direct belted and one 330 horse-power direct coupled single-acting compound condensing engines by the same company. It had also two 125 horse-power single-acting simple engines. In the compound engines the cranks were placed opposite each other so that the steam from the high-pressure cylinder was exhausted directly into the low-pressure cylinder without going through a receiver. They had piston valves placed across the tops of the cylinders at right angles. The valve stem was connected with the eccentric rod by a rock shaft. All this class of engines have shaft governors in an inclosed case, which is filled with oil. By this means it was proposed that the governor was always kept well lubricated, and therefore sensitive. The oil within the governor case, besides lubricating the bearings, has a secondary and fully as important an effect, namely: by impact and friction it acted upon the governor weights, assisting centrifugal force in rapid adjustment for violent and extreme changes of load.

These compound engines, and also the "standard" engines by the same makers, were like the old Newcomen engines in use before Watt came upon the stage, in one respect—that is, they were "single acting." In the single-acting engine the steam drives the piston in but one direction, the work of the other half of the stroke being done by the other cylinder. In a "double-acting" engine the steam drives the piston in both directions with practically the same effect. There were three English engines at work in Machinery Hall that embody the same principle. This type of engines worked much smoother at high speeds than the double-acting, and therefore they could be run much faster. A speed of 1,000 revolutions a minute has been obtained from single-acting engines. Capt. Ericsson designed an engine about thirteen years ago for an electric lighting plant which ran at 1,250 revolutions a minute for three years without giving the slightest trouble. A trouble met with in double-acting engines has been the shock caused by the change in the direction of the pressure upon the crank-pin as the engine "turned the centre." Some "lost motion" must always be allowed at the crank-pin to prevent heating. In order to still allow this freedom of fit and obviate the shock in reversing the pressure, the plan of preventing the lift of the brass of the crank-pin and cross-head pin on turning the centre was adopted by building an engine in which pressure was exerted in one direction only. In single-action engines the working parts are inclosed in a tight box called a "crank chamber," which is partly filled with oil and water. The oil is dashed over the bearings by the motion of the parts, thus insuring constant and free lubrication.

One of the new things in engine construction was an experimental engine, No. 59. It was a vertical tandem compound of 240 horse-power, 16 and 26×16 , running 175 revolutions a minute. Its peculiarity lay in the fact that the engine had but one piston, and the piston itself was the only separation between the cylinders. One-half the stroke was made by the high-pressure cylinder and the return stroke by the low-pressure. The high-pressure cylinder, which is the lower one, was a ring whose area was equal to that of a cylinder 16 inches in diameter. The piston extended into this ring, the upper part forming the piston for the low-pressure cylinder. The steam admitted into the high-pressure cylinder forced the piston up to the end of the stroke, and then exhausted into a receiver, and from there into a low-pressure cylinder to complete the revolution. The exhaust valves were of the regular Corliss type. The induction or admission valves were rotary cylinders worked by a ratchet. Steam was admitted through the centre of these valves, which were hollow, and had five parts. The ratchet pulls the valve one-fifth around at each stroke. The cut-off was fixed at the most economical point. When the engine got above speed, the governor, which was one of the Corliss type, pushed a wedge under the ratchet, so that it failed to engage with the valve, and the high-pressure cylinder got no steam on that stroke. As the wearing surface was changed at every stroke, it was thought that the valve should be perfect fitting at all times. The connecting-rod was attached directly to the piston, the engine being without a piston-rod. The engine had the advantage of being very compact. Whatever other merits it may have had, remain to be demonstrated, as the one in Machinery Hall was the first of its kind.

The same maker also had No. 7, a 500 horse-power cross compound condensing Reynolds-Corliss engine direct coupled to a railway generator. This was one of the first instances in which the slow-moving Corliss engine has been used direct connected. This engine was 19 and 36×48 inches, and was run at a speed of ninety revolutions a minute. The cylinders were steam-jacketed. The frame was of wrought iron, making it possible to use an open crosshead.

Six engines of the same make, represented by Nos. 24 and 28 to 32, were included in the main power plant. The largest was of 1,000 horse-power. It was triple expansion condensing with two low-pressure cylinders. The dimensions of the cylinders were 20 and 30 and 36 x 48 inches. It was run at a speed of eighty-five turns a minute. The band wheel, 20 feet in diameter by 6 feet wide, was belted to 10,000-light dynamo. The engine was capable of developing 1,300 horse-power at 150 lb. steam pressure. The high-pressure cylinder was fitted with piston main valve, and piston cut-off valve. At the rear of the intermediate cylinder was an auxiliary valve mover. This was simply a small engine, 6 x 6, coupled to the valve stem to assist in moving the valves. The engine had two shaft governors, each regulating two cylinders. The other engines of this make were cross-compound condensing, 14 and 28 x 24 inches, with a speed of 150 revolutions, 350 horse-power; a tandem compound 11 and 21 x 16 inches, making 240 revolutions a minute, and generating 175 horse-power; a simple engine 16½ x 30 inches, running 110 revolutions a minute, and rated at 190 horse-power; a simple engine, 13 x 16 inches, speeded at 240 revolutions, and rated at 100 horse-power; and a simple engine 13 x 21 inches, making 160 revolutions, and developing 100 horse-power. These engines had balanced slide valves, with two ports, on top of which was a cut-off valve, the travel of which was regulated by a shaft governor. Coiled springs held the valves on their seats when steam is shut off.

Another engine of peculiar design was No. 26. It was double tandem compound condensing, rated on the engineer's schedule as of 1,000 horse-power, but capable of being driven up to 1,500 horse-power. The cylinders were 18 and 32 x 36; the speed was 112 revolutions a minute. The engine had double piston valves, the cut-off valve fitting over the main valve like a sleeve, and being driven by a separate eccentric. One eccentric worked the cut-off valves on both sides. When the governor was down, the valves, which each have double parts, travelled nearly together; when cutting off short they travelled nearly opposite. The high-pressure cylinders and the receivers were steam-jacketed. The main valve eccentric worked a pump which kept up a constant circulation of oil through the main bearings. In addition the pillow-blocks were chambered and fitted with water pipes, so that in case the bearings should heat they could be readily cooled off. The pillow-blocks had ball bearings. The usual shaft governor had elliptic instead of spiral springs and was fitted with dash pots. The engine was massively built, and had bronze bearings throughout.

The only vertical triple-expansion engine of American build was No. 3, which was coupled direct to two multipolar dynamos of 400 kilowatts. The whole occupied a floor space of 18 x 27 feet. The cylinders were 22½ and 33½ and 53½ x 36, and the engine made 100 revolutions a minute. It had the regular Corliss valve gear.

Another of the pure Corliss variety was a cross compound condensing engine of 350 horse-power, No. 39. It made seventy-eight revolutions a minute.

About the only other engines of regular Corliss type were Nos. 36 to 38. One was tandem compound of 300 horse-power, a cross-compound of 350 horse-power, and a simple engine of 200 horse-power. All were speeded at eighty revolutions a minute.

A Corliss with minor modifications was No. 56. It was a simple engine of 400 horse-power, 24 by 48 inches, making seventy revolutions a minute. Its wrist plate was made in two sections, which could be separated by turning a screw for convenience in starting, the eccentric being attached to the outer and the radial rods to the inner disk. The valves turned outward instead of inward. It had an automatic governor stop which brought the engine to a standstill in case of accident.

No. 57, a kind of Corliss. This engine had two wrist plates and two eccentrics. The inner wrist plate worked the exhaust valves, the outer one the admission valves. The radial rods were fixed to the wrist plates, and the cut-off was regulated by a shaft governor as in a high-speed engine instead of by a Corliss governor dash pots and releasing gear. This engine, which was of 110 horse-power, ran at 175 revolutions a minute, and could be run faster if required.

One of the simpler modifications of the Corliss type was No. 53, a 300 horse-power engine. This engine was said to have sixty parts less than the regular Corliss. The radial rods were at all times connected with the wrist plate and the bell crank on the valve stem. The radial rods were bent downward at the wrist plate end until their centres were below the line of strain, which was a line drawn from the centre of the valve stem to the centre of the wrist plate pin. The radial rods were attached to an arm which was hung in its centre to the wrist plate. The tripping arrangement was composed of two arms pivoted at the lower end, and opening at the top like the letter V, the amount of opening being determined by the governor. These arms bore rollers on their outer sides. The radial rods being pivoted below the line of strain folded down as the wrist plate moved away from the valve, thus opening the port. They continue folded until the free end of the arm was lifted by the movement of the wrist plate against the roller. This threw up the other end of the radial rod above the line of strain and enabled it to fly back until the valve could be closed by the dash pot. The engine made sixty-four revolutions a minute, but would work equally well at ninety revolutions.

England sent the only superposed compound engine in Machinery Hall. In the superposed engine the high-pressure cylinder was placed upon the low-pressure cylinder at such an angle that the centre lines of both bisected at the centre of the crank shaft, so that both connecting rods could be coupled to one crank-pin. The condenser and air-pump were mounted on a continuation of the bed-plate, and were operated by a continuation of the low-pressure piston-rod. The engine had a multiple-ported main valve, and a multiple-ported cut-off valve riding on top of it. The main valve was worked direct from an eccentric. The cut-off valve was worked from a second eccentric and a link. An arm controlled

trolled by a parabolic governor moved the link-block up increasing or down diminishing the travel of a reach-rod, which acted on the cut-off valve-stem through a vibrating link. When the governor was down the cut-off valve travelled nearly with the main valve; as the governor rose its travel diminished, partly closing the ports. The engine was 17 and 30 x 45 inches, made 70 revolutions, and was rated at 350 horse-power. It was equipped with a novel starting apparatus called a "barring gear." This was a small engine, which, through bevel-cogged and worm-gearing, turns a shaft bearing two helical feathers on which slid a rifled pinion. As the engine was started this pinion was moved out until it engaged with a toothed ring in the circumference of the fly-wheel. The wheel was revolved until the steam admitted to the large engine turned the fly-wheel faster than the little engine was running, when the pinion automatically slipped back out of the toothed ring.

Some peculiar ideas were embodied in No. 54, which was called a "Corliss slide-valve engine." On what grounds a slide-valve engine laid claim to the name "Corliss" was not explained. The engine had four plain slide valves, two admission and two exhaust. The exhaust valve-rod was continued from a sliding block through the two exhaust-chambers. An arm with steel face was fastened to this exhaust-rod at each end just outside the chamber. These arms coming in contact alternately with a trigger upon each steam valve-stem pushed the valve off its port until steam enough had entered the port to do the work of that stroke, when the trigger was lifted out of contact by a horizontal wedge carried on a bell-crank which was connected with the governor for regulating the cut-off, and the valve was instantly pushed back over the port by the pressure of the steam. The shock was taken up by a horizontal dash-pot. The cut-off was practically instantaneous. The engine was tandem-compound, 12 and 22 x 30 inches, made 115 revolutions a minute, and was rated at 200 horse-power.

A good example of the piston-valve high-speed engine was No. 2. The valve had a double part, and was surrounded by "live" steam, thus taking steam at the middle and exhausting at the ends of the chest. As steam was admitted through a double length of port approximately boiler-pressure was obtained in the cylinder and up to the point of cut-off. The range of cut-off was from 0 to $\frac{3}{4}$ stroke. The valve was regulated by a shaft governor. This engine was simple, 18 x 21, made 225 revolutions a minute, and was rated at 300 horse-power.

In Nos. 25 and 40 an attempt was made to combine something of the Corliss and the positive-motion valve-gear. The high-pressure cylinder had balanced slide-valves. There were four rotary valves placed at right angles to the low-pressure cylinder, the induction valves having five parts so as to give as large an area of part-opening as possible on a slight movement of the valve. On the valve-stems were cranks carrying friction-rollers, which worked in grooved slides moved parallel with the piston by the eccentric rod.

The grooves in the slides were curved so as to open and close the valves by carrying the rollers up and down as the slides moved to and fro. The distance travelled by the slides which were controlled by a shaft governor regulated the point of cut-off of these engines. One was cross-compound, the other tandem-compound condensing; one was 1,000 horse-power, the other 500 horse-power. Both made 150 revolutions a minute.

In the high-speed class engines Nos. 4, 5, and 6 stood side by side. One was a triple-expansion condensing with two low-pressure cylinders, the dimensions being 15 and 24 and 26 x 18 of 500 horse-power; another was a tandem-compound condensing, 13 and 24 x 18, of 250 horse-power; the third was a simple engine, 18 $\frac{1}{2}$ x 18, also 250 horse-power. All made 200 revolutions a minute. These engines had double piston valves, taking steam at the ends and exhausting in the centre. The eccentric was hung on the inside of the wheel, and the governor on the outside, making it easy of access. The governor had knife-edged bearings and was lubricated by centrifugal oilers, by which oil was distributed by centrifugal force through pipes radiating from the centre of the limb. It was claimed that the simple engine required the evaporation of 22 to 30 lb. of water per horse-power per hour, the compound 16 to 18, and the triple-expansion 13 to 15 lb.

Engines Nos. 10 and 11 did a portion of the work in the main power plant. One was tandem-compound condensing, 13 and 22 x 16 inches, of 225 horse-power, and running 245 revolutions a minute; the other was a simple engine, 16 x 16, of 200 horse-power, speeded at the same rate. In the compound engine the cylinders were built close together, with no stuffing-boxes between; it cut off at $\frac{3}{4}$ stroke under usual speed and load, and required, it was stated, the evaporation of about 17 $\frac{1}{2}$ lb. of water per horse-power per hour condensing, or 22 lb. non-condensing. The steam from the high-pressure cylinder exhausted directly into the low-pressure. The high-pressure cylinder had a piston-valve, and the low-pressure a balanced slide-valve. Both valves were placed on one stem, which was connected directly to the eccentric rod by a ball-joint without rocker or slide. The engine was entirely self-oiling. A gallon of oil was placed in a basin under the crank disk. This was kept in constant circulation in the enclosed crank-chamber by the splashing of the crank and by centrifugal force. The compound engine was started March 28, and ran 850 hours without being shut down. Between these engines stood a little working model, 2 x 2, mounted on a neat granite base. It was run by atmospheric pressure by connecting its exhaust-pipe with the exhaust-pipe of one of the big engines. It was made by a boy in the Springfield watch-factory.

Nos. 35, 42, and 58 were especially designed for electric-light service. They were simple engines, 15 x 14, of 200 horse-power, and made 275 revolutions a minute. They had solid piston-valve and the regular shaft-governor. The third was also a simple engine, 18 x 22, of 200 horse-power, making 160 revolutions a minute. It had a Richardson balance slide-valve.

No.

No. 41 was a double-tandem compound, 9 and 16 x 14, of 250 horse-power, and making 265 revolutions. It had four ported balanced slide-valves. The pressure-plates were held down with four small spiral springs, so that in case of over-pressure of water in the cylinder the valve would move back. All four valves were controlled by one shaft or wheel-governor, which had but thirteen parts. One weight was used instead of two. Between each pair of cylinders was a sleeve instead of two glands for packing.

Another variation of the four-ported balanced slide-valve was found in Nos. 8 and 9. Steam-pressure was eliminated from this valve by a relief-plate, which in turn was supported against steam-pressure by a double wedge. A handle extended out through the steam-chest by which the relief-plate could be adjusted and thrown on or off the valve instantly. These two engines were both tandem-compound condensing, one 19 and 31 x 24, making 165 revolutions a minute, and of 600 horse-power, the other 15 and 25 x 20, making 200 revolutions a minute, and developing 375 horse-power.

In No. 1 the valve of the high-pressure cylinder itself formed a steam-chest. Its action was the reverse of the ordinary slide-valve, steam being admitted through the centre of the valve by an opening at the upper side and exhausted at the ends. The engine was cross-compound, 18 and 36 x 18, making 225 revolutions, and developing 480 horse-power. The valve of the low-pressure cylinder was of the regular slide type, but being broad was moved by two valve-stems instead of one. The eccentric was bolted fast to the wheel, and the eccentric strap was moved by the governor instead. The eccentric was outside and the governor inside the wheel. A plate carrying the eccentric-rod wrist-pin was fastened to the strap. The action was the same as though the eccentric itself were moved by the governor.

A newly-patented device for securing adjustment of a piston-valve was found in Nos. 51 and 52. The great trouble with piston-valves usually is to make them tight. By this device springs were done away with, and a solid valve was secured at all times. There were two of these engines, both being tandem-compound, 17 and 28 x 18, and making 176 revolutions a minute. They were 300 horse-power each. Beside these stood a simple high-speed engine of the same make, mounted with the bolts left out of the bed at three points to show the nice balance of the reciprocating parts. The engine, which was 60 horse-power, made 300 revolutions a minute without a jar.

Distinctly different from all its neighbours was No. 55. The engine had four flat gridiron valves. The admission-valves were connected to the cut-off mechanism by stems running parallel to their seats. They were worked by a sliding-bar driven by an eccentric parallel to the centre line of the cylinder. A pair of "tappets" on this bar was set so as to engage the rock shaft-arms which moved the admission-valves. A rod on the inner side of the sliding-bar connected with the governor moved the tappets up and down so as to release the rock shaft arms and cut-off steam sooner or later in the stroke, according to the load and speed. The exhaust-valves travelled across the line of the cylinder, and were moved by an oscillating shaft worked by a yoked eccentric. This engine was capable of cutting off anywhere between the beginning and three-quarters stroke. It was 12 and 20 x 42, of 300 horse-power, and ran at a speed of 125 revolutions a minute.

A combination of round and slide valves was found in Nos. 33, 34, and 44, the latter number representing three engines. In these engines the main valve, a triple-ported balanced slide valve, and the two exhaust-valves somewhat like the Corliss pattern, were worked by one eccentric. The cut-off valve, also triple-ported, slide, on top of the main valves. Its travel was regulated by a shaft governor so that when the engine was running slowly the two valves travelled nearly together, but when cutting off short they worked nearly opposite each other.

Engines Nos. 12 to 16 inclusive were high-speed, with balance slide-valves. There was one cross-compound, 14 and 22 x 12 inches, making 280 revolutions, and rated at 200 horse-power, two tandem-compound, 13 and 20 x 16 inches, making 226 revolutions a minute, and rated at 150 horse-power; and two simple engines, 16 x 16 inches, running at the same rate, and developing 150 horse-power. The valve was made in two parts, having its faces opposite, and with telescopic sleeves connecting the two parts and allowing each face to be pressed against its corresponding seat in the steam-chest. Steam was admitted to the interior of the sleeves, and thence through the ports into the cylinder, from whence it was exhausted by the ends of the valve into the steam-chest and out through the exhaust-pipe at the bottom. The valve for the low-pressure cylinder of the compound engines was cylindrical in shape, and placed transversely to the axis of the cylinder and directly underneath it. Two double-ported valves, with arc-shaped faces fitting the bore of the valve-chest, were placed opposite each other and mounted loosely on a central valve-stem, which drove them both, and allowed both to be held in contact with their faces by steam-pressure. Steam was admitted from the valve-chest over the end on edge of the valve and also through the port in the valve, giving a quick and wide opening. At the same time the exhaust had a direct passage to the condenser. The valve-stem had a rock-arm, which received its motion from a simple crank-pin on the outside of the balance-wheel.

England contributed three single acting engines, Nos. 64 and 65, which were said to be popular in that country for electric light stations. One was a "three-throw" engine, the others were "two-throw." The "three-throw" engine consisted of three tandem compound engines placed vertically coupled to one shaft by cranks placed 120 degrees apart. It has cylinders 14 and 20 x 9 inches. Its regular speed was 350 revolutions a minute, at which speed it developed 300 horse-power. The connecting rods were double, one being placed on either side of the eccentric. It had piston valves which worked in a trunk in the cylinder. The crank chamber was enclosed and partly filled with oil and water, all the bearings being lubricated by the splashing of the cranks

cranks. As there was a constant downward pressure with no alteration of strain there was usually little wear, and it was not usual for the engine to require adjustment. There were no brasses on top of the shaft. At the Royal Naval Exhibition in 1891 the weight of steam per indicated horse-power per hour by one of these engines was 20.5 pounds. The two-throw engines were identical with the three-throw except that they had two pairs of cylinders instead of three. One of them was rated at 300 horse-power and made 359 revolutions a minute, the other was rated at 150 horse-power, and made 380 revolutions a minute. All had separators to insure dry steam. The piston speed was reduced in these engines by giving them a short stroke. They had centrifugal throttle governors placed directly on the outer end of the crank shaft. By means of an adjustable weight on a lever attached to the throttle stem a variation of 15 per cent. in speed could be secured without stopping the engines.

From Germany came some fine specimens of workmanship in No. 60. No. 60 represented two engines, exact counterparts of each other, which stood side by side in the German section. One was 1,000 horse-power, the other 150. Both were of the marine type. The larger engine, it was stated, was built in twenty days, though some engineers expressed great wonder that such a piece of work could be accomplished in that time. It was built throughout of highly finished steel. It was vertical, triple expansion, condensing, and had cylinders 23 and 37 and 57 x 27 inches, and made 100 revolutions a minute. It was coupled directly to a 10,000-light dynamo. The high-pressure cylinder had a piston main valve and piston cut-off valve working over it. The cut-off valve was composed of four rings which were moved nearer together or separated by the action of the governor, which was of the "fly-ball" type. The intermediate and low-pressure cylinders had balanced slide valves. All the cylinders were steam-jacketed. The condenser and air pump which are above the floor-line were worked by a walking beam connected with the intermediate crosshead. All the oiling was done from oil tanks at the rear of the cylinders, from which pipes radiate to the bearings. The smaller engine had cylinders 12 and 19 and 29½ x 14, and made 150 revolutions a minute. It drove four sets of line shafting by means of an endless rope.

This vast power plant was under the supervision of Chief Engineer Charles F. Foster. Mr. Foster's staff was made up of John Meaden, first assistant, and A. Ritter, C. C. Clump, George Ross Green, John Colley, W. S. Monroe, Charles H. Smith, and Arthur Venning, second assistants. Subject to the orders of this staff were 100 operating engineers and 100 oilers. Each operating engineer made out a report on going off duty, showing engine and number of hours run, what stops were made, if any, and what for, steam pressure, total number of revolutions of engine, and a long list of other details.

APPENDIX N.

Historical Collection of the Locomotives in the Possession of the Baltimore and Ohio Railroad Company, showing the Evolution of the Steam Engine as a Prime Motor for transportation from place to place.

(A Synoptical Account by H. J. R.)

To the general visitor this was the most interesting exhibit of railroad engineering in the Transportation Building, embracing as it did complete and accurate models of locomotive engines, from those of the very earliest times, in the beginning of the present century when rapid transit from place to place by means of the expansive power of steam was scoffed at as the absurd and impossible dream of a visionary, up to the present time when, at the close of the same epoch, railroad travelling is not only looked upon as possible, but as one of the necessary adjuncts to the civilisation and progress of the human race. What would one of those scoffers say nowadays, if he could be confronted with the majestic and massive locomotives from the works of Baldwin, and these moving palaces complete with their fittings of luxury and refinement, the Pullman and Wagner vestibule cars?

But to proceed to the details of this wonderful and historical exhibit.

In a great many cases the original locomotives were shown, and where it was not possible to show these because they have long since been relegated through a species of vandalism to the scrap-heap, very accurate models of wood were prepared, and these showed in every detail the points of the originals.

1. The "Sandusky," 1837.—Designed and built by Thomas Rogers—of Rogers, Ketchum and Grosvenor, of Paterson, New Jersey. "Tall oaks from little acorns grow" was never more powerfully exemplified than in the comparison afforded between this, the first of the famous "Rogers," with, say, the majestic machine which heads the Pullman Exposition Train across the aisle to the north. There is, however, one point of similarity and it is in the lines. The "Sandusky" was as noticeable in its day for symmetry as are its progeny, so to speak, of the present time, and was a good description of a locomotive to be designed and constructed half a century ago. It has the following details characteristic of American locomotives:—The cylinders fixed outside the framing, and the slide-valve box above the cylinder. The connections of the eccentric rods with what then took the place of the more modern link, is rather old-fashioned and seems rather rickety, for it seems as if a rough jolt would displace them from their pins; this design however has the merit of great simplicity. The "Sandusky" was the first locomotive to turn a wheel west of the Ohio River. In the "Sandusky" several important features were introduced, among them, "counterbalancing," which had not been recognised as essential. Another novelty was the making of the driving-wheels with hollow spokes and hollow rim; the rim on the side opposite the crank being cast solid; this being the introduction of this form of construction subsequently becoming so general. The "Sandusky's" cylinders were 11 inches in diameter with 16-inch stroke, the driving-wheels being 4 feet 6 inches in diameter. The eccentric rods extended back to the rock-shaft which was under the footplate. The smoke-pipe was of the bonnet kind, having a deflecting cone curled over the edges in the centre so as to deflect the sparks downward, and thus prevent them passing through the wire-bonnet.

2. In contrast with the American model is exhibited next in order the original locomotive "Rocket," 1838, of English make, showing the English characteristics.—the cylinders placed inside the framing. This was designed and built by Braithwaite and Co., of London, England, and imported to America the same year. This was the first locomotive, the original No. 1 used on the Pennsylvania and Reading Railroad. Braithwaite was one of the earliest designers and builders of locomotives in England, and he, in conjunction with Ericsson, afterwards so famous, built the "Novelty," one of the competitors in the Liverpool and Manchester trial of 1829. The "Rocket" as it stands here has the same boiler, fire-box, cylinder and frames that came with it from England. In other words, it is the original locomotive in all main essential parts. The original wheels which came with the engine in 1838 were worn out several years ago, and were replaced with cast-iron wheels. The wheels which are now under the locomotive, as stated by Mr. L. B. Paxson, the superintendent of the Reading Railroad, and who has been continuously with the company for upwards of forty years, are to the best of his knowledge and belief, exact duplicates of those which came from the other side of the Atlantic, except that at that time locomotive builders did not depend entirely upon the shrinkage

shrinkage of the tires to hold them on the wheels, but had some four or five rivets in each tire, according to the diameter of the wheel. These rivets which were in the English wheels, were omitted in those made to replace them. "I am well satisfied," writes Mr. Paxson, "that all the work about the 'Rocket' is as she came from England, with the single exception of the stack, and from the best information I have been able to get I believe the stack is a duplicate of the one that was on the engine when it arrived here. The painting is also as she was when received in 1838, the only variation in the ornamentation being possibly the brass bands on the jacket, which may have been of iron and black." The "Rocket" is unquestionably the nearest in its original form of any English locomotives of those imported by American railroad companies in the "thirties" now in existence. Others which may have been preserved are only in very small part original, having been remodelled till almost nothing remains of the first construction.

3. The "Samson," 1838.—Designed and built by Timothy Hackworth, of England, at his shops at Soho. Shipped to Nova Scotia the following year, and used in coal-roads traffic for forty-five years. This, with the exception of the "Sans Pareil," which is preserved in the South Kensington Museum, in London, is, undoubtedly, among the very oldest of the Hackworth locomotives in existence. It was in use as late as 1882, but condemned to the scrap-heap several years ago. Fortunately it was rescued soon after the order to break it up had been issued, and preserved in more or less bad shape, to be sure, but still to such an extent as to render it of no ordinary interest from an historical standpoint. The cylinders and driving-gear are at the front end of the locomotive, and thus was the engineer placed so that he could keep a good look-out ahead. The fireman was at the other end. The sand-box consisted of two buckets of sand, one at each end of the locomotive, the sand being thrown by hand on the rails. This duty was attended to by the engineer, or "driver" as he was termed in those days, when the engine was moving ahead, and by the fireman when moving backward. The cylinders, 15 $\frac{1}{2}$ inches in diameter with 18-inch stroke, rest vertically upon cast-iron frames, and form part of a bonnet or hood which partially encloses the valve-gear, pump, throttle, and reversing-levers, and other working parts. The cross-heads, instead of being girded by slides, have an arrangement of levers and slides in the block. That this device caused very little friction is shown by the fact that the original pins and brass bushes in the levers and sliding-blocks are still in place, and show comparatively little wear after nearly forty-five years' service. The engineer was compelled to leave his place at the front of the locomotive whenever desirous of ascertaining the height of water or pressure of steam, and go round to the side of the boiler where the water and steam gauges were located.

4. Nova Scotia Car, 1838.—Designed and built in England, and shipped to Nova Scotia in the year named. The successful use of locomotives in England on the coal-roads for several years led the proprietors of the Albion Mine, in Nova Scotia, to decide to introduce them, and accordingly they ordered three from Timothy Hackworth, who then had his own shops at Soho in operation. Hackworth had been at the head of the Stockton and Darlington Railway repair-shops, at New Sheldon, in County Durham; but being a man of strong religious convictions, would not consent to working on Sunday, and left the service of the railway company rather than do violence to his opinions in that respect. At the same time the Albion Company determined to introduce steam to take the place of horses in conveying coal from the pits at Stellarton to navigation, at Picton Harbour. It was concluded to have at the least one car for personal and such other use as there might be occasion for. To this end the order was sent to England to forward a car with the locomotives, and as it was deemed desirable to have it especially commodious, the seating capacity was settled at four, with the possibility of accommodating six at a pinch. The result of a good deal of correspondence upon the subject was the construction of this car, which, compared to the Royal Blue Coach, or the Pullman parlour of to-day, is certainly not over-convenient and elegant, yet for its time it was much more than ordinarily comfortable. That its construction was thoroughly first-class, as far as it went, is proved by its existence, after so many years, in fairly good condition. It is probably the oldest passenger-car extant. There is hardly a question of this as regards the American continent; and if there are older railway passenger carriages in Europe in existence, records of these are not obtainable.

5. The "Albion," 1839.—Designed and built by Timothy Hackworth, of England, at his shops at Soho. Reached Nova Scotia the same year, and put in service on the Albion coal-road, between Stellarton and Picton Harbour. The "Albion" was built for the Albion Mines, in Nova Scotia, and placed on the six-mile track, extending from the coal-pits to navigation, and was in service many years before (like the "Samson") it was condemned to the scrap-heap. Of the pioneers, Timothy Hackworth was among the very foremost in reaching practical results, and the strong individuality of the man, coupled with his remarkable ingenuity, left a stamp upon the early history of the locomotive, which by no means lessens as the contrasts between the facilities of his time with those of to-day become so marked. That he had, to some extent, grasped the requirements of locomotive construction, is shown in such features as the coupled driving-wheels placed as near together as possible, the centre pair being without flange, the forced draught obtained by means of the exhaust in the smoke-stack, and the cylinders connected outside the frame. Hackworth, at the time of the construction of the "Albion" and "Samson," was by no means the only designer and builder following such principles of construction, but he was of the very first to adopt them in more than one important essential, and led all others. This fact lends added interest to the possession in this collection of two original old engines of his creation, both of which demonstrated their practical worth by upwards of forty years' actual service. To the modern locomotive engineer the cable engine would indicate hardships of no ordinary nature. But old engine-drivers still living affect to scorn the modern machine, with its complicated gauges, air-brakes, and the like. A short time since, one of them, in speaking of his long service

service in Nova Scotia, on Hackworth locomotives, declared, "All the wind and snow of forty years never made old Donald Thomson shiver yet!" And to a further inquiry responded, "Indeed I was far more careful of her than of the gude-wife."

6. The "Buffalo," 1844.—Designed and built by Ross Winans, of Baltimore, Md., and the first eight-wheel coupled locomotive in the world. This engine has a vertical boiler, horizontal cylinders, guide rods, and spur wheel gearing.

7. The "Mount Clare," 1845.—Designed and built by James Murray, of Baltimore, and the first locomotive built by the Baltimore and Ohio R. R. Co. Cylinders placed inside the framing, immediately under the smoke-box, wheels having a diameter of 35 inches, and the gearing so proportioned as to make them equal to 50 inches in diameter. The valve-gear did not embrace cams, as this was a fault in the Winans geared engines to be avoided. The valves had considerable lap on the induction side, and there was an arrangement on the back of the valves by means of which the steam could be cut off at about half-stroke. This engine has a cab, but no pressure-gauge, and three gauge-cocks.

8. The "Camel," 1848.—Designed and built by Ross Winans, of Baltimore, Md. The first of this class of engines was placed on the Baltimore and Ohio Road, in 1848, in response to specifications prepared by Mr. Benj. H. Latrobe, and limiting the weight to 22 tons. It had 17-inch cylinders of 22-inch stroke placed horizontally, and eight 43-inch drivers. In distributing the weight of this engine on its four pairs of driving-wheels it became necessary to move the large dome from over the fire-box to a point well forward of the middle of the boiler, where also the throttle-valve and engine-man were placed. This humped feature suggested the name of "Camel," which was given to the first engine of this form, and the name has since adhered to the type. The features, some of which are now in general use, which were novel at the time, and distinguished the Camels from previous constructions, were:—The employment of eight driving-wheels set closely between horizontal cylinders and a long overhanging fire-box, the width of which was equal to or greater than the distance over frame; a fire-box having a downwardly and rearwardly inclined top; a dome and an engineer's house placed on top of the boiler close to the forward end; an upper chute for feeding coal through the top of the fire-box; a fire-box having no water-space on its rear side, which was closed by doors, so as to expose its entire area when required. The abandonment of iron sheet stay-bars, and the substitution of stay-bolts connecting the crown-sheet with the outer shell; the use of a half-stroke cam as a means of effecting cut-off. The valve motion was of the drop-hook pattern.

9. The "Dragon," 1848.—Designed and built by Mr. Baldwin, of Philadelphia, and one of the oldest examples of the Baldwin Locomotive Works extant. This is, as far as the boiler goes, very similar to the locomotives of the present day, having a cab, dome, sand-box, bell, smoke-stack, and head-light; the wheels and connecting-rods are of a different type however. Link motion is used; the cylinders are sloping and rather high; the boiler is fed by a pump driven by a rod from the rear crank.

10. "Ten-Wheel Camel," 1852.—This engine has the bogie truck, and in other respects is similar to the last mentioned, except that the cab is well forward, and in fact covers the entire boiler. In this case the alarm-bell is to the rear of the cab.

11. The "Mason," 1853.—Although forty years old, it seems precisely the same as the modern locomotives in use on the railroads of America to-day. The shape of the smoke-stack, the absence of a glass water-gauge, or an air-brake, and a few other details alone render it different.

12. The "Peppersauce," 1863.—Designed by Silvester Marsh, and built by the Whitton Machine Co., of Boston, and the first mountain-climbing locomotive in the world. A spur-wheel engages in a rack between the rails. The boiler hangs on trunnions, so as to maintain a vertical position. She was built to ascend Mount Washington, and did good service. At first she had no pump, and was filled by means of a funnel; when she ran dry she was taken back, and the plug unscrewed and again filled with water. One of the last trips it made was with the late Mr. William H. Vanderbilt, who conceived the plan of eating his breakfast at the Profile House, dinner on the summit of Mount Washington, and supper back at the Profile House. It was the intention to use another engine, but owing to something going wrong the "Peppersauce" had to be steamed up, and although, as Mr. Aiken says, she leaked around every tube, and constantly lost steam, Mr. Vanderbilt was able to carry out his programme, and he and his family were the first to accomplish the trip as indicated prior to the construction of the railroad from the Profile House to the base of the mountain. General Grant made his first ascent of Mount Washington in a car drawn by this engine. Many of the most distinguished men of this country, as well as noted visitors from abroad, have gone up the mountain behind this, the first, of all the mountain-climbing locomotives.

13. The "Perkins," 1863.—To a certain extent similar to modern American locomotives. There are small differences of detail, and the machine is rather gaudily painted. Has an injector instead of the pump used on the engines mentioned above. Has no glass water-gauge, but merely cocks.

14. The "B. and O. 600," 1876. Somewhat similar to the last. Has a feed-pump worked by the rear crank. Also has a glass water-gauge. Very modern in appearance.

15. The "Tom Thumb," 1829-30.—Designed and built by Peter Cooper, of New York, and the first locomotive built on the American continent; also the first locomotive to draw a car on the American continent. Vertical boiler; single vertical cylinder with cross-head over it, and connecting with the crank beneath; small feed-pump, spur-wheel gearing, a fan driven by a rope from the axle to force the draught; water carried in a cask; the exhaust opening direct into the air through a pipe.

16. The "Mercury," 1830.—Designed and built by George Stephenson, of England, and the development of the Planet type, which became the standard of the English locomotive. The "Mercury" was to the English what the "Campbell" was to the American type, in each instance the father, as it were, and thus both will retain place in the locomotive history of the world for all time. The "Planet" was complete as a locomotive, having its furnace, boiler, chimney, blast-pipe, and a pair of high-pressure steam-engines and feed-pumps, all mounted upon springs upon the same frame, the production of steam and its admission to the cylinders being under complete control.

17. The "Best Friend," 1830.—Designed and constructed by E. L. Miller, at the West Point Foundry, New York, and the first locomotive built for actual service in America. The locomotive exploded early in the summer of 1831, through the carelessness of the coloured fireman. It was shortly afterwards rebuilt, and named the "Phoenix." Vertical boiler, with the top in the shape of an inverted cone; weighted lever, safety-valve, inclined cylinders, no gauges, two drivers coupled, 5 feet in diameter.

18. The "George W. Johnson," 1830.—Designed and constructed by George W. Johnson, of Baltimore, and the first locomotive built complete in the State of Maryland. This was a competing engine in the Baltimore and Ohio trial, and was the first locomotive in the world with a double fire-box. Horizontal boiler; single drivers, 2 feet 6 inches in diameter; 2 beam engines, and steam-pipe exhaust in rear of fire-boxes; three gauge-cocks.

19. The "York," 1831.—Designed and built by Phineas Davis, of York, Pa. Awarded the first prize offered by the B. and O. R. R. Co. in 1831, in the locomotive trial of that year, and which was the first locomotive competition in America. Vertical boiler, inverted cylinders, crosshead connected with the two drivers, lever safety-valve, steam exhausting to the atmosphere from a pipe; feed-pump worked by crosshead.

20. The "Costell," 1831.—Designed and built by Stacey Costell, of Philadelphia, Pa., and taking part in the B. and O. locomotive competition of 1831. Horizontal boiler, oscillating cylinders with the piston-rod extending through the forward end of the cylinder; lever safety-valve; two drivers of 3 feet coupled; all these engines have wooden framing.

21. The "Child," 1831.—Designed and constructed by Ezra Child, of Philadelphia, and taking part in the B. and O. locomotive competition. In the preparation of the collection, no one field of research has been more persistently and faithfully worked than that incident to the trial of locomotives on the B. and O. road in 1831, the first event of the kind on the American continent. The English trial of a year and a half previously has been preserved in history to the most minute detail, but of the American trial there were but scraps of facts, and not a drawing is known to exist. Illustrations of the "Rocket," the "Novelty," and the "Sans Pareil," the contestants in the English competition, are numerous, the first- and last-named locomotives being still in existence and most carefully preserved in the South Kensington Museum, in London.

In this collection are for the first time shown the "York," the "Costell," the "James," the "Johnstone," and the "Child," the five participating engines in the American trial. This engine is the most notable example of the introduction of the "Rotary" principle in locomotive construction ever known—in fact, about the only one which ever performed any useful work. The steam enters the drum through the shaft which connects with the axle of the hind pair of drivers by means of spur-wheel gearing.

22. The "James," 1831.—Designed and constructed by William T. James, of New York, and participating in the B. and O. trial of 1831. The first to use link motion; vertical boiler; inverted cylinders; spur-wheel gearing connection with an upper shaft, which is cranked, and connects with both drivers by means of connecting-rods rigidly connected at bottom by means of a third rod.

23. The "Remodelled York," 1831.—Originally designed by Phineas Davis; remodelled by Ross Winans, being the first plan of construction suggested by him. In this engine the exhaust works a fan which draws air through a pipe, and the exhaust steam and air pass to the fire; vertical boiler; vertical inclined cylinders, and feed-pump.

24. The "Atlantic," 1832.—Designed and built by Phineas Davis, of York, Penna., and the first of the "Grasshopper" class. The oldest American locomotive in existence, and the only pioneer engine on American roads, either of American construction or foreign construction, in original form. In actual service for sixty years, a record unparalleled by any locomotive in any part of the world. Weight, 6½ tons; geared by spur and pinion, so as to make two revolutions of the road-wheels to one of the cranks; its speed was proportionately great, for which its tubular boiler and fan-blast for its anthracite coal fuel offered abundance of steam. It was designed for speed in propelling passenger trains, hence only one pair, the front one of its four wheels, was used as drivers, and on which pair nearly two-thirds of its weight was made to rest. The "Atlantic" averaged 12 to 15 miles per hour against an extreme grade of 37 feet to the mile, and a curve of 400 feet radius. The "Atlantic" is to-day as it was when originally constructed, thus enabling a study of the progress of the period, and consequently of value historically. No foreign locomotives were ever employed upon the B. & O. R. R.

25. The "Old Ironsides," 1832.—Designed and built by Matthias W. Baldwin, and the first effort of the founder of the largest locomotive works of the world. Very similar to the old English locomotives, having inside cylinders, brass dome at rear of the boiler, &c.

26. The "South Carolina," 1832.—Designed by Horatio Allen, of New York, and built by the West Point Foundry Works, and the first eight-wheeled locomotive in the world. The first double horizontal boiler locomotive in the world, and father of the "Fairlie" type, so largely used in Europe. Firing done at both ends. 27.

27. The "Experiment," 1832.—Designed and built by John B. Jervis, of New York, and the first locomotive in the world with the "Bogie" or forward truck. This engine has done its mile in fifty seconds.

28. The "James," 1832.—Designed and constructed by William T. James, of York, Pa., and the first distinctive freight locomotive in America. Very much the same as the "Atlantic." The first locomotive in the world with "link motion."

29. The "Traveller."—Designed and built by Phineas Davis, of York, Pa., and the first distinctive freight locomotive in America. Very much the same as the "Atlantic."

30. The "Thomas Jefferson," 1835.—Of the Davis type, and the first locomotive built by Ross Winans, of Baltimore. Just as it came out of the B. and O. service yard, after fifty-eight years' of continuous service. After the style of the "Atlantic;" has, however, an injector, as well as a feed-pump, a cab, and a bell.

31. The "Campbell," 1837.—Designed by Henry R. Campbell, of Philadelphia; built by James Brooks of the same city, and it was the father or first of the type of the standard American eight-wheel locomotive. Has the appearance of the English locomotive, for the cylinders are inside the framing and beneath the smoke-box.

32. The "Mazeppa," 1836.—A "Grasshopper," with cylinders changed from vertical to horizontal, and thus becoming the first of the "Crab" type. The original engine, which, like other "Grasshoppers," has seen upwards of half a century of actual service.

33. The "Hercules," 1837.—The first locomotive in the world with equalising frames and levers.

34. The "La Fayette," 1837.—The type of locomotive that created a revolution in construction, both in Europe and America, and was the most famous of its time. Built by William Norris, of Philadelphia, and the first six-wheel engine on the B. & O. R. R.

Now we come to some of the very earliest attempts at locomotion by means of steam:—

35. The "Newton," 1680.—Isaac Newton's idea of propulsion by steam on land, and the first in history of which there is any account. Full-size production of about what the machine would have been had it been actually constructed. Built from the best data possible to obtain. The world was the same in the 17th Century as now in the 19th, and there were those who laughed incredulously at Newton in 1600, as only a few years ago there were those who laughed at Edison. As described in the "Explanation of the Newtonian Philosophy," it consists of a spherical boiler mounted upon a carriage. Steam issuing from the escape fronting directly backwards, by its reaction upon the carriage drives the latter ahead. The driver, sitting upon the seat placed forward, controls the steam by the handle and cock. In other words, propulsion was through the force of the escaping steam against the atmosphere. That it would have amounted to anything from a practical standpoint is not probable, but as the initial idea of the possibilities, it marked the formation of the germ of the evolution of the locomotive, which has passed through stages of development to the comparative perfection of to-day.

36. The "Cugnot," 1769-71.—The first self-moving land carriage or locomotive of which there is record in history. Designed and constructed by Nicholas Cugnot, of France, an officer of the French army. The original machine is still in existence, being preserved in the Conservatoire des Arts et Metiers, Paris. Cugnot was the first man in the world to apply the high-pressure or non-condensing engine with cylinders and pistons to the production of rotary power, and he was the first to apply the energy of steam. In other words, he built what, though purposed for use on common roads, may be said to have been the first locomotive.

37. The "Murdoch," 1784.—Designed and constructed in model by William Murdoch, of England. He was James Watt's assistant, and as Watt was so bitter an opponent of the high-pressure engine, Murdoch made his experiments at night, and, as far as possible, without the knowledge of his chief. His locomotive had a single vertical cylinder, the piston-rod being connected to one end of a beam vibrating upon a joint at the other. A connecting-rod was jointed to the beam close to its working end, and turned a crank in the axle of a pair of driving-wheels. The cylinder was half-immersed in a copper boiler through which a flue passed obliquely, the heat being supplied by a spirit-lamp beneath.

38. The "Read," 1790.—Designed and patented by Nathan Read, of Salem Mass., and the first recorded idea of steam propulsion on land in America. Nathan Read is upon record as the earliest patentee of the multitubular boiler in the world, having taken out a patent in 1791, and he was undoubtedly the inventor of the vertical multitubular firebox boiler. The principle of the steam carriage was the driving of the wheels, the rear pair of which had pinions upon the hubs, by a ratchet arrangement on the racks connecting with the piston-rods, the steering being by a wheel, connected by ropes and chains. The exhaust-pipes it was proposed to turn so as to point backwards, in order to, as he explained, secure the advantage of the effect of reaction of the expelled steam.

39. The "Trevithick," 1800.—Designed and constructed in model by Richard Trevithick, of England, and the first effort of the father of the locomotive.

40. The "Trevithick," 1803-4.—Designed and constructed by Richard Trevithick, and the first locomotive on wheels in the world. It was on the Merthyr-Tydvil tramway, in South Wales, that the first locomotive upon a permanent-way was placed and operated.

41. South Wales Cars and Rails, 1800.—Used on the Merthyr-Tydvil tramway, and the first cars drawn by a locomotive in the world. Cars standing upon the original rails upon the original stones of the tramroad which was built in 1800, and upon which the train, as here constituted, ran in 1803. These are undoubtedly the oldest cars in existence.

42. The "Okrutor Amphibolis," 1804.—Designed and built by Oliver Evans, of Philadelphia, and the first practical propulsion by steam on land.

43. The "Trevithick," 1808.—Designed and constructed by Richard Trevithick, and the first locomotive on rails in London.

44. The "Blenkensop," 1811.—Designed and constructed by Matthew Murray, in conjunction with John Blenkinsop, both of England, the joint production resulting in the first really practical and serviceable locomotive of its time. A rack-rail outside the track was used by this engine.

45. The "Brunton," 1813.—Designed and constructed by William Brunton, of England, and called the "Mechanical Traveller," or "Horse Leg" locomotive. The legs or propellers at the rear imitated the legs of a man or the fore legs of a horse, and great care was taken to so construct them as to prevent them injuring the road, and at the same time obtain a firm footing. They were made broad, and with short spikes to lay hold of the ground, so that no jerks should occur at the return of the stroke.

46. The "Hedley Model," 1812.—Designed and constructed by William Hedley, of England, and the first carefully-constructed experiment to demonstrate the adhesion of smooth wheels to smooth rails.

47. The "Puffing Billy," 1813.—Designed and constructed by William Hedley, of England, immediately after his demonstration of the adhesion of smooth wheels to smooth rails, by means of the rudely-built experimental carriage, the model of which is now in the South Kensington Museum, London.

48. The "Blucher," 1814.—The first locomotive designed and constructed by George Stephenson.

49. The "Seguin," 1828-9.—A Stephenson engine remodelled by Marc Seguin, of Paris, France, and converted into the first locomotive with multitubular boiler.

50. The "Howard," 1829.—Designed by William Howard, of Baltimore, Md., and the first locomotive patented on the American continent.

51. The "Rocket," 1829.—Designed and constructed by George Stephenson, and the winner of the prize in the Liverpool and Manchester Railway trial.

52. The "Sans Pareil," 1829.—Designed and constructed by Timothy Hackworth, of England, and participating in the Liverpool and Manchester Railway trial.

53. The "Novelty," 1829.—Designed and constructed by Braithwaite and Ericsson, of England, and participating in the Liverpool and Manchester Railway competition.

54. The "Stourbridge Lion," 1829.—Designed and constructed by Foster and Rastrick, of England, and the first actual locomotive seen in America.

Having now completed a list of the fifty-four locomotives forming this collection, as a contrast I may notice very briefly some of the magnificent engines which stood in the same building, and which showed the very latest development of locomotive-building in England, the United States, France, and Germany.

Right next to the Sampson and Albion, both English locomotives of the years 1838 and 1839, was a locomotive built by the Baldwin Company of Philadelphia, and dated 1893, its number being 859. This engine was a double compound expansion engine, and showed the very latest development of this branch of engineering. It had two coupled drivers of 6 feet, the stroke being about 3 feet.

On the other side of the triple row of historical locomotives and models was a locomotive constructed by the Rogers Locomotive Company of Paterson, N.J. This engine had all the characteristic details of American locomotives. It had three coupled drivers, 72½ inches in diameter, cylinder, 19 in. x 24 in. Weight of the engine in working order was 126,000 lb. This engine was, during the currency of the Exposition, sold to the Charleston and Savannah R. R. Plant System. The cylinders were in this case the simple high pressure. It headed the train of Pullman Vestibule Cars, and a noticeable feature was the vestibule attachment applied to the tender and the front car. The number of the locomotive was 100.

Another engine exhibited by the Baldwin Company was the "Columbus." It had the usual features of the Baldwin expansion engine, and was similar to the first mentioned, except that it had three coupled drivers.

There was a historical locomotive exhibited by E. Warren Clarke, of Rockford, Illinois. This was the famous war locomotive "General," captured by the "Andrews raiders," on the Western and Atlantic R.R., 12th April, 1862. On one of the windows of the cab was placed a notice to the effect that "the men who occupied this engine cab paid the penalty with their lives. Executed 18th June, 1862."

The engine was decorated with the Stars and Stripes, having patriotic effusions gilded on them, such as "I do not regret dying for my country, for that is a soldier's duty," and "the old Union will yet be restored, and the flag of our common country wave over the very ground occupied by this scaffold." Dying words of Wilson, executed 18th June, 1862.

This was a very historical relic of the war, and attracted a large share of attention.

There was also to be seen a car that ran between Boston and Dedham, Massachusetts, in the year 1834. This car had evidently been repaired and renovated for exhibition purposes, and so did not present such an ancient appearance as the "Nova Scotia Car," and the train of cars behind the "De Witt Clinton," referred to elsewhere.

A small locomotive with saddle tank was exhibited by the Wellman Iron and Steel Company, and had all the distinctive features of the American locomotive, with the exception of the bogie.

One of the Baldwin locomotives exhibited had the cab located over the centre of the boiler. This locomotive was raised from the track and the driving-wheels were made to revolve by means of compressed air.

Another

Another Baldwin had the high-pressure cylinder beneath the low-pressure, and both inclined at a very small angle to the horizontal. This was a freight locomotive, and as a purely American type we may note the following details:—

“Decapod Type.”—Cylinders, h.p. 16 in., l.p. 27 in. by 28 in.; driving-wheels, 50 in. diameter; weight in working order, 195,000 lb.; weight on driving-wheels, 172,000 lb.; total weight, engine and tender, 284,420 lb.; total wheel-base of loco., 27 ft. 3 in.; driving wheel-base, 19 ft. 10 in.; engine truck wheels, 30 ft.; fuel, anthracite coal; diameter of boiler, outside, 76 in.; tubes $12\frac{1}{2}$ ft. long; fire-box, 10 ft. $11\frac{1}{8}$ in. by 8 ft. $2\frac{3}{8}$ in.; working steam pressure per sq. in., 189 lb.; water capacity of tender, 4,500 gals.; coal, 8 tons; diameter of tender-wheels, 33 in. The second and third drivers on each side had no flange. The driver's cab was on the centre of the boiler, and the stoker's cab on the rear of the boiler; Westinghouse air-brake; metallic packing; two fire-doors; No. 805.

The Brooks Locomotive Works exhibited a locomotive with four coupled driving-wheels. The Brooks' characteristic appears to be the fire-box with a square top, although this is not the only form they use, as they show locomotives with arched fire-boxes. This company also showed a locomotive in which the high-pressure cylinder was placed tandem with the low-pressure; that is, in front of it and in line with it. One locomotive, No. 210, by this firm had an electric headlight manufactured by the National Electric Headlight Co. of Indianapolis, Ind.

A locomotive of the Schenectady Locomotive Works had the piston-rods carried through the front end of a cylinder and enclosed in a tube. This locomotive also had the two centre coupled drivers without flanges.

One of the most modern forms of engine was the Shay patent locomotive engine, “Lima.”—Boiler, 44 in.; waggon-top, 11 in.; tubes, 106, 96 in. by 2 in.; fire-box, 73 in. by 40 in. by 52 in. deep; three cylinders, 11-in. bore by 12-in. stroke; eight driving-wheels, 32 in. diameter; capacity of tank, 1,800 gal.; 4-in. syphon; 5-in. patent steam-brake; geared, 19 in. to 42 in.; gauge, $56\frac{1}{2}$ in.; rigid wheel-base, 52 in.; total wheel-base, 27 ft. 4 in.; length over all, 34 ft.; weight in working order, 80,000 lb. The three cylinders were on the right side of the fire-box looking forward. This locomotive engine will overcome grades of 10 per cent. and curves of 63 degrees.

Rhode Island Works sent a locomotive with the high-pressure cylinder on one side and the low-pressure on the other. In fact this appeared to be the leading characteristic of this firm.

Having now glanced more or less superficially at the most noticeable of the American locomotives, let us glance for a brief time at the English representative types.

“The Lord of the Isles.”—These English locomotives are at once noticeable for the absence in a great many cases of the cab, which is universal on American locomotives. We also notice the vast amount of polished brasswork, the somewhat gaudy appearance of the machinery generally, the painted boiler (which is not at all common on locomotives here, they being as a rule covered with Russian iron), the tender with low sides, the slightness of the wheels, &c., all give them rather a slight appearance beside the American locomotives. We also notice the height of the bottom of the fire-box from the ground, the absence of the bogie truck and wheels, and the size of the one pair of drivers. Altogether the American locomotive, in my opinion, has decidedly the better appearance of the two. Let us notice the principal details:—Wheels—driving, 8 ft. diameter, leading and trailing, 4 ft. 6 in.; cylinders, 18 in. diameter by 24 in. stroke; boiler (barrel), 10 ft. 9 in. by 4 ft. 9 in.; tubes, 300, 11 ft. 1 in. by 2 in. outside; fire-box, 5 ft. 6 in. long by 6 ft. width; heating surface—fire-box, 156 sq. ft.; tubes, 1,611 sq. ft.; total, 1,767 sq. ft.; fire-grate area, 25.46 sq. ft.

The other sample shown was Frederic C. Winsby's patent four high-pressure cylinder express locomotive. This locomotive had a cab, and in general appearance was almost up to the American. Two coupled drivers, 7 ft. 6 in.; truck wheels, 4 ft.; pressure, 180 lb.; cylinders—inside, 17 in. by 22 in., outside, $16\frac{1}{2}$ in. by 24 in.; weight on the drivers, 80,640 lb.; grate surface, 28 sq. ft.; heating surface, 2,050 sq. ft.; total weight, 134,400 lb. Joy's patent valve gear. A steam jet was used to force the sand on to the rails.

There was also exhibited an express locomotive named the “Empress.” This was a splendid engine, built on F. W. Webb's system, *i.e.*, the low-pressure cylinder is placed between the two high-pressure cylinders. Two coupled drivers, 7 ft. diameter.

Let us now look at the French locomotives. They present a rather complicated appearance in some cases, and some are rather like the English. The cylinders are outside. One engine had three domes cased in brass upon the boiler and connected by a tube, giving the engine rather a peculiar appearance.

Another engine had outside cylinders as well as inside, all high pressure. Another engine exhibited had all the appearance of the English locomotive except for its outside cylinders and very complicated (for a locomotive) valve-gear. The leading-wheels in this engine were solid, and about 4 feet in diameter. All these engines have cabs, but, unlike the American locomotives, the cabs are rather open and unprotected.

The locomotives from Germany have an English appearance, but have outside cylinders. There were two of these exhibited.

Altogether the representation of the United States in this section was, as would naturally be expected, the most complete and representative.

Besides the actual machines exhibited there were a number of pictures and locomotive photographs exhibited which showed very clearly the difference between the engines of America and those of England, and which also showed the evolution of the locomotive engine.

APPENDIX O.

World's Congress Auxiliary.

Official Programme of the International Congress of Education.

(DEPARTMENT IX OF AUXILIARY.)

(July 25-28, 1893.)

UNDER CHARGE OF THE NATIONAL EDUCATIONAL ASSOCIATION, U.S.A.

All meetings to be held in the Memorial Art Palace, Michigan Avenue, foot of Adams-st., Chicago.

NOTE:—The other Departments of the Auxiliary whose programmes have not been given in detail were as follows—I, Department of Woman's Progress; II, Department of the Public Press; III, Department of Medicine; IV, Department of Temperance; V, Department of Moral and Social Reform; VI, Department of Commerce and Finance; VII, Department of Music; VIII, Department of Literature; X, Department of Engineering; XI, Department of Art; XII, Department of Government; XIII, General Department of Subjects Specially Assigned; XIV, Department of Science and Philosophy; XV, Department of Labour; XVI, Department of Religion; XVII, Department of Sunday Rest; XVIII, Department of Public Health; XIX, Department of Agriculture.

THE WORLD'S CONGRESS AUXILIARY OF THE WORLD'S COLUMBIAN EXPOSITION OF 1893.

NOT THINGS, BUT MEN.

NOT MATTER, BUT MIND.

President: CHARLES C. BONNEY.

Vice-President: THOMAS B. BRYAN.

Treasurer: LYMAN J. GAGE.

Secretaries: BENJ. BUTTERWORTH, CLARENCE E. YOUNG.

THE WOMAN'S BRANCH OF THE AUXILIARY.

President: MRS. POTTER PALMER.

Vice-President: MRS. CHAS. HENROTIN.

COMMITTEE OF THE NATIONAL EDUCATIONAL ASSOCIATION.

IN GENERAL CHARGE.

CHAIRMEN PRESIDING AT THE SESSIONS.

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THE NATIONAL EDUCATIONAL ASSOCIATION

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REGISTRATION.

All are cordially invited to register as members of the International Congress of Education.

MEMBERSHIP IN NATIONAL EDUCATIONAL ASSOCIATION.

A certificate of membership in the N. E. A. will entitle any person to membership in the General International Congress and its several departments.

It will also secure, *free of charge*, the volume of proceedings of all the Congresses held from July 25-28, 1893.

Membership certificates can be obtained in Hall 5, Memorial Art Palace, or from any of the Registration Secretaries, upon payment of the fee of \$2.00.

GENERAL CONGRESS.

Meetings of the General Congress held in the Hall of Columbus of the Memorial Art Palace.

TUESDAY, JULY 25, 3 P. M.

Meeting opened by prayer by Rev. F. A. Noble, D. D.

Address by C. C. Bonney, President of the World's Congress Auxiliary.

Addresses by Right Rev. Samuel Fallows, Chairman of General Committee on Educational Congresses, Mrs. Potter Palmer, President Woman's Branch of the Auxiliary, Mrs. Charles Henrotin, Vice-President, Mrs. H. W. Wilmarth, Chairman of Woman's Branch Committee on Congress of Education, Dr. S. H. Peabody, Chief of Department of Liberal Arts, and others.

Report of W. T. Harris, Commissioner of Education, Chairman of the Committee of Arrangements.

Address by Hon. A. G. Lane, President of the National Educational Association, introducing Dr. James B. Angell, permanent Chairman of the General Congress.

SECOND SESSION OF THE GENERAL CONGRESS, 8 P. M.

Address by Dr. James B. Angell, President of the General Congress.

Address by Sir Henry Trueman Wood, Secretary of the Royal Commission of Great Britain for the Chicago Exposition.

Address by M. Gabriel Compayré, President of the French Commission on Education.

Address by Professor Dr. Stephan Waetzoldt, General Commissioner-in-Charge of the German Imperial Educational Exhibit. Subject: The school reform in Germany.

Address by Prince Serge Wolkonsky, delegate of the Ministry of Public Instruction.

Address by Dr. G. W. Ross, Minister of Education in Ontario.

Address by Dr. Wm. R. Harper, President of the University of Chicago.

THIRD SESSION OF GENERAL CONGRESS, FRIDAY, JULY 28, 8 P. M.

Address by Miss E. P. Hughes, Principal of the Cambridge Training College for Teachers, Cambridge, England. Subject: The professional training of teachers for secondary schools.

Address by Rt. Rev. Jno. J. Keane, Rector of the Catholic University of America, Washington, D. C.

Address by Prof. L. Dimscha, of St. Petersburg University, and delegate of the Ministry of Public Instruction of Russia. Subject: Legal education in the United States.

Address by Prof. Dr. Ditmar Finckler, of the German Imperial Commission to the Exhibition.

Address by M. Benjamin Buisson, delegate of the Minister of Education of France.

Address by Gen. John Eaton, ex-Commissioner of Education of the United States. Subject: Educational endowments in the United States.

Address by M. Ergraff Kovalevsky, delegate of the Russian Ministry of Public Instruction.

Address by Dr. L. M. Törngren, Director of Royal Central Gymnastic Institute, Stockholm, Sweden.

Address by Dr. Alberto Gomez Ruano, Commissioner in charge of Educational Exhibit of Uruguay.

Address by Don J. Abelardo Nuñez, Inspeccion General de Instruccion, Primaria, Chili, Director of the Chilian Exhibit.

Address by Dr. Edwin Österberg. Subject: Training of teachers in high schools in Sweden.

HIGHER

HIGHER EDUCATION.

Hall No. 7, main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Subject: Universities.

Chairman, President D. C. Gilman, of Johns Hopkins University. Alternate Chairman, President W. R. Harper, of the University of Chicago. Secretary, Prof. Andrew F. West, of Princeton University.

Themes for Discussion.

1. How far is it desirable that Universities should be of one type? To be opened by President Martin Kellogg, of the University of California.
2. How should we cope with the problem of excessive specialisation in University study? To be opened by a paper sent by Professor Allievo, of the University of Turin, Italy.
3. To what extent should an antecedent liberal education be required of students of law, medicine, and theology? To be opened by Professor Woodrow Wilson, of Princeton University.
4. In what way may professional schools be most advantageously connected with universities and colleges? To be opened by President Seth Low, of Columbia College.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

Subject: Colleges.

Chairman, President Timothy Dwight, of Yale University. Alternate Chairman, President James B. Angell, of the University of Michigan. Opening address by the Chair.

Themes for Discussion.

1. Should Greek be required for the degree of Bachelor of Arts? To be opened by Professor W. G. Hale, of the University of Chicago.
2. What signs of improvement are visible in the undergraduate life of American students? The discussion to range over the topics of athletics, morals, student organizations, intercollegiate courtesies, and relations of students to instructors. To be opened by President Raymond, of Wesleyan University.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

Subject: Topic dealing with the relations of higher education to the advancement of culture, learning, and civilisation.

Chairman, President Francis L. Patton, of Princeton University. Alternate Chairman, President Seth Low, of Columbia College. Opening address by the Chair.

Themes for Discussion.

1. The evolution of liberal education. To be opened by Professor A. F. West, of Princeton University.
2. On what conditions should the degree of Doctor of Philosophy be given? To be opened (probably) by Professor Ira Remsen of Johns Hopkins University, followed by Professor W. O. Sproull, Dean of the University of Cincinnati.
3. The relation of our colleges and universities to the advancement of civilisation. Closing addresses by Rt. Rev. Bishop Keane, Rector of the Catholic University of America, Washington, D.C., and President James B. Angell, of the University of Michigan.

SECONDARY EDUCATION.

Hall 22, upper floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Inaugural address by Dr. J. C. Mackenzie, President of the Department. The supervision of all secondary education in public high schools, private schools, and endowed academies, by the State or municipal authority.—Discussion.

11:30 A.M.

Thesis: The course of study in secondary schools designed simply to prepare pupils for life (or designed as a finishing school), should it be different from that designed to prepare students for college or the professional school? By Dr. W. T. Reid, of Belmont, California.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: (a) Should the amount of time given to mathematics in secondary schools (as they are) be diminished? (b) Should the amount of time given to languages in our secondary schools (as they are) be diminished, in order to make room for a more extended course in physics, botany, and chemistry? By Dr. C. F. P. Bancroft, Principal Phillips Academy, Andover, Mass., Dr. D. W. Abercrombie, of Worcester Academy, Mass., and Dr. Schlee, Rector of the Real-Gymnasium of Altoona) and a member of the committee of seven appointed by the Emperor.—Discussion.

11:30 A.M.

2. Thesis: Should art studies, including drawing, painting, and modelling, form a part of the prescribed course for all pupils in secondary schools? To be opened by a paper presented by Mlle. Marie Dugard, Professor at the Lycée Molière, Paris, and member of the French Commission: On the secondary education of girls in France.—Discussion.

THIRD

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: Should algebra or geometry come first in the course of study of secondary schools? Hon. W. N. Hailman, Superintendent of Schools, La Porte, Ind., and Prof. Bela Krécsy, Delegate from Hungary.—Discussion.

11:30 A.M.

2. Thesis: In cases where a choice should be made, which should come first, Latin, or some modern language, in the course of study of secondary schools? W. C. Collar, Head Master Roxbury Latin School, Boston, Mass.—Discussion.

ELEMENTARY EDUCATION.

Meets in the Hall of Washington, on the main floor.

FIRST SESSION, WEDNESDAY, JULY 6, 9:30 A.M.

General topic: The course of Study in Elementary Schools.

Address by the President of the Department, General John Eaton, Ex-Commissioner of Education of the United States.

1. Thesis: Should morals, language, numbers, geography, history of the country, writing, and drawing be considered the essentials of the course of study for the eight years of elementary instruction, the pupils being from six to fourteen years of age? J. L. Pickard, LL.D., of Iowa, and Hon. L. H. Jones, Superintendent Public Schools of Indianapolis.—Discussion.

2. Thesis: What should be added to the essential branches of the elementary course of study to meet the industrial needs of localities or race characteristics? For example, should city schools introduce branches relating to commerce or manufactures, or should rural schools introduce agriculture, chemistry, and botany? Prof. Ergraff Kovalevsky.—Discussion.

3. Papers on the University Education of Women in England, prepared by Miss Fawcett and Miss Beale, of London. Read by abstract by Miss E. P. Hughes and Miss M. Louch, of London. Other papers prepared by foreign delegates for this department read by title or by abstract (and to be printed in full in the volume of proceedings).

SECOND SESSION, THURSDAY, JULY 27.

General Topic: The Teaching of Geography.

Programme of this and the third sessions furnished by the National Geographical Society.

1. Opening address by Dr. Gardiner G. Hubbard, the President of the Society. Relation of the currents of air and water to animal and vegetable life, and to the temperature of countries.

2. Addresses from delegates of Foreign Societies. (One hour.)

3. Address by Prof. William Libbey, Jr., delegate from the American Geographical Society of New York. The relations of the Gulf Stream to the Labrador current off the New England coast.

4. Paper by Col. F. W. Parker, Principal of the Cook County Normal School. Relation of history to geography.

5. Address by Miss Eliza Ruhamah Scidmore. Japan.

6. Address by General Eaton, representing the Bureau of Education. The relations which may or should exist between the National Geographic Society and geographical instruction.

7. Announcement relative to awards of prizes by the National Geographic Society.

8. Address by Prof. George Davidson, representing the Geographical Society of the Pacific. An examination of the early voyages of discovery and explorations of the north-west coast of America between 1536 and 1603, including the identification of the anchorage of Sir Francis Drake on the coast of California, 1579.

9. Address by Prof. T. C. Chamberlain, representing the University of Chicago. The relations of geology to physiography in educational work.

10. Geographical instruction in the public schools. Prof. W. B. Powell, Superintendent of Public Schools, Washington, D.C.

11. The arid regions of the United States. By F. H. Newell.

12. Address by Prof. Israel C. Russell, University of Michigan.

It is expected that the Hon. John Abercrombie will attend as delegate from the Royal Scottish Geographical Society, and Sir Casimier S. Gzowski, of Toronto, as a delegate from the Royal Geographical Society of London.

Through the courtesy of Mr. Wm. E. Curtis, U. S. Commissioner, the members of the conference will have the exclusive use of the Monastery of la Rabida from 9 to 11 a.m., July 28. Mr. Curtis and Capt. John G. Bourke, U. S. Army, will explain "Exhibits of Columbus," and "the most precious collection of historical papers that were ever exhibited together."

THIRD SESSION, THURSDAY, JULY 27, 8 P.M.

Address: International Polar Expeditions. By Gen. A. W. Greely, U. S. Army.

FOURTH

FOURTH SESSION, FRIDAY, JULY 28, 9:30 A.M.

General Topic: Morals, Religion, and Citizenship.

1. Thesis: How far should Moral Education be made to include courtesy and social etiquette? What school exercises are the best to promote education for citizenship? In what ways can the studies of the common school, such as History and Literature, be made to develop the sentiment of patriotism? What special work should be undertaken in the elementary school to prepare the pupils for the duties of citizenship? Hon. W. A. Mowry, Superintendent Schools, Salem, Mass., and Hon. D. B. Johnston, Superintendent Schools, Columbia, S. C.—Discussion.

2. Dr. N. G. W. Lagerstedt, delegate from Sweden, will read a paper on the Public Educational System of Sweden.

3. Thesis: Is it possible to separate religious and moral instruction? Should religious instruction be introduced into the public or common schools, and taught either by the regular teacher or by clergymen? Should the Bible be read as a religious exercise? In how far can the discipline of the school be relied upon to secure moral habits? E. E. White, LL.D., of Columbus, O.—Discussion.

KINDERGARTEN INSTRUCTION.

Sessions to be held in the Hall of Columbus, on the main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Introductory Address, Mrs. A. M. Hughes, President of the Department.

General topic of the first session: The essential characteristics of the kindergarten as distinguished from the primary school, and the practical adjustment of the former to the latter.

1. Thesis: (1) The essential characteristics of a kindergarten. (2) Its gifts and occupations. (3) Should the kindergarten attempt to teach reading or writing? (4) Should the plays and games, which Froebel invented, be modified? Should substitutions be made for any of them, or others be added? (5) What is the place and value of the song in the kindergarten, and the degree of dramatic element which should accompany the song? The above discussion opened by Mrs. Alice H. Putman, of Chicago, Mrs. Sarah A. Stewart, of Philadelphia, and Miss Constance Mackenzie, also of Philadelphia, and Mrs. Otilie Bondy, of Jena, Germany.

2. Thesis: (1) The organic union of kindergarten and primary school. (2) What modifications in the primary school are necessary or desirable in order to adapt it to continue the work of the kindergarten and reap the advantages of the training already received? (3) What are the essential differences in discipline and instruction that should characterize the primary school and distinguish it from the kindergarten? The above discussions to be opened by Mrs. Sarah B. Cooper, of California, Hon. W. E. Sheldon, of Massachusetts, Mr. B. Pickman Mann, of Washington, D. C., and Miss Mary C. McCulloch, of St. Louis.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: (1) Preparation of the kindergartener for her work. (2) Should all kindergarten teachers be required to pass examination in secondary studies, such as algebra, geometry, modern or ancient languages, general history, natural science, psychology, and English literature or the literature of the native country? (3) What training in Froebel's philosophy should be prescribed in a professional course of training for the kindergartener? (4) What work in the gifts and occupations, the plays and games, theoretically and practically, should be required for the graduate from a kindergarten training school? The above discussions opened by papers from Miss Susan E. Blow, by Miss Annie Laws, President of the Kindergarten Society of Cincinnati, and by Mrs. Louisa Parsons Hopkins, of the Board of School Supervisors, Boston.

2. Thesis: (1) Educative value of hand work in the kindergarten. (2) Cautions to be observed as to the limits of certain of the occupations, such, for example, as pricking paper, and other work that is liable to strain the eyes if too long continued. (3) The Froebel system of drawing, in contrast to free-hand drawing. (4) The characteristic mental and physical conditions of the first seven years of childhood, which determine the special educative value of hand work in the kindergarten. The above discussions opened by Hon. W. N. Hailman, Superintendent of Schools, La Porte, Ind., and Miss L. H. Pingree, of Boston.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: (1) To what extent is the use of symbolism justifiable in the kindergarten? (2) Is there any validity to the claim often urged, that the child under seven years of age is to be distinguished in psychological development from the child of more than seven years of age, through his greater dependence upon symbolic modes of instruction? (3) Is the distinction a valid one between symbolic and conventional studies,—conventional studies being understood to mean reading, writing, written arithmetic, and appliances useful in intercommunication but not emblematic or symbolic of a second and higher meaning? The above discussions opened by Prof. Earl Barnes, of Leland Stanford Junior University, and Prof. Charles A. McMurry, of Illinois State Normal University, Miss Elizabeth Harrison, of Chicago, Miss Marian Foster Washburne, of Chicago, Miss Hattie Neil, of Chicago, and Mrs. Eudora L. Hailman, of La Porte, Ind.

2. Thesis: What should be the character of the stories told in the kindergarten, and to what extent should stories be told? The above discussions opened by Miss Mary T. Hotchkiss, of Milwaukee.

SCHOOL

SCHOOL SUPERVISION.

Hall 4, on the main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Address by Hon. A. S. Draper, Superintendent Public Schools, Cleveland, O., President of the Department.

1. Thesis: Teacher's examinations, certificates, and licenses. What scholastic knowledge should be required from teachers before being permitted to enter on a term of probationary service—In English? In languages other than English? In natural science? In physics and chemistry? In mathematics? In art? Hon. W. B. Powell, Superintendent Public Schools, Washington, D. C.—Discussion.

2. Thesis: How to improve the work of poor teachers.—Hon. F. A. Fitzpatrick, Superintendent Public Schools, Omaha, Neb.—Discussion.

3. Thesis: How to interest a corps of teachers in the study of psychology and its application to the work of the school-room.—Discussion.

4. Thesis: University participation for teachers. Hon. E. P. Seaver, Superintendent Schools, Boston, Mass.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: Appointment and tenure of office of superintendents. President F. W. Parker, Cook County Normal School, Chicago, and Dr. B. A. Hindsdale, of Michigan University.—Discussion.

2. Thesis: Who shall appoint teachers, and on whose nomination? Hon. H. M. Tarbell, Superintendent Public Schools, Providence, R.I., and Hon. C. B. Gilbert, Superintendent Public Schools, St. Paul, Minn.—Discussion.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: At what point in the course of study should departmental or special teachers be employed in elementary schools?

2. Thesis: Should the law require the attendance of all pupils in school between the ages of eight and fourteen? Hon. John Jasper, Superintendent of Schools, New York City, Hon. Thos. B. Stockwell, State Superintendent of Public Instruction, Rhode Island, and the Hon. A. G. Lane, Superintendent Public Schools, Chicago, Ill.—Discussion.

PROFESSIONAL TRAINING OF TEACHERS.

Sessions to be held in room No. 3, main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

General topic of discussion for the session: Schools of practice, or "model" schools connected with the schools for the professional training of teachers.

Introductory address by Dr. E. A. Sheldon, President of the Department.

Paper by Fannie S. Guptill, Minneapolis, Minn. Discussion of the questions involved.

1. The kind and degree of preparation required before coming to the school of practice.

2. The time in the course of preparation when the practice should be taken.

3. The value and extent of observation work in the Model School.

4. Amount and character of criticism to be recommended.

5. Value of "substituting," or filling vacancies in ward schools.

6. Value of practising with classmates as pupils.

7. Shall the instructors of branches be the critics in their own branches?

8. Shall the critic be always present?

9. How much practice shall be required each day, and how long continued?

10. How often should the classes taught be changed?

11. What degree of perfection in teaching shall be required in order to entitle the candidate to a diploma?

12. Is the plan a good one to have a paid teacher in charge of each class in the School of Practice who does a part of the teaching and at the same time criticises the work of the pupil teachers?

13. The value of sending pupils out into neighbouring schools to observe and take charge occasionally of classes.

The discussion will be opened by Francis W. Parker, Principal Cook County Normal Cook, Chicago, Ill., and J. W. Cook, Principal State Normal University, and others. The discussion will be followed by the reading of two valuable and highly interesting papers. The first paper is prepared by Signor Giacomo Oddo Bonafide, Director of Normal School, Alvellino, Italy. Subject of the paper: "What Professional Training of Teachers is Desirable (in normals or by practical instruction)?" To be read by Mrs. C. L. Place, Principal of Training School, St. Paul, Minn. The second paper is prepared by Joseph W. Cownham, Lecturer on Education and Master of Methods, Westminster Wesleyan Training College, S. W. England. This paper will be read by Miss N. Cropsy, Assistant Superintendent of Schools, Indianapolis, Ind.

SECOND

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Should we have a gradation of Normal and Training Schools ?
 - a. For training teachers of normal schools, colleges, and universities.
 - b. For training teachers for secondary schools.
 - c. For training teachers for elementary schools.
 - d. For training teachers for kindergarten and primary schools.
 - e. For training teachers for rural schools.
 - f. Requirements of these different grades :
 1. As to scholastic instruction.
 2. As to psychological and technical instruction.
 3. As to practice teaching under criticism.

Thomas Kirkland, Principal of the Normal School at Toronto, Canada, will open this discussion with a paper, and will be followed by Eugène Martin, Directeur de l'Ecole Primaire Supérieure, Paris, Dr. Francis J. Cheney, Principal State Normal School, Cortland, N.Y., and others.

2. Should the course of study in normal schools be wholly professional, or should it include work in the elementary and secondary branches, even where proficiency in these branches is required as a condition for admission? If so, to what extent? The discussion will be opened with a short paper by Daniel Fulcomer, A.M., President Western Michigan College, Grand Rapids, Mich., to be followed by F. B. Palmer, Principal of Normal School, Fredonia, N.Y., and others.

3. How does the typical normal-school work differ in method from that of secondary or higher education? Malcolm MacVicar, Superintendent of the Freedmen's Schools of the Baptists' Home Mission Society, Brooklyn, N.Y., will open the discussion with a paper, to be followed by John W. Dickinson, Secretary Massachusetts Board of Education, and others.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

What should be required of a candidate for the degree of Doctor of Pedagogy? Discussion, led by Jerome Allen, Ph. D., Dean of Faculty of Pedagogy, University of City of New York, and Dr. Edward R. Shaw, of same institution.

a. Should such requirements be confined to scholastic instruction? Dr. Charles McMurry, of Illinois State Normal University. What should be required in the way of teaching ability, experience and skill? Dr. S. G. Williams, of Cornell University.

b. Should original investigation be required in some branch of child study? Earl Barnes, Professor of Pedagogy in Leland Stanford Junior University, California.

c. Or in some phase of the history of education? Dr. Edward Brooks, Superintendent of Schools, Philadelphia, Pa.

d. Or in experimental psychology with a view to determine some questions in regard to the education value of a branch, or branches, in the curriculum of elementary or secondary schools? Prof. Edgar D. Shimer, of Faculty of Pedagogy, University of the City of New York.

11:30 A.M.

What value should be attached to the formal study of children in the training of teachers? Dr. G. Stanley Hall, President of Clark University, Worcester, Mass., will open the discussion, to be followed by Miss Margaret K. Smith, State Normal and Training School, Oswego, N.Y.

The following persons from abroad have announced their intention of coming to the Departmental International Congress for the Professional Training of Teachers. They will doubtless take a part in the discussions of this department, making the occasion one of unusual interest and profit.

England—Miss E. P. Hughes, Principal Cambridge Training College for Higher Teachers, Cambridge.

France—Messieurs Gabriel Compayré, President of the French Commission; Benjamin Buisson, Delegate of the French Minister of Public Instruction; Eugène Martin, Directeur de l'Ecole Primaire Supérieure of Paris, and Member of the French Commission.

Ireland—Prof. D. Croly, M.A., St. Patrick's Training College, Drumcondra, Dublin; Prof. J. J. Doherty, L.L.D., Training College, Marlborough-street, Dublin.

Scotland—J. R. Leslie, M.A., Principal Episcopal Training College, Dalry House, Edinburgh; A. S. Baird, Esq., Free Church Training College, Glasgow; Dr. Thomas Morrison, Glasgow Free Training College, Glasgow.

Canada—John B. Calkin, Normal School, Truro, Nova Scotia; Eldon Mullin, Principal Provincial Normal School, Fredericton, N.B.; Thomas Kirkland, Principal Toronto Normal School, Toronto, Ont.; Th. G. Rouleau, Principal Normal School, Laval, Quebec; Prof. J. A. Calder, Principal Normal School, Moose Jaw, N.W.T.

ART INSTRUCTION.

Sessions to be held in Hall 8, main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

General Topic: Methods of Teaching Drawing.

Address by Prof. Halsey C. Ives, President of the Department.—Discussion.

1. Thesis: Whether the pupil shall first take a course of drawing from the flat, in order to learn the technique of representation. Prof. H. T. Bailey, Supervisor of Drawing for the State of Massachusetts.—Discussion.

2.

2. Thesis: How early shall the pupil begin to use models? Prof. W. S. Perry, Pratt Institute, Brooklyn, N.Y.—Discussion.

3. Thesis: Should the models to be drawn be artistically beautiful, or shall the pupil practice drawing real objects without reference to the æsthetic question? Prof. L. W. Miller, Principal of the Philadelphia School of Arts, and Prof. W. S. Goode-nough.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

General Topic: All art study should aim first to familiarise the pupil with the chief types of the great works of art with a view to cultivating the artistic taste.

Miss Emily J. Rice, of Cook County Normal School.

1. Thesis: The pupil should study and analyse a series of works from the great masters, describing in language in the form of essays the general theme and the methods adopted of making the work of art tell its own story, the technical difficulties and successful devices of the artist in completing his work of art. Prof. J. M. Hoppin, Prof. Alfred Emerson, Cornell University, and Rev. Frank Gunsaulus, President of Armour Institute, Chicago.—Discussion.

2. Thesis: The pupil should copy or make a drawing of the work of art which he has learned to analyse, and his exercise should be criticised by fellow pupils and teacher, making clear the respects wherein he has failed to seize the motives of the artist, or to reproduce his (the artist's) devices of representation. Mrs. Mary Dana Hicks, of Boston.—Discussion.

3. Thesis: Works of sculpture after being studied analytically and reproduced in drawings should be modelled in clay, and works of painting after such preliminaries should be copied in painting by the pupil. Prof. George L. Schreiber, of Armour Institute, Mr. E. F. Fenollosa, of the Boston Art Museum.—Discussion.

THIRD SESSION, FRIDAY, JULY 28.

1. Thesis: Connected with the learning to model in clay, wax, or other material, the pupil should have a series of lessons on the limitations belonging to the arts of painting and sculpture, and discuss what subjects can properly be treated in sculpture, and what more properly belong to painting. Prof. W. M. R. French, Director of the Art Institute of Chicago, Prof. J. F. Weir, of Yale University, and Miss Emily Sartain, of Philadelphia.—Discussion.

2. Thesis: Should drawing commence from the beginning with light and shade, or should it be outline drawing for the first year or more? Miss Josephine C. Locke, of Chicago, Miss Hannah J. Carter, of Drexel Institute, Philadelphia, and Prof. J. Ward Stimson, of the New York School of Fine Arts.—Discussion.

INSTRUCTION IN VOCAL MUSIC.

Sessions held in Hall 31, upper floor.

WEDNESDAY, JULY 26, 9:30 A.M.

General Topic: The course of study, or what the pupil should learn of vocal music in the elementary schools for children aged five to fifteen years.

Address by Prof. F. W. Root, President of the Department.

1. In what grades of the elementary school should the children learn pieces of music by rote (or by ear only), and in what grades should they commence to learn to read musical notation?—Discussion.

2. In what grades or at what ages should pupils be required to take up part singing or learn other parts besides the soprano or melody?—Discussion.

3. What music is especially adapted to children from five to ten, and what from ten to fifteen years? What rule should guide the selection from popular songs? from classic composers? A discussion of the characteristics of the compositions of such song-writers as H. G. Nägeli, Fr. Silcher, C. H. Rink, Fr. Kuecken, and the higher classical composers, Beethoven, Mozart, Mendelssohn, Schubert, Von Weber, Handel, Schumann, Kreutzer, Abt, Haydn, Rossini, and others, who furnish the best selections for pupils in their fifteenth year and upwards.

4. The feasibility of forming a library of pieces of music of permanent value for the different ages of youth—say, for example, selections from such composers as Nägeli for pupils from five to ten years, and from such as Mendelssohn for pupils from eleven to fifteen years.—Discussion.

5. The danger of confining the course of study in music for a too long period to reading and singing mere mechanical exercises devoid of artistic merit and empty of all thought and feeling.—Discussion.

6. The importance of including in the child's musical course popular songs of a permanent character, such as the national patriotic airs, the great religious hymns, the emotional utterance of pure sentiments, like love of home, friendship, generosity, industry, sobriety, respect for others, self-denial, and general right doing.—Discussion.

THURSDAY, JULY 27, 9:30 A.M.

General Topic: The qualifications requisite for a teacher of vocal music.

1. His knowledge of the physiology and hygiene of the vocal organs; the degree of strain that the vocal chords will bear without injury, at the periods of growth from five years to fifteen years.—Discussion.

2. His ability to accompany the voice with some instrument, say the piano or violin.—Discussion.

3. His knowledge of classic music and of the best course of study to lead up to it.—Discussion.

4.

4. His knowledge of methods of instruction.—Discussion.

5. Is a knowledge of the higher science of counterpoint essential to the special teacher of vocal music, in view of the alleged fact that if he lacks such knowledge he will not be able to direct the course of musical study progressively from the elements toward a sufficiently high goal?—Discussion.

6. What musical studies in the great masters should the teacher keep up from year to year for the sake of his own improvement and culture?—Discussion.

FRIDAY, JULY 28, 9:30 A.M.

General Topic: The methods of teaching and learning vocal music.

1. What are the respective functions of the regular class teacher and the special teacher of vocal music?—Discussion.

2. The relative importance of correcting errors in musical enunciation; in keeping time; in proper expression; in proper posture of the body; opening the mouth; breathing; in attempting to sing notes of too high or too low a pitch for the degree of physical development.—Discussion.

3. The danger of laying too much stress on the mechanical part of singing to the neglect of musical expression.—Discussion.

4. The systems of musical notation—tonic *sol-fa*—"movable *do*" and "fixed *do*" systems.—Discussion.

5. What pupils, if any, should be excused from the musical exercises of the schoolroom?—Discussion.

NOTE.—Names not yet received at the time this goes to press, but a large number of music teachers have promised to take part in the discussions.

TECHNOLOGICAL INSTRUCTION.

Hall 24, on the upper floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Address by Gen. Francis A. Walker, President of the Massachusetts Institute of Technology, President of the Department.

Thesis: How far do the technological schools, as they are at present organized, accomplish the training of men for the scientific professions, and how far and for what reasons do they fail to accomplish their primary purpose? Prof. R. H. Thurston, of Cornell University, and Prof. John M. Ordway, Tulane University, New Orleans.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

General Topic: Educational Value of Technical Study.

1. Thesis: Workshop practice as an educational means. President Henry Morton, Stevens' Institute of Technology, Hoboken, N.J.—Discussion.

2. Thesis: The educational value of the study and practice of chemistry. Prof. Ira Remsen, of Johns Hopkins University.—Discussion.

3. Thesis: The early history and organization of the Sheffield Scientific School at New Haven.—Discussion.

4. Thesis: The educational value of laboratory work in exact measurement. Prof. A. M. Mayer, of Stevens Institute.—Discussion.

5. Thesis: The educational value of the laboratory study of electricity.—Discussion.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: The educational value of work in mechanical drawing and architectural drawing. Prof. G. Lanza, of Massachusetts Institute of Technology.—Discussion.

2. Thesis: Shopwork and drawing as a means of developing slow pupils. Prof. R. H. Richards.—Discussion.

3. Thesis: The educational value of natural science.—Discussion.

4. Thesis: The educational value of applied mathematics, including engineering. Prof. F. R. Hutton, of New York City.—Discussion.

5. Thesis: On the educational value of pure mathematics. Prof. H. T. Eddy.—Discussion.

6. Thesis: On the educational process of training an engineer.—Discussion.

INDUSTRIAL AND MANUAL INSTRUCTION.

Meets in Hall No. 6, main floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Introductory address by the President of the Department, Prof. J. D. Runkle.

1. Thesis: The new demands which the world's industries make upon the elementary schools. This question will be considered under the heads of Ethics, Education, Economics. Prof. C. M. Woodward, LL.D., of Washington University, St. Louis.—Discussion.

2. Thesis: In courses of mechanic arts instruction in wood and metals, consider the relative educational values of—

(a) A series of graded models embracing the fundamental principles of the art.

(b) A series of completed and more or less useful articles.

(c) A shorter course in the arts, and then a specialization with reference to some definite industrial pursuit, as in the French Schools. M. Eugène Martin, Directeur de l'École Primaire Supérieure, Paris.—Discussion.

SECOND

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: The claims of the two systems of manual training known as—
 - (a) The Russian. M. Kovalevsky, official delegate from Russia, Dr. H. H. Belfield, of the Chicago Manual Training School.
 - (b) The Swedish, or Slöjd. Prof. Gustaf Larsson, Principal of the Slöjd Training School of Boston.—Discussion.
2. Thesis: Since all industrial products involve form, it follows that all industrial instruction should have an æsthetic basis in the study of the general principles which underlie all tasteful and graceful forms, and this study should be regarded and ranked as of equal educational value with the mechanic art processes.—Discussion.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: Primary schools—Into what grades and with what subjects should industrial and manual instruction be introduced? Hon. W. B. Powell, Superintendent of Schools, Washington, D. C.—Discussion.
2. Thesis: Primary schools—In these grades should boys and girls receive the same instruction?—Discussion.
3. Thesis: Grammar schools—Should boys and girls have the same industrial and manual instruction in all the grades? If not, what should the difference be? Mr. Edward Boos-Jegher, Official Delegate of the Swiss Confederation to the Columbian Exposition.—Discussion.
4. Thesis: Mechanic art high schools—The place such schools hold in a public educational system. If they are regarded as special technical schools, to what extent may they be used as fitting schools for industrial pursuits?—Discussion.

BUSINESS EDUCATION.

Sessions to be held in Hall 29, upper floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Persons whose names are marked thus * are not expected to be present.

1. Hon. C. C. Bonney, President of the World's Congress Auxiliary, and Mrs. Potter Palmer, President of the Woman's Department, will address the Congress some time during its sessions.
2. Opening address by the President of the Department, Prof. Silas S. Packard, Packard's Business College, New York City, on the "Evolution of the Business College."
3. "Practical Advantages of Business College Training," Col. George Soulé, Soulé's Business College, New Orleans.—Discussion.
4. "Business College Teachers and their Equipment," Prof. J. M. Mehan, Principal, Capitol City Commercial College, Des Moines, Ia.—Discussion.
5. "Reciprocal Relations and Benefits of Business Colleges, and other Departments of Education," Hon. Ira Mayhew, LL.D., Detroit.—Discussion.
6. "The Relation of Business College Instruction to Industrial, Commercial, and Financial Interests," Prof. A. D. Wilt, Principal of Miami Commercial College, Dayton, O.—Discussion.

SECOND SESSION, WEDNESDAY, JULY 26, 2 P.M.

Hon. Ira Mayhew, LL.D., will preside.

1. "Graded Courses in Business Education," Prof. H. M. Rowe, Ph. D., President Curry University, Pittsburgh, Pa.—Discussion.
2. "Limitations of Business College Instruction," Prof. W. E. McCord, Principal Peoria Business College, Peoria, Ill.—Discussion.
3. "Business College Training in Counting-room Work," Prof. G. W. Elliott, Principal of Elliott's Business College, Burlington, Ia.—Discussion.
4. "Higher Aspects of Business Education," Prof. R. E. Galleghar, Principal of Canadian Business College, Hamilton, Ont.—Discussion.

THIRD SESSION, THURSDAY, JULY 27, 9:30 A.M.

Col. George Soulé, New Orleans, will preside.

1. "Business Colleges and the Art of Writing," Prof. Daniel T. Ames, Editor *Penman's Art Journal*, New York City.—Discussion.
2. "The Business Woman as Daughter, Wife, Mother, and Friend," Mrs. Sarah A. Spencer, Principal Spencerian Business College, Washington, D.C.—Discussion.
3. "The Value of a Business Education to Women," *Mrs. Charlotte Emerson Brown, President General Confederation of Women's Clubs, East Orange, N.J.—Discussion.
4. "Business Training for the World's Charities," *Miss Clara Barton, President of the Society of the Red Cross, Washington, D.C.—Discussion.

FOURTH SESSION, THURSDAY, JULY 27, 2 P.M.

Prof. R. E. Galleghar, Hamilton, Ont., will preside.

1. "Stenography and Typewriting as Branches of Business Education," Isaac S. Dement, Chicago, Ill.—Discussion.
2. "Teaching Morals and Manners through Shorthand Instruction," Mrs. S. S. Packard, Packard's Business College, New York City.—Discussion.
3. "What Stenographers and the Business Community Demand of Business Colleges in Shorthand and Typewriting Instruction," J. L. Bennet, President World's Congress of Stenographers.

FIFTH

FIFTH SESSION, FRIDAY, JULY 28, 9:30 A.M.

Prof. J. M. Mehan, Des Moines, Ia., will Preside.

1. "Economics and Social Science in Business Education," *Edmund J. James, Wharton School of Economy and Finance, Philadelphia; *Dr. Richard T. Ely, Department of Economics, Social Science and History, University of Wisconsin, and Prof. Fred. W. Spiers, Superintendent People's Institute, Milwaukee, Wis.
2. "A Merchant's View of the Business College," H. N. Higginbotham, President World's Columbian Exposition, Chicago.—Discussion.
3. "A Banker's View of the Business College," Lyman J. Gage, Treasurer World's Columbian Exposition, Chicago.—Discussion.
4. "The Science of Civics," Henry Randall Waite, Ph. D., President American Institute of Civics.
5. It is hoped that the concluding address of the Congress will be delivered by Dr. James MacAlister, President Drexel Institute, Philadelphia.

PHYSICAL EDUCATION.

Sessions to be held in Hall 26, upper floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Address by Dr. Edward M. Hartwell, Director of Physical Training, Public Schools, Boston, Mass., President of the Department.

1. Thesis: Some unsolved problems in physical education. Dr. T. D. Wood, Professor of Hygiene and Physical Training, Leland Stanford Junior University, Palo Alto, Cal.—Discussion.
2. Thesis: The cultivation of the human body. Dr. Angelo Mosso, Professor of Physiology, University of Turin, Turin, Italy.—Discussion.
3. Thesis: The Psychological aspects of exercise with and without apparatus. Dr. G. W. Fitz, Instructor in Physiology and Hygiene, Harvard University, Cambridge, Mass.—Discussion.
4. Thesis: Should medical schools teach physical training? Dr. Lena V. Ingraham, Boston, Mass.—Discussion.
5. Thesis: Supervision of school gymnastics by qualified physicians. Dr. Helen C. Putnam, Providence, R.I.—Discussion.
6. Thesis: The Royal Central Gymnastic Institute of Stockholm—its aims and work. Professor L. M. Törngren, Director of Royal Central Gymnastic Institute, Stockholm, Sweden.—Discussion.
7. Thesis: How should physical exercises for school purposes be selected and graded? Dr. J. Gardner Smith, Supervisor of Physical Training in Public Schools, New York City.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: The revival of Greek gymnastics in Germany. Jaro Pawel, University Teacher, Vienna, Austria.
2. Thesis: The movement for promoting popular and youthful sports in Germany. James L. Hughes, Inspector of Schools, Toronto, Ontario.—Discussion.
3. Thesis: English experience in providing the poor of cities with out-of-door facilities for exercise. The Right Honorable the Earl of Meath, London, England.—Discussion.
4. Thesis: The athletic movement in France. Baron Pierré de Coubertin, Paris, France.—Discussion.
5. Thesis: The observation and study of movement and mental states. Dr. Francis Warner, Physician to London Hospital, London, England.
6. Thesis: The relation of physical training to other forms of education. Dr. G. Stanley Hall, President Clark University, Worcester, Mass.—Discussion.
7. The physical training of deaf mutes. A. Gutzmann, Instructor in City Institute for the Deaf and Dumb, Berlin, Prussia.
8. Thesis: The physical training of criminals. Dr. H. D. Wey, State Reformatory, Elmira, N.Y.—Discussion.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: The North American Turnerbund; its history, aims, and achievements. H. Muench, ex-President N. A. Turnerbund, St. Louis, Mo.
2. Thesis: The normal school of the N. A. Turnerbund. J. Toensfeldt, St. Louis, Mo.
3. Thesis: The physiology of the German system of gymnastics. Hans Ballin, Sansdusky, O.
4. Thesis: School gymnastics in the Kingdom of Saxony. Moritz Zettler, Teacher in Gymnasium in Chemnitz, Saxony.
5. Thesis: Swedish school gymnastics in England. Mme. Bergman Oesterberg, London, England.—Discussion.
6. Thesis: Swedish military gymnastics. Captain Carl Silow, Instructor Royal Central Gymnastic Institute, Stockholm, Sweden.—Discussion.
7. Thesis: The laws of muscular and nervous fatigue and their relation to physical education. Dr. Warren P. Lombard, Professor of Physiology University of Michigan, Ann Arbor, Michigan.—Discussion.
8. Thesis: Physical education in the south. Dr. William A. Lambeth, University of Virginia, Charlottesville, Va.
- 9.

9. Thesis: Physical education in Canada. Dr. R. Tait Mackenzie, McGill University, Montreal, Canada.

10. Discussion: How far is it desirable to attempt to secure state legislation (in the United States) making physical training compulsory in the public schools?

RATIONAL PSYCHOLOGY IN EDUCATION.

Sessions to be held in Room 27, upper floor.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

Address by the President of the Department, Rev. James McCosh, D.D. Topic: Reality—What place has it in Philosophy?—Discussion.

11:30 A.M.

Thesis: Can psychology be founded on consciousness alone, or does it need physiology? Prof. Josiah Royce, of Harvard University.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

Thesis: Perception, conception, and primitive truth. Prof. G. T. Ormond, of Princeton University.—Discussion.

11:30 A.M.

Thesis: Aristotle's doctrine of a first principle, as set forth in the eleventh book of his *Metaphysics*. The Very Rev. A. F. Hewitt, D.D., of the Catholic University of America.—Discussion.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

Thesis: Self-activity in education. Dr. G. Gould Schurman, President of the Cornell University.—Discussion.

11:30 A.M.

Thesis: Wundt's Psychology of the Will. Prof. E. B. Titchener, of Cornell University.—Discussion.

EXPERIMENTAL PSYCHOLOGY IN EDUCATION.

Sessions to be held in Hall 20, upper floor.

It has been decided, after much consideration and wide conference, to devote the entire three days to the subject of child study. Within a very few years several societies have been formed for this purpose; several journals have been started; the school children in many cities of this country and Europe have been measured or tested as to the rate of growth of body and muscular and mental power; various classes of defect of sense, limb, mind, character, form of error in school work and of ignorance on entering school, have been tabulated. From these results a new body of literature is being developed which throws much light upon the controllable causes whether of excellence or defect, and contains many suggestions on the method and matter of teaching, and promises to show how instruction can be made more effective as well as to point out the true beginnings of instruction in the entire group of psychological subjects.

It is hoped that not only all teachers, anthropologists, and physicians interested in this work, but parents and others representing different lines of study and from locations widely separated, may here meet, stimulate, and encourage each other by personal acquaintance, mutual suggestion, and plans for future co-operation.

The organization of a National Society with officers from different states will be considered.

All papers are strictly limited to twenty minutes. It is expected that discussions and reports will be confined to ten minutes each, in the hope that many workers may be heard from and results and methods from many sources may be recorded.

G. STANLEY HALL,
President of Department.

FIRST SESSION, WEDNESDAY, JULY 26, 9:30 A.M.

1. Thesis: Child study as a basis for psychology and psychological teaching, by G. Stanley Hall, President of Clark University, Worcester, Mass. Twenty minutes.—Discussion.

2. Thesis: The imaginations of children, by E. Harlow Russell, Principal of the State Normal School, Worcester, Mass. Twenty minutes.—Discussion.

3. Thesis: Mental waste and economy, by Prof. G. T. W. Patrick, State University of Iowa. Twenty minutes.—Discussion.

4. Thesis: Exercise of the will in children, by Prof. Charles McMurry, State Normal School, Normal, Ill. Fifteen minutes.—Discussion.

5. Dominant seventh in education, by Miss H. E. Hunt, Ph. D., Brookline, Mass. Ten Minutes.—Discussion.

6. Dreams, by Prof. James Sully, London, England. Read by abstract. Ten minutes.—Discussion.

SECOND SESSION, THURSDAY, JULY 27, 9:30 A.M.

1. Thesis: A study of children's theology, by Prof. Earl Barnes, Leland Stanford Junior University. Twenty minutes.—Discussion.

2. Thesis: Child study as a basis for pedagogy, by W. H. Burnham, Instructor in Pedagogy, Clark University, Worcester, Mass. Twenty minutes.—Discussion.

3.

3. Thesis: The new psychology in normal schools, by Miss Lillie A. Williams, State Normal School, Trenton, N.J. Fifteen minutes.—Discussion.

4. Constitutionally bad spellers, by Miss Adelaide E. Wyckoff, Packer Institute, Brooklyn, N.Y. Fifteen minutes.

5. Principles of physical training and their application to the prevention of stuttering in children, by E. M. Hartwell, M.D., Director of Physical Training, Boston Public Schools.

THIRD SESSION, FRIDAY, JULY 28, 9:30 A.M.

1. Thesis: On the observation and study of movements and mental states, based on the examination of some 50,000 children, by Francis Warner, M.D., of London, England. Twenty minutes.—Discussion.

2. Thesis: Development of motor ability in school children, by Prof. W. L. Bryan, University of Indiana. Twenty minutes.—Discussion.

3. Thesis: Attention and association in children, by T. N. Balliet, Superintendent of Schools, Springfield, Mass.

4. Self-consciousness in children, by F. W. Parker, President Cook County Normal School. Twenty minutes.—Discussion.

5. A pedagogical need, by Dr. E. F. Buchner, Lecturer on Pedagogy, Yale University. Fifteen minutes.—Discussion.

DEPARTMENT OF EDUCATIONAL PUBLICATIONS.

Hall 21, upper floor.

FIRST SESSION, THURSDAY, JULY 27, 9 A.M.

Topic: *Present Ideals in Educational Journalism.*

Address of Welcome, Hon. Henry Barnard, Editor of the *American Journal of Education*.

Present ideals in educational journalism. Paper by C. C. Rounds, Principal of the State Normal School, Plymouth, N.H.

From the superintendent's point of view. Paper by Andrew S. Draper, LL.D., Superintendent of Schools, Cleveland, O.

The educational press and the public. Address by Col. J. B. Merwin, Editor of *The American Journal of Education*, St. Louis.

Discussion.—The following gentlemen have kindly consented to take part: Amos M. Kellogg, Editor of the *New York School Journal*; W. A. Bell, Editor of the *Indiana School Journal*; R. J. Guinn, Assistant State School Commissioner, Georgia, and Editor of *The Southern Educational Journal*; Mons. Buisson, Director of the College Alaoni, Tunis, late French Commissioner to the Expositions at New Orleans and Melbourne; Foster Watson, Esq., London; Joseph H. Cownham, Principal Wesleyan Training College, London; J. E. Wells, Editor *The Educational Journal*, Toronto; Ramon Manterola, Ministerio de Gobernacion, Editor *Boletin Bibliografico y Escolar*, Tacubaya, Mexico.

SECOND SESSION, FRIDAY, JULY 28.

Topic: *The History of Educational Journalism.*

In France, G. Compayré, Rector of the Académie de Poitiers, and President of the French Pedagogic Delegation to the World's Fair.

In Germany (Hannover), H. Wanner, Reallehrer, Hannover, recently Editor of the *Hannover Schulzeitung*.

In Bohemia, Jos. Klika, Redakce *Paedagogickych Rozhledn*, Prague.

In Italy, Piéro Barbèra, Editor, Florence.

In Mexico, V. Guzman, Editor of *La Educacion Moderna*.

In Canada, James L. Hughes, Inspector of Schools, Toronto.

In the United States:—

In New England, W. A. Mowry, Ph. D., Superintendent of Schools, Salem, Mass.

Dr. Barnard's *American Journal of Education*, Will S. Munroe, Leland Stanford Jr. University.

In New York and New Jersey, Pennsylvania, Virginia, and Maryland, C. W. Bardeen, Editor of *The School Bulletin*.

In the Carolinas and the Gulf States, James K. Powers, President of the State Normal College, Florence, Ala.

In Louisiana, Texas, and Arkansas, Prof. Henry E. Chambers, Tulane University, New Orleans.

In Kentucky and Tennessee, R. H. Carothers, Editor of *The Educational Courant*, Louisville.

In Ohio, Samuel Findley, Editor of *The Ohio Educational Journal*.

In Michigan, Henry A. Ford, Pontiac.

In Indiana, George F. Bass, Editor of *Indiana Young People*.

In Illinois, John W. Cook, LL.D., President of Normal University.

In Iowa, Henry Sabin, Editor of *The Iowa Journal of Education*.

In Wisconsin, Prof. J. W. Stearns, University of Wisconsin, Editor of *The Wisconsin Journal of Education*.

In Minnesota and the Dakotas, S. S. Parr, Superintendent of Schools, St. Cloud, Minn.

In Missouri, Howard A. Gass, Editor of *The Missouri School Journal*.

In Kansas, Colorado, and Utah, John MacDonald, Editor of *The Western School Journal*.

In

In Nebraska, Wyoming, Montana, and Idaho, J. H. Miller, Editor of *The Northwestern Journal of Education*.

In California, Washington, and Oregon, John Swett, Superintendent of Schools, San Francisco, Cal.

Special and Class Journals, W. N. Hailman, Superintendent of Schools, La Porte, Ind.

GENERAL INFORMATION.

Please Register in Hall 5.—Bureau of Information, Hall II.

All visiting educators are cordially invited to visit the Chicago Kindergarten College, 10 Van Buren-street, and make its rooms their headquarters for resting and writing.

The Committees in charge of the Congresses have headquarters during the week in Hall 5. *All persons, whether visitors or members, and especially the latter, are requested to visit Hall 5 and register.*

Official badges and medals of the World's Congress Auxiliary may be procured at stand to the right of main entrance, and also at Registration Desk.

Check-room, Post-office, Restaurant, Mailing-room, Lavatories, &c., are on the ground floor under main entrance.

Restaurant on ground floor.

OFFICIAL PUBLICATION OF PROCEEDINGS OTHER THAN THE CONGRESSES OF THE NATIONAL EDUCATIONAL ASSOCIATION.

The Auxiliary will make a full report of the proceedings of the several Congresses, which will be properly edited and published in book form. At this time it is impossible to estimate accurately the number of volumes the proceedings of a given department will make, or the cost of same per volume. It may be stated, however, that these valuable publications will be furnished at the lowest practicable price; and all persons who desire to obtain the report of the Congresses in any or all of the various departments should follow instructions contained in registration blanks, or address a special communication to the undersigned Secretary, who will register their names and at the earliest possible date furnish full information as to prices, date of delivery, and other particulars.

GENERAL ASSIGNMENT TO THE MONTHS OF THE EXPOSITION SEASON OF THE WORLD'S CONGRESSES OF 1893, BY DEPARTMENTS.

These general Departments embrace more than one hundred Congresses.

<i>May.</i>		
I. Woman's Progress	Commencing May	15
II. The Public Press	" "	22
III. Medicine and Surgery	" "	29
<i>June.</i>		
IV. Temperance	Commencing June	5
V. Moral and Social Reform	" "	12
VI. Commerce and Finance	" "	19
<i>July.</i>		
VII. Music	Commencing July	3
VIII. Literature	" "	10
IX. Education	" "	17
<i>August.</i>		
X. Engineering	Commencing July	31
XI. Art, Architecture, etc.	" "	31
XII. Government, Law Reform, Political Science, etc.	" August	7
XIII. General Department	" "	14
XIV. Science and Philosophy	" "	21
<i>September.</i>		
XV. Labour	Commencing August	28
XVI. Religion, Missions and Church Societies	" September	4
XVII. Sunday Rest	" "	28
<i>October.</i>		
XVIII. Public Health	Commencing October	10
XIX. Agriculture	" "	16

CLARENCE E. YOUNG,
Secretary.

World's Congress Headquarters, Chicago.

THE NATIONAL EDUCATIONAL ASSOCIATION.

The National Educational Association is representative of every grade of education, and by reason of its scope, its large membership, and long experience in the management of immense gatherings of people, commands abundant resources for the enterprise in hand. This Association was organized in 1857. Its objects are to elevate the character and advance the interests of the profession of teaching and to promote the cause of popular education.

The Association has held thirty-two meetings, as follows:—Two at Philadelphia, 1857, 1879; one at Cincinnati, 1858; Washington, 1859; Buffalo, 1860; Chicago, 1863, 1887; Ogdensburg, 1864; Harrisburg, 1865; Indianapolis, 1866; Nashville, 1868, 1889; Trenton, 1869; Cleveland, 1870; St. Louis, 1871; Boston, 1872; Elmira, 1873; Detroit, 1874; Minneapolis, 1875; Baltimore, 1876; Louisville, 1877; Chautauqua, 1880; Atlanta, 1881; four at Saratoga, 1882, 1883, 1885, 1892; Madison, 1884; Topeka, 1886; San Francisco, 1888; St. Paul, 1890; Toronto, 1891. There were no meetings in 1861, 1862, 1867, 1878.

APPENDIX P.

Rules of the Exposition.

RULES OF THE WORLD'S COLUMBIAN EXPOSITION, GOVERNING RATES OF ENTRANCE AND ADMISSION FEES, AND OTHERWISE AFFECTING THE RIGHTS, PRIVILEGES, AND INTERESTS OF EXHIBITORS AND THE PUBLIC, WITHIN THE GROUNDS ADOPTED AS A SITE FOR SAID EXPOSITION.

(1)

THE Exposition shall be open for the admission of visitors during the six months commencing on the first day of May and ending with the thirtieth day of October, 1893, on each day of the week, except on the first day of the week, commonly called Sunday, unless otherwise provided and authorised by Congress.

The gates shall be open to exhibitors and all employees at 6 o'clock, a.m., and to the public at 8 o'clock, a.m., and close at 7 o'clock, p.m., except in such cases as the management shall direct for special evening entertainments, and in such instances the gates shall close at an hour not later than 11 p.m.

(2)

The price of admission and entrance to the Exposition grounds and buildings shall be fifty (50) cents per capita, provided, however, that children under 6 years of age, accompanied by their parents, guardian, or an adult person, shall be admitted free of charge.

Complimentary tickets shall be issued to those whose official position demands recognition by the Exposition, viz.: To the President and Vice-President of the United States, Members of the Cabinet, Justices of the Supreme Court of the United States, Members of Congress of the United States, and the chief officers thereof, the Diplomatic Corps, Governors of the States and Territories of the United States, the Mayor of the City of Chicago and the Members of its Council, the Members of the World's Columbian Commission and their Alternates, the Board of Directors of the World's Columbian Exposition, and ex-Directors thereof, the Members of the Board of Lady Managers and their Alternates, the Members of the State and Territorial World's Fair Boards, Members of the Board of Control and Management of the United States Government Exhibit, Foreign Commissioners and their Secretaries, Judges and Jurors of Awards, all the Executive Officers of the Exposition, all the Custom-house Officials, clerks and employees connected with the United States Treasury Department in the service of the Secretary of the Treasury within the Exposition grounds, to the Members of the Board of South Park Commissioners, one each to a representative of the principal and most prominent newspapers of this and foreign countries, and to any other person or persons who may be adjudged to be entitled to a complimentary pass by the President of the World's Columbian Commission, the President of the World's Columbian Exposition, and the Director-General. In all cases where a pass is issued upon the request of the President of the World's Columbian Commission, the President of the World's Columbian Exposition, or the Director-General, such pass shall bear the signature of such officer who makes the application therefor.

All persons who may be actually employed by the World's Columbian Commission and by the World's Columbian Exposition, and all necessary employees World's Fair State Boards, in connection with the work of the Exposition, shall be given free passes to the grounds during their respective terms of service.

Each exhibitor shall be entitled to one pass, provided his presence is required during the installation of his exhibit, and the time same is on exhibition. Such attendants and employees as are necessarily and regularly required for the care of each exhibit, respectively, whose services are paid for by the exhibitor, shall be entitled to free admission.

One free pass shall be issued to each person, firm, or corporation who has been granted a concession by the World's Columbian Exposition, and all the necessary servants and employees of such concessionists shall be admitted free to the Exposition grounds.

(3)

A Bureau of Admissions and Collections is hereby created, to be composed of the President of the World's Columbian Exposition, the Chairman of the Committee on Finance, the Chairman of the Committee on Ways and Means, the Treasurer and Auditor of the World's Columbian Exposition, whose powers and duties shall be to manage and control the sale and collection of all tickets of admission, and to issue and collect

collect all passes to the Exposition grounds; and also to collect all the moneys which may become due to the World's Columbian Exposition from all persons, firms, and corporations on account of privileges and concessions which have been, or may be hereafter, awarded to them by the said World's Columbian Exposition; and also to collect all the moneys to become due from exhibitors and State World's Fair Boards to the said World's Columbian Exposition; and in order to enable the said bureau to practically and efficiently carry out and perform the functions of the same, they shall adopt such regulations as may be necessary, and employ such service and agents as may be required in that behalf, subject to the approval of the Executive Committee.

(4)

Exhibitors will not be charged for space. A limited amount of power will be supplied gratuitously. This amount will be settled definitely at the time space is allotted.

Power in excess of that allotted will be furnished by the Exposition at a fixed price. Demands for such excess must be made before the allotment of space.

Exhibitors must provide at their own expense all show-cases, cabinets, shelving, counters, fittings, &c., which they may require, and all counter-shafts, pulleys, belting, &c., for the transmission of power from the main shafts.

Exhibitors will be confined to such exhibits as are specified in their application. When the allotment of space is definitely made, exhibitors will be notified of their allotment of space and its location, and will be furnished with a permit to occupy such space, subject to the General Rules and Regulations adopted for the government of the Exposition, and the Special Rules governing the department in which their exhibit will be made. Permits for space will not be transferable.

Decorations, signs, dimensions of cabinets, shelving, counters, &c., and the arrangement of exhibits, must conform to the general plan.

Reasonable precautions will be taken for the preservation of exhibits, but the World's Columbian Exposition will not be responsible for any damage to, or for the loss or destruction of, an exhibit, resulting from any cause.

All packages containing exhibits intended for the several departments must be addressed to the "Director-General, World's Columbian Exposition, Chicago, Ill., U. S. A."

In addition, the following information must be written on the outside of each package: (a) Department in which exhibit is to be installed. (b) The State or Territory from which the package comes. (c) The name and address of the exhibitor. (d) The number of the permit for space. (e) The total number of packages sent by the same exhibitor. The serial number must be marked on each package, and a list of the contents inclosed in each package. Freight must be prepaid.

Favourable terms will be arranged by which exhibitors may insure their own goods. Exhibitors may employ watchmen of their own choice to guard their goods during the hours the Exposition is open to the public. Such watchmen will be subject to the rules and regulations governing employees of the Exposition, but no exhibitors will be permitted to employ attendants or assistants for service in any building except upon written consent of the Chief of the Department.

The Chief of each Department will provide cards of uniform size and character, which may be affixed to exhibits, and on which will be stated only the exhibitor's name and address, the name of the article or object exhibited, and its catalogue number.

Exhibitors' business cards and brief descriptive circulars only may be placed within such exhibitors' space for distribution. The right is reserved by the Director-General to restrict or discontinue this privilege whenever it is carried to excess, or becomes an annoyance to visitors.

The Chief of each Department, with the approval of the Director-General, has the power to order the removal of any article which he may consider dangerous, detrimental to, or incompatible with the object or decorum of the Exposition, or the comfort and safety of the public.

Exhibitors will be held responsible for the cleanliness of their exhibits, and the space surrounding the same. All exhibits must be in complete order each day at least thirty minutes before the hour of opening. No work of this character will be permitted during the hours the buildings are open to the public. In case of failure on the part of the exhibitor to observe this rule, the Chief of the Department may adopt such means to enforce the same as circumstances may suggest.

Sketches, drawings, photographs, or other reproductions of articles exhibited will only be allowed upon the joint assent of the exhibitor and the Director-General. General views of portions of the interiors of the buildings may be made by the approval of the Director-General.

Immediately after the close of the Exposition, exhibitors must remove their effects, and complete such removal before 1st January, 1894. Goods then remaining will be removed and disposed of under the direction of the World's Columbian Exposition.

Exhibitors requiring power in any of the buildings will have to furnish the necessary counter-shafting, pulleys, hangers, &c., at their own expense.

Shafting and motors will be under the care of the exhibitor requiring them; but can be erected only on receipt of a permit from the Chief of the Department. Exhibitors must arrange their exhibits in such a manner as to require a minimum amount of shafting by using motors connected or belted to their machinery direct.

The expense of transporting, receiving, unpacking, and arranging exhibits, as well as their removal at the close of the Exposition, shall be paid by the exhibitor.

Upon

Upon arrival at Jackson Park, prepaid consignments will be delivered by the Bureau of Transportation on, or as near as practicable, the exhibitor's allotted space, without additional charge. Transportation charges and the terminal charges of 6 cents per hundred pounds, on all consignments shipped by rail or water lines, destined to Jackson Park, must be fully prepaid at initial point, as under no circumstances will these charges be advanced by the World's Columbian Exposition. The terminal charge of 6 cents will apply to all consignments except those entering the grounds on their own wheels, small consignments, minimum car lots, and single pieces of an exhibit, weighing over 30,000 lb. The charge on cars and coaches on their own wheels will be 5 dollars each; on locomotives with tenders, 10 dollars each. The minimum charge of 50 cents for any single shipment will be exacted by the Exposition, and the minimum car load weight established by the initial road will be the basis on which the Exposition charge is made for such car load shipments, and exhibits weighing more than 30,000 lb., each piece, will be subject to special arrangements.

Such goods as are received at the Exposition with transportation and terminal charges unpaid, or only partially paid, or with no responsible party at the grounds to assume charge thereof, will be stored in the warehouse at the expense of the owner. The schedule of charges for this service will be based upon those adopted by the United States Government Customs Warehouses.

In case exhibitors request it, the Chiefs of the several departments shall turn over the boxes and cases, in which exhibits are shipped, to the Bureau of Transportation, to be by it stored and preserved in the warehouses to be constructed for that purpose, until the close of the Exposition; and after the Exhibition is closed it shall be the duty of said Bureau to deliver such boxes and packing cases to the respective exhibitors to whom the same belong, in which they may repack their exhibits, and when the same shall have been repacked it shall be the duty of the Bureau of Transportation to deliver them on board the cars or other vehicles provided by exhibitors for the reshipment of same.

Each exhibitor whose boxes or packing cases are so handled, stored, and returned to him, shall, on account thereof, pay to the World's Columbian Exposition 4½ cents per cubic foot for the actual space occupied, with a minimum of 50 cents on any one lot; this charge, however, not to include insurance. (*For further information, see Supplements to Traffic Arrangements, issued by the Transportation Department January 4 and 5, 1893.*)

Exhibitors must be manufacturers or producers of machinery, goods, and materials intended for exhibition.

In every case applicants for space are requested to give timely notice if they decide not to exhibit.

Each person who becomes an exhibitor thereby agrees to conform strictly to the rules and regulations established for the government of the Exposition.

Communications concerning applications for space, and negotiations relative thereto, should be addressed to "The Director-General, World's Columbian Exposition, Chicago, Ill., U.S.A."

(5)

Special rules will be issued governing each Department and the sale of articles within the buildings or on the grounds, but no articles shall be sold for removal previous to the close of the Exposition, unless a concession or privilege for the same has been granted by the Committee on Ways and Means. Privileges refer to the sale of such goods as are manufactured in order to illustrate a machine or process exhibited. Concessions refer to the sale of all goods and operations of attractions from which the securing of revenue is the sole object of the lessees. The removal of exhibits will not be permitted prior to the close of the Exposition.

(6)

The installation of heavy articles requiring foundations should, by special arrangement with the Director of Works, begin as soon as the progress of the work on the buildings will permit. The general reception of articles at the Exposition buildings will commence November 1, 1892, and no articles will be admitted after April 10, 1893. Space not taken possession of by April 1, 1893, will revert to the Director-General for reassignment.

If exhibits are intended for competition it must be so stated by the exhibitor, or they will be excluded from examination for award.

Articles that are in any way dangerous or offensive, also patent medicines, nostrums, and empirical preparations whose ingredients are concealed, will not be admitted to the Exposition.

(7)

An Official Catalogue will be published. The sale of catalogues is reserved exclusively by the Exposition Company.

(8)

As provided in the arrangement entered into by the joint Board of Reference and Control on August 11, 1892, providing for a Council of Administration, all matters of general administration are committed to the supervision, direction, and control of said Council.

(9)

The Board of Directors of the World's Columbian Exposition reserves the right to amend or add to these rules whenever it may be deemed necessary for the interest of the Exposition.

RULES

RULES AND REGULATIONS OF THE DEPARTMENT OF WATER SUPPLY
SEWERAGE, AND FIRE PROTECTION.

(A) All plans for the plumbing, drainage, or gas-fittings for any building in Jackson Park and Midway Plaisance must be submitted to the Department of Water Supply, Sewerage, and Fire Protection for approval.

(B) Any person or persons desiring to connect with the sewer, water, or gas-pipes in Jackson Park and Midway Plaisance shall take out a permit for same under the rules and regulations.

A permit must be taken out for each connection.

(C) No person or persons shall do any sewer plumbing or gas-fitting in Jackson Park or Midway Plaisance until the said person or persons shall have been granted a license by the Director of Works. Fee for a general license shall be 5 dollars.

(D) *Rules and Regulations for Sewer Connections in Jackson Park and Midway Plaisance.*

(1) Any person or persons desiring sewer connections shall make written application, on blanks provided by this Department, for the necessary connection, stating whether it is required for roof drainage or waste water.

(2) No person, except a duly authorized agent of the Department of Water Supply, Sewerage, and Fire Protection, shall tap any sewer at Jackson Park or Midway Plaisance, and no connection shall be larger than 6 inches in diameter.

(3) This department shall do all the work in making the connection from the main sewer to a point 5 feet outside the building, at the rate of 50 cents per hour, and furnish all materials at cost price, and will do all the work for exhibitors at the same rate.

(4) All repairs will be made by this department on proper notice, and the cost of same will be charged for at the same rate as for making connections.

(5) All sewers outside of buildings shall be of first-class salt-glazed vitrified pipe; all sewers inside of buildings shall conform to the plumbing regulations. All connections shall be made with Y's, and all changes in direction shall be made with curved pipe.

(6) All down-spouts shall be properly connected and sealed, and so arranged as to drain through one connection to the rain-water sewer.

(7) No down-spout shall connect with waste-water sewer.

(8) All plans for drainage, either for roof water or waste water, or for both, must be approved by Engineer of the Department of Water Supply, Sewerage, or Fire Protection before permit will be granted.

(E) *Rules and Regulations governing Plumbing in Jackson Park and Midway Plaisance.*

(1) So far as practicable, all soil, waste pipes, and traps shall be exposed to view, to facilitate inspection and for convenience in repairing. When encased, it shall be done by special permit from the Department of Water Supply, Sewerage, and Fire Protection.

(2) No brick, sheet metal, earthenware, or chimney flues shall be used for sewer ventilator, or to ventilate any trap, soil, or waste pipe.

(3) All sewers, vertical soil or waste pipes, and ventilator pipes, shall be of iron. Soil and waste pipes shall be exposed above the roof at least 12 inches, and have a diameter at least 1 inch greater than that of the pipe proper from a point 1 foot below the roof. No cap or cowl shall be affixed to the top of such ventilating pipe.

(4) Soil, waste, and vent pipes in an extension, in case they would open within 20 feet of a window of main building, must be carried above the roof of main building.

(5) Horizontal soil, waste, and vent pipes, except branches, are prohibited. Where rows of fixtures are placed in line, angle fitting must be used on vent pipes to prevent same from filling with rust or condensation. Trapped vents are strictly prohibited. No ventilation pipe from house side of any trap shall connect with any ventilation pipe, or with any sewer, soil, or waste pipe. Branches on main vertical vent pipes, where there is more than one fixture, must be taken out above the top of highest fixture.

(6) The least diameter of soil pipe permitted is 4 inches. A vertical waste pipe into which kitchen sinks discharge, if receiving the waste of five or more floors, must be at least 3 inches in diameter, and shall have 2-inch branches.

(7) There shall be no traps at the foot of soil or waste pipes.

(8) All iron pipes (cast) must be sound, free from holes or cracks, and of the grade known in commerce as extra heavy. The following weights per lineal foot will be accepted as complying with the rules:—2 inches, 5½ lb. per lineal foot; 3 inches, 9½ lb. per lineal foot; 4 inches, 13 lb. per lineal foot; 5 inches, 17 lb. per lineal foot; 6 inches, 20 lb. per lineal foot.

(9) All iron pipe for water supply shall be standard galvanized iron pipe. All lead pipe for water supply and connection shall be extra strong. The following weights per lineal foot will be accepted as complying with the rules:—½ inch, 2 lb. 8 oz.; ¾ inch, 3 lb.; 1 inch, 4 lb. 8 oz.; 1¼ inch, 6 lb.; 1½ inch, 7 lb. 8 oz.; 2 inch, 9 lb.

(10) All fittings used in connection with such pipe shall correspond with it in weight and quality. Tar or asbestos coated pipe shall be used.

(11) All plumbing work shall be inspected, and, if necessary, be subjected to test in the presence of an inspector of this Department. Defective pipe must be removed and all defective work made good and to conform to these rules.

(12) All joints on (cast iron) soil, waste, and drain-pipe must be so filled with oakum and lead and hand-caulked as to make them air-tight.

(13)

(13) All connections of lead waste or vent pipes shall be made by means of wiped joints and brass-soldered nipples or combination ferrules. Wrought iron or cast iron nipples or ferrules must not be used.

(14) Every water-closet, urinal, sink, basin, and bath-tub, and every set of trays, tub or set of tubs, must be effectively and separately trapped. Traps on bath-tubs must be placed in such a manner that the clean-out will be in plain view and above the floor.

(15) Traps must be placed as near the fixture as possible, and in no case shall a trap be more than 1 foot from said fixture.

(16) Every sink, basin, bath-tub, water-closet, slop-hopper, and every fixture having a waste pipe, shall be furnished with a trap. Traps shall be protected from siphonage or air pressure (when such make of trap is used that is liable to siphonage) by special air pipes of a size not less than the waste pipe, but air pipes for water-closet trap shall be not less than 2-inch bore. Air pipes shall be run as direct as practicable, and shall be not less than 4 inch bore where they pass through the roof. Two or more air pipes may be connected together, or with a soil pipe, but in every case of connection with a soil pipe such connection shall be above the upper plumbing fixtures of the building.

(17) In no case shall a waste from any fixture be connected with any water-closet trap or revert connection for same.

(18) No trap vent shall be used as a waste or soil pipe.

(19) All lead safes under fixtures must be drained by special pipe, which shall discharge into sink or on cellar floor; in no case shall the safe waste be connected with any waste, soil, or drain pipe, or sewer. The end of safe waste shall be covered by flap valve.

(20) Overflow pipe from fixtures must in each case be connected on the inlet side of the trap.

(21) The drain pipe from refrigerator must not be directly connected with any waste or soil pipe, or with the drain or sewer, or discharged upon the ground; it must be discharged into an open or water-supplied sink. Such drain pipe must be so arranged as to admit of frequent flushing, and must be as short as possible and disconnected from refrigerator. The outlet should be covered by means of metal flap valve.

(22) The sediment pipe from boiler must be connected on inlet side of sink trap.

(23) No water-closet shall be placed in an unventilated room or compartment. In every case the room shall be opened to the outer air or be ventilated by means of an air duct or shaft. Interior water-closets shall not be supplied from supply pipes direct. All water-closets within the building shall be supplied from special tanks or cisterns, the water of which is not used for any other purpose. A group of water-closets may be supplied from one tank; but water-closets on different floors shall not be supplied from one tank.

(24) The overflow pipes from water-closet cisterns may discharge into an open sink, or where its discharge will attract attention and indicate that waste of water is occurring; but not directly into soil, waste, drain, vent, or sewer pipes.

(25) The valves of cisterns must be so fitted and adjusted as to prevent waste of water.

(26) Special sewer systems are provided for rain-water leaders, and no house drainage other than roof water shall be connected into rain-water sewers.

(27) No steam, exhaust, blow-off, or drip pipe shall connect with the sewer or with any house drain, soil, or waste pipe. Such pipe shall be discharged into a tank or condenser, from which a suitable outlet to the house drain shall be provided.

(28) When area drains are connected to the house drain, they must be effectively trapped and protected by means of back water valves.

(29) Wooden wash trays and sinks are prohibited inside of any building; they shall be of non-absorbent material.

(30) Pan closets and latrines will not be allowed in any building.

(31) Plans of all buildings to be erected in Jackson Park, showing arrangement of plumbing appliances and pipe lines, shall be submitted to this Department for approval, and the use of any special appliances, or any variation from these rules and regulations, shall be upon permit granted by this Department, countersigned by the Director of Works.

(f) Rules and Regulations for Water Connections and Use of Water in Jackson Park and Midway Plaisance.

(1) Any person or persons desiring water supply, for any purpose whatsoever, shall make written application, on blanks provided by this Department, for the necessary connection, describing the purpose for which water is to be used, and the size of pipe desired.

(2) No person, except a duly authorized agent of the Department of Water Supply, Sewerage, and Fire Protection, shall tap any water pipe at Jackson Park or Midway Plaisance, and no pipe shall be tapped for larger than three-quarter ($\frac{3}{4}$) inch pipe; all connections exceeding a three-quarter ($\frac{3}{4}$) inch tap shall be made with a tee.

(3) No person or persons shall take water from any main except upon written permission from the Department of Water Supply, Sewerage, and Fire Protection.

(4) Except where special agreement is made, water will be delivered through meters.

(5) This Department will do all the work in tapping pipes and all work in the Exposition buildings at a rate of fifty (50) cents per hour, and furnish all fittings, pipes, and meters at cost price; and the consumer shall pay entire cost of connecting main with the location desired.

(6) All repairs will be done by this Department on proper notice, and the cost of same will be charged for at the same rate as the making of connections. (7)

(7) Water will be supplied at the rate of ten (10) cents per one thousand (1,000) gallons, meter measurement.

(8) All bills for construction and repairs of water connections, and all water rates, shall be paid monthly.

(9) The World's Columbian Exposition reserves the right to prescribe and limit the size of pipe and the hours for use of water.

(10) The World's Columbian Exposition reserves the right to shut off water for non-payment of bills, for necessary repairs, and in case of fire; and shall not be responsible for damages in case water is so shut off, or in case of flooding through breaks.

(11) No person or persons shall open or interfere with any hydrant or hose connection, except duly authorized agents of this Department.

(12) No person or persons, except the duly authorized agents of this Department, shall open or close any stop-gate on the water supply system.

(G) No variation from the Rules and Regulations of the Department of Water Supply, Sewerage, and Fire Protection will be allowed, except on written permit signed by the Engineer, and countersigned by the Director of Works.

GUARD, FIRE, AND HOSPITAL SERVICE.

The Police Department of the Exposition is known as the "Columbian Guard," and is subject to the control of the Director of Works. The Columbian Guard is officered by a commandant, and such other officers as may be from time to time appointed by the Director of Works.

The Fire Department of the World's Columbian Exposition is governed by the municipal fire department of the city of Chicago.

Hospital Service.

(1) A Medical Director with all the necessary assistants and attendants shall be appointed by the Director of Works, and their salaries fixed by him, subject to the confirmation or approval of the Council of Administration.

(2) The said Medical Director, subject to the control of the Director of Works, shall have charge of the hospital building and all fixtures and property therein for the uses of the Medical Department.

(3) The hospital buildings shall not contain exhibits except upon the recommendation of the Director of Works, approved by the Director-General. It is intended solely for medical purposes, and visitors will not be admitted to its wards without special permission from the Medical Director. All information concerning this department may be obtained from the members thereof.

(4) Under no circumstances will any remuneration be received for services rendered at the hospital, or at the Exposition grounds. No medicine will be sold, nor will any be dispensed except upon the prescription of the Medical Director, or some one of his assistants.

(5) No patient whose condition will permit his removal shall remain in the hospital building over night. All patients in wards of the hospital at the hour of closing the Exposition, if their condition will permit it, shall be transported by ambulance to their respective residences, place of abode, or to some reputable city hospital.

(6) All employees of the World's Columbian Commission, the World's Columbian Exposition, the United States Government Exhibit Board, the State and Territorial World's Fair Boards, and Foreign Commissioners residing in the World's Fair grounds, or who become ill within the grounds while engaged in the services aforesaid, shall report to the Medical Director or his assistants for treatment necessary before their departure or removal therefrom.

(7) All cases of serious sickness occurring among the employees aforesaid, visitors, or others within the grounds, shall be reported without delay to the Medical Director, who will immediately have the patient removed to his or her residence or place of abode, or to one of the neighbouring city hospitals.

(8) Nothing in the foregoing rules shall be construed to prevent the United States Government from providing in its own way for the officers and men in its service.

WORLD'S COLUMBIAN EXPOSITION—RULES AND REGULATIONS FOR THE SUPPLY OF ELECTRICITY, STEAM, COMPRESSED AIR, AND POWER FROM SHAFTING.

General conditions.

(1) The Director-General has general charge of the installation of all exhibits, and the control and management of the same to the closing of the work of the Exposition, through the Department Chiefs, under the system, heretofore established and now recognised by law as existing agencies. The Director-General has exclusively to do with all exhibitors in their connection with or relation to the Exposition it being understood that so much of the regular power and light plant accepted as exhibits shall be under the control of the Director of Works.

(2) Exhibitors desiring to contract for service of electricity, steam, compressed air, power from shafting, gas, or water, must make application to the Chief of the Department in which their exhibits are installed. No application will be entertained unless made upon a blank furnished by the Chief of the Department; and when an application has been approved by the Director-General, a contract will be executed on the part of the World's Columbian Exposition by the Director of Works, provided it is not impracticable, on the terms and conditions hereinafter specified. In

In no case will service be furnished except under authority of contract in writing, the payments for which shall be made by the applicant to the World's Columbian Exposition at the time of the execution of said contract.

(3) Service will be provided from 1st May to 30th October, 1893, inclusive.

(4) The Exposition management will not be responsible for stoppages from any reasonable cause.

(5) A limited amount of power will be supplied gratuitously to turn over, periodically, an otherwise inoperative exhibit; the length of time such exhibit shall be operated to be determined by the Chief of Department.

(6) The authorised representative of the management of the World's Columbian Exposition shall have access to the consumer's space for the purpose of inspection at all reasonable hours.

Electricity for Incandescent Lighting.

(1) The generators, primary system of wiring, and converters will be installed, operated, and maintained by the World's Columbian Exposition.

(2) Service will be furnished from 100-volt alternating current system, as manufactured by the Westinghouse Electric and Manufacturing Co.

(3) All lamps, sockets, switches, cut-outs, and other appliances must be adapted to the above-named system.

(4) All power service for generating light will be furnished during the Exposition hours by the World's Columbian Exposition, from the 1st May to the 30th day of October, 1893, inclusive, at the rate of 8 dollars per sixteen candle-power, lamp capacity, or the equivalent in lamps of other candle-power.

(5) National, State, Territorial, and Foreign World's Fair Boards and Concessionaires must install, operate, and maintain the wiring system for lighting their respective buildings at their own expense. The installation shall comprise all conductors and appliances necessary from the converter to the lamps, and the first installation of lamps. The plans for such installation must be submitted for the approval of the Director of Works before installation commences, and the work shall be installed so as to meet with the approval of the Director of Works before connections can be made with the main circuits. The actual work of connecting the converter with the secondary system will in all cases be done without extra expense by the World's Columbian Exposition.

(6) Exhibitors occupying space in buildings owned by the World's Columbian Exposition must have their wiring installed by the World's Columbian Exposition, through its authorised contractors. All wiring and appliances installed by the World's Columbian Exposition will be, and remain, the property of the World's Columbian Exposition. The class of wiring installed will be that known as plain moulding or interior conduit work, and will include the first installation of lamps, plain key or keyless sockets, switches, cut-outs, and the hanging of the lamps on plain cords or pendants, and shall be charged for at the rate of 3.50 dollars per lamp. Special or fancy wiring will be furnished at an additional charge covering the actual cost to the World's Columbian Exposition. All fixtures and shades must be furnished by the consumer. Changes in location of lamps and appliances, when once installed, shall be subject to an additional charge.

(7) The lamps referred to herein, unless otherwise stipulated, are sixteen candle-power plain lamps. Lamps of other capacity and fancy lamps will be subject to special agreement. Lamps of standard capacities for renewal purposes will be furnished to replace burned-out lamps free of cost to consumer. Lamps accidentally broken or lost will be replaced at the expense of the consumer at the regular market rates. Special and fancy lamps must be renewed by the consumer.

Electricity for Power Service.

(1) The generators and main conductors will be supplied, operated, and maintained by the World's Columbian Exposition. The service conductors will be furnished at the consumer's expense, and at the rates hereinafter mentioned. The motors and appurtenances must be supplied, operated, and maintained by and at the expense of the consumer. The service connections to the motors shall be installed, maintained, and owned by the World's Columbian Exposition.

(2) The motor shall be suitable to operate on a 500-volt constant potential circuit. The rheostat shall be constructed wholly of non-combustible material. The main-line switch shall be of the "knife-blade" type, and suitable for working on a 500-volt constant potential circuit.

(3) No service will be rendered for less than 20 dollars. Fractions of horse-power will not be considered, except for motors of less than 1 horse-power. Charges will be made for service connections with the main line at the following rates:—

	Dollars.
For $\frac{1}{2}$ h.p. and less.....	10
For 1 to 5 h.p.	15 per h.p.
For more than 5 h.p., not exceeding 10 h.p.	12 "
For more than 10 h.p.	10 "

(4) Charges for service will be based on the maximum electrical horse-power delivered to the motor, irrespective of the class of work to be operated by the motor, at the following rates:—

	Dollars.
For $\frac{1}{4}$ h.p. and less.....	20
For more than $\frac{1}{4}$ h.p., not exceeding $\frac{1}{2}$ h.p.....	40
For more than $\frac{1}{2}$ h.p., not exceeding 1 h.p.....	75
For more than 1 h.p., not exceeding 2 h.p.....	70 per h.p.
For more than 2 h.p.	60 "

(5) Special service for motors, not exceeding two horse-power, can be furnished from the regular alternating incandescent circuit.

(6)

(6) The above rates contemplate continuous service, or service on demand, at any time during the hours of the Exposition, from May 1 to October 30, 1893, inclusive. Consumers requiring power service for a specified number of hours only will be charged at the rate of 5 cents per electrical horse-power hour; the specified time of day in which this service can be rendered to be determined each day by the Chief of the Department.

Electricity for Arc-lighting.

(1) The main aisles of the Exposition buildings will be illuminated by arc lights free of expense to the exhibitor. A very limited number of arc lights will be supplied for private lighting on the following basis:—

- (a) The consumer shall pay the cost of wiring.
- (b) The consumer shall pay for service, from May 1 to October 30, 1893, inclusive, at the rate of 60 dollars per lamp of 2,000 (nominal) candle-power.
- (c) Lamps will be suspended from the ceiling and furnished with opal globes. If any special fixture is required, it shall be furnished by the consumer.

(2) All care and maintenance of the lamps and circuits will be furnished by the World's Columbian Exposition without extra charge.

Electricity for charging Storage Batteries.

(1) The consumer shall provide lines and all material necessary from the main lines from which the current is to be distributed to storage batteries.

(2) Consumer shall provide all necessary labour and attendance connected with the charging or handling of the batteries.

(3) Current will be provided at the rate of 5 cents per electrical horse-power hour.

Electricity for Miscellaneous Purposes.

(1) Electricity for special purposes will be subject to special agreement, to be determined at the time of making application therefor. Rates will be based either on those for power or those for charging storage batteries, according to the class of work to be performed.

Steam for all purposes.

(1) Piping and all connections from main lines shall be supplied, erected, and covered with non-conducting material by the consumer.

(2) Plans for the arrangement of piping shall be submitted by the consumer for approval before work is begun.

(3) A rate of 40 dollars per horse-power will be charged for steam supplied during the hours of the Exposition, from May 1 to October 30, 1893, inclusive. The above rate contemplates continuous service, or service on demand at any time during the hours of the Exposition. Consumers requiring power service for a specified number of hours only, will be charged at the rate of 4 cents per horse-power hour; the specified time of day in which this service can be rendered to be determined each day by the Chief of Department.

(4) The maximum rate of delivery to consumer's pipes shall form the basis of payment, irrespective of the class of work to be performed.

(5) The working pressure at the boilers will be 125 lb. per square inch.

Compressed air for all purposes.

(1) Piping and all connections from the main lines shall be supplied and erected by the consumer.

(2) Plans for the arrangement of piping shall be submitted by the consumer for approval before work is begun.

(3) Charges will be based on the equivalent in mechanical horse-power for the maximum rate of supply delivered to the consumer's pipe, at a rate of 60 dollars per horse-power, during the hours of the Exposition, from May 1 to October 30, 1893, inclusive.

(4) The above rates contemplate continuous service, or service on demand at any time during the hours of the Exposition. Consumers requiring this class of power service for a specified number of hours only will be charged at the rate of 5 cents per horse-power hour; the specified time of day in which this service can be rendered to be determined each day by the Chief of the Department.

Power from Shafting.

(1) The consumer shall supply and erect the pulley on the main line, together with all belts and connections to operate his machinery; and all pulleys for the main shafts must be balanced, and must be made in halves, and so secured to the shafting as not to weaken or injure the same.

(2) A charge of 60 dollars per horse-power will be made, based on the maximum rate of power supplied during the hours of the Exposition, from 1st May to 30th October, 1893, inclusive. The above rate contemplates continuous service, or service on demand at any time during the hours of the Exposition. Consumers requiring power service for a specified number of hours only, will be charged at the rate of 5 cents per horse-power hour, the specified time of day in which this service can be rendered to be determined each day by the Chief of the Department.

(3) The diameter and revolutions of shafts, and maximum permissible diameter of driving pulley, will be given to the consumer at the time of the execution of the contract providing for power.

Pipes

Pipes Crossing Passage-ways.

No steam or water pipes will be allowed to cross over passage-ways, except as specially provided for in Group 69, Class 417.

Water Pressure.

Water pressure will be that due to a head of 200 feet, or a pressure of 86 lb. per square inch.

Engineers and Firemen.

Exhibitors furnishing machinery for the use of the Exposition may select their own men to operate them when necessary, subject to the approval of the Director of Works; their wages to be fixed by the Director of Works, subject to the approval of the Council of Administration.

RULES GOVERNING LIGHT AND POWER IN ELECTRICITY BUILDING.

Exhibitors in the Electricity Building will be divided into two classes: First, those who contribute to the service of lighting and electric power transmission for the building; second, those who do not so contribute.

Contributors will be again divided into two classes:

- (1) Those who furnish generators connected to prime movers in Machinery Hall.
- (2) Those who contribute to the service lighting of Electricity Building through motor power taken from circuits in the Electricity Building.

Contributors to either class will be required to enter into formal contract for furnishing and operating machinery offered, in accordance with the following general terms:

No steam power being available in the Electricity Building, all generators provided by contributors of class (1) must be installed in Machinery Hall.

Generators provided by American companies will be located in the regular service plant in Machinery Hall. Generators provided by foreign companies will be located in the spaces severally allotted to these countries in Machinery Hall.

Power circuits will be led from the generators of each contributor of class (1) through existing subways from Machinery Hall to the Electricity Building. The several exhibitors offering generators for this service are expected to furnish and install, at their own expense, subject to the supervision of the World's Columbian Exposition, the several power circuits before mentioned.

The aisles of the Electricity Building will be illuminated by arc lights, which will be considered the service lighting for the building. Arc lights in addition to these, as well as all incandescent lights and power for keeping exhibits in motion, will be considered as special service rendered to individual exhibitors.

Power for operating generators needed for the service lighting will be furnished free of cost to the exhibitors installing this light. In consideration of such contribution to the service lighting of Electricity Building, exhibitors participating in this service will be granted such amount of extra power and light for the operation of their own exhibits as may be mutually agreed upon in contract.

Arc and incandescent lights may be taken direct from the several power circuits leading from Machinery Hall, or they may be furnished from generators driven by motors taking current from the power circuits before mentioned, motors and generators in this latter case being located in the Electricity Building. Arc lights for all night service are an exception to this rule, and will be supplied from the regular service plant already contracted for by the World's Columbian Exposition.

Contributors of class (2) who use current from the power circuits will be expected to provide the necessary motors, generators, and shafting, free of cost to the World's Columbian Exposition. Exhibitors contributing to the arc lighting necessary in the service of the building will be expected to wire, hang, and maintain such lamps as may be assigned to them free of cost to the World's Columbian Exposition. Such arc lamps, incandescent lights, and motors as may be installed within the contributing exhibitor's space will be wired and hung by said exhibitor at his own expense.

In order to provide for lighting and power service to those exhibitors who do not contribute to the service of Electricity Building, it is proposed to assign to each exhibitor contributing to said service a specified portion of the Electricity Building in which to furnish special lighting and power. All work of wiring, hanging, and maintenance of lamps, &c., done for other exhibitors in such space will be paid for by the Exposition Company at the following rates:—

(1) For each incandescent lamp, including the first lamp and socket with installation on a plain cord or pendant, 3.50 dollars per 16 candle-power lamp.

- (a) Special fancy wiring will be furnished at an extra cost, to be paid by consumer, under special agreement.
- (b) Fixtures and shades will be furnished and maintained by consumer.
- (c) Lamps of other capacities, fancy or coloured lamps, will be furnished in accordance with special agreement. Lamp renewals must be furnished free of charge by contributor. Breakages must be purchased by consumer from the exhibitor supplying his exhibit, at the usual market price.

(2) For each arc lamp, including ceiling block, suspension rod, and lamp complete, 35 dollars. Lamps must be furnished with opal globes. All care and attendance to lamps and circuits must be furnished without extra charge by the contributor maintaining the circuit.

(3)

(3) All wiring necessary for the installation of motors within the space assigned to each contributor shall be done by said contributor, at the expense of exhibitor desiring said power, at the following rates :—

	Dollars.
$\frac{1}{2}$ h.-p. and less	8
1 to 5 h.-p., per h.-p.....	12
More than 5 h.-p. and not exceeding 10 h.-p., per h.-p.	10
More than 10 h.-p., per h.-p.	8

Fractions of a horse-power will not be considered, except for motors of less than 1 horse-power. In all cases the rating of the motor will be the standard rating of the manufacturer.

Service connections, as well as all lamps and sockets installed at contributor's expense, shall be maintained and owned by said contributor. All alterations of original installation shall be made by said contributor, after written agreement with the exhibitor desiring change.

All installation and operation shall be subject to the inspection and approval of the Chief of the Department of Electricity. Installation must conform to the National Code of the Board of Underwriters, subject to the inspection and approval of the Director of Works of the Exposition.

Note.

Service will be provided only from 1st May to 30th October, 1893, inclusive, and during Exposition hours, except by special agreement.

The service rendered will be entirely at the risk of the consumer. The World's Columbian Exposition will not be responsible for stoppages from any reasonable cause.

RULES GOVERNING THE SUPPLY OF LIGHTING AND POWER TO EXHIBITORS IN THE DEPARTMENT OF ELECTRICITY.

Electric power only will be supplied in the Electrical Building.

The aisles of the building will be illuminated with arc lamps without cost to exhibitors; additional lighting to be paid for by exhibitors at the following rates :—

Arc lamps, service 1st May, 1893, to 30th October, 1893, inclusive, during Exposition hours, 65 dollars per lamp of 2,000 nominal candle-power; lamps suspended from ceiling, with opal globes and globe nets, special fixtures or globes, or special ornamental lamps, will be subject to an extra charge.

Incandescent lamps, service 1st May, 1893, to 30th October, 1893, inclusive, during the hours of the Exposition, 8 dollars per 16 candle-power lamp, including installation of first lamp and socket and lamp renewals; breakages must be purchased by exhibitor or the contractor lighting his space, at the usual commercial rate. Lamps will be hung on plain cords or pendant; special or fancy wiring will be furnished at an extra charge. Fixtures and shades will be furnished and maintained by consumer. Special coloured or fancy lamps, or lamps of other than 16 candle-power, will be subject to special agreement. Installations of 500 lamps or more will be subject to special discount.

Motors.

Exhibitors requiring motive power will furnish necessary motors, rheostats, main line switches, insulating base, &c., complete, together with all belts, countershafting, and other means of connecting motors to operating machinery. Motors should be suitable for operation on class of circuit furnished in exhibitor's location.

The rheostats must be constructed wholly of non-combustible material. The main line switch shall be of the "knife-blade" type, of ample carrying capacity, and suitable for breaking current at the potential used. Motors shall be erected in position at the expense of the exhibitor by the contractor furnishing power in the location of his exhibit; service connections being installed, maintained, and owned by the said contractor.

Charges for service connections with the main line will be as follows :—

	dollars.
For $\frac{1}{2}$ h.-p. and less	8
For 1 h.-p. to 5 h.-p., per h.-p.	12
For more than 5 h.-p., not exceeding 10 h.-p., per h.-p.	10
For more than 10 h.-p., per h.-p.	8

Fractions of a horse-power will not be considered, except for motors of less than 1 horse-power.

Ratings of motors will be the standard rating of the manufacturer.

Charges for service will be based on the maximum electrical horse-power delivered to the motor, irrespective of the class of work to be operated by the motor, at the following rates :—

	dollars.
For $\frac{1}{4}$ h.-p. and less	15
For more than $\frac{1}{4}$ h.-p. and not exceeding $\frac{1}{2}$ h.-p.	30
For more than $\frac{1}{2}$ h.-p. and not exceeding 1 h.-p.	50
For more than 1 h.-p. and not exceeding 2 h.-p., per h.-p.	45
For more than 2 h.-p. and not exceeding 3 h.-p., per h.-p.....	42.50
For more than 3 h.-p., per h.-p.	40

A limited amount of power may be furnished to exhibitors free of charge, to simply turn over an otherwise inoperative exhibit.

APPENDIX Q.

General Rules and Regulations and Information affecting
Transportation of Exhibits.

Reception of Articles.—The general reception of exhibits at the Exposition buildings will commence on 1st November, 1892, and no article except of a perishable nature will be admitted after 10th April, 1893, without special authority.

Machinery and other heavy articles will be admitted as soon as the special foundations for them are prepared, and it is desirable that they should be in place prior to the reception of other exhibits.

Boxing.—In boxing goods for the Exposition, screws should be used instead of nails.

Shipping Directions.—Foreign exhibits consigned in bond must be marked to the Collector of Customs, Chicago, U.S.A., and conspicuously marked "Exhibits for Columbian Exposition."

Each package should be marked on two different, but not opposite sides, giving the following information:—

- The country from which it comes.
- Name of exhibitor.
- Residence of exhibitor.
- Department to which exhibits belong.
- Weight of package.
- Total number of packages sent by exhibitor.
- Serial number of package.

Within each package should be a list of its contents and a copy of the outside directions.

Each package must contain only articles intended for a single department.

Foreign exhibitors will be furnished with shipping tags and labels by the Commissioner of the country from which the articles are forwarded.

Any single piece or section of any exhibit of greater weight than 30,000 lb. will not be accepted if machinery is required for its installation.

The departments of the classification which will determine the relative location of articles in the Exposition, except in such collective exhibits as may receive special sanction, and also the arrangement of names in the catalogue, are as follows:—

- A. Agriculture, Forest Products, Forestry Machinery, and Appliances.
- B. Viticulture, Horticulture, Floriculture.
- C. Live Stock:—Domestic and Wild Animals.
- D. Fish, Fisheries, Fish Products, and Apparatus for Fishing.
- E. Mines, Mining, and Metallurgy.
- F. Machinery.
- G. Transportation, Railways, Vessels, Vehicles.
- H. Manufactures.
- J. Electricity.
- K. Fine Arts:—Painting, Sculpture, Architecture, and Decoration.
- L. Liberal Arts:—Education, Literature, Engineering, Public Works, Music, and the Drama.
- M. Ethnology, Archæology:—Progress of Labour and Invention. Isolated and Collective Exhibits.

Favourable facilities will be arranged by which the exhibitors or Foreign Commissions may insure their own goods.

Foreign

NOTE.—Special care has been taken to render everything about the Exposition as nearly fire-proof as possible, and it is reasonably certain that the rates of insurance will not be excessive, but on the contrary very reasonable. Exhibitors may insure in any company, either foreign or domestic.

Foreign Commissions may employ watchmen of their own choice to guard their goods during the hours the Exhibition is open to the public, subject to the rules and regulations of the Exposition.

Foreign Commissions, or such agents as they may designate, shall be responsible for the receiving, unpacking and arrangement of objects, as well as for the removal at the close of the Exposition, but no person shall be permitted to act as such agent until he can give to the Director-General written evidence of his appointment having been approved by the proper commission.

The transportation, receiving, unpacking and arranging of exhibits for exhibition will be at the expense of the exhibitor.

The installation of heavy articles, requiring special foundations or adjustment, should by special arrangement begin as soon as the progress of the work upon the buildings will permit. The general reception of articles at the Exposition buildings will commence on 1st November, 1892, and no article will be admitted after 10th April, 1893.

Products brought into the United States at the ports of Portland, Me., Boston, Mass., New York, N.Y., Philadelphia, Pa., Baltimore, Md., Norfolk, Va., Newport News, Va., Key West, Fla., Mobile, Ala., New Orleans, La., Galveston, Tex., San Francisco, Cal., Port Townsend, Wash., Portland, Ore., Port Huron, Mich., Detroit, Mich., and Chicago, Ill., or at any other port of entry, intended for display at the International Exhibition will be allowed to go forward to the Exhibition buildings under proper supervision of Customs Officers without examination at such ports of original entry, and at the close of the exhibition will be allowed to go forward to the port from which they are to be exported. No duties will be levied upon such goods unless entered for consumption in the United States.

Ample facilities will be provided for the storage of empty cases and packing material at the cost of the exhibitor, which cost will be made as low as possible, but must be paid before cases are taken in charge.

APPENDIX R.

Supplement to Traffic Arrangements for
Foreign Exhibits.*(Dated 1st August, 1892.)*

World's Columbian Exposition, Chicago (Jackson Park), 4 January, 1893.

UPON arrival at Jackson Park, prepaid consignments will be delivered by the Bureau of Transportation, on, or as near as practicable, the exhibitor's allotted space, without additional charge.

Transportation charges and the terminal charges of 6 cents per hundred pounds, on all consignments shipped by rail or water lines, destined to Jackson Park, must be fully prepaid at initial point, as under no circumstances will these charges be advanced by the World's Columbian Exposition.

The terminal charge of 6 cents will apply to all consignments except those entering the grounds on their own wheels, small consignments, minimum car lots, and single pieces of an exhibit, weighing over 30,000 lb.

The charge on cars and coaches on their own wheels will be 5 dollars each. On locomotives with tenders, 10 dollars each.

The minimum charge of 50 cents for any single shipment will be exacted by the Exposition, and the minimum car load weight established by the initial road will be the basis on which the Exposition charge is made for such car load shipments, and exhibits weighing more than 30,000 lb. each piece will be subject to special arrangements.

When consignments are delivered at, or as near as practicable to their allotted space, receipt must be acknowledged on the prepaid expense bill, either by the owner, his agent, or the authorised representative of the Director-General.

Exhibitors are requested and urged to immediately upon delivery unpack all packages and release all empty cases required to be stored.

All excelsior, paper, burlaps, &c., used in packing exhibits, must be promptly placed in empty cases, or carefully baled, under supervision of representative of Bureau of Transportation, and delivered to said Bureau for storage under the regulations. Under no circumstances will such material be received for storage in open packages, but exhibitors are urged to make all preliminary arrangements to the end that all excelsior, paper, burlaps, &c., originally used in packing may be available for that purpose at the close of the Exposition.

All straw, excelsior, paper, &c., which it is not desired to preserve, must be daily bundled up by the exhibitor, and turned over to the janitors, in order that it may be destroyed at the crematory.

In addition to the preliminary notice of shipment sent by the exhibitor to the Director-General, it is requested that a duplicate be sent to the General Manager of Transportation, giving in all cases the serial number and number of packages sent.

Such goods as are received at the Exposition with transportation and terminal charges unpaid, or only partially paid, or with no responsible party at the grounds to assume charge thereof, will be stored in the warehouse at the expense and risk of the owner.

The annexed schedule of charges, based upon those adopted by the United States Government Customs, warehouses, will govern.

Where this schedule provides no rate for a particular consignment, charges will be based upon those for analogous articles.

The schedule is as follows, and the charges include transfer both ways and storage:—

WAREHOUSE STORAGE RATES.

The rates of storage are per month, and the fractional part of any month will be treated as a whole month. The rates of labour are per package, and include both receipt and delivery. The rates on packages not enumerated shall correspond to those charged for packages of merchandise of similar size and like general description, based upon advisory reports of the storekeeper. Special rates will be made for valuables as such cases arise. No single entry of less than 50 cents will be made in the storage books on single consignments. In all other cases rates will be charged in accordance with the schedule.

Articles.	Storage.	Labour.	Articles.	Storage.	Labour.
Single packages of any kind with drawn during the first month.	35	15	Herrings and Fish..... bbls.	10	3
Ale (in bottles) bbls.	8	2	" " ½ bbls.	8	2
Almonds bags	4	2	" " kegs	5	1
Bitters cases	4	2	" " bbls.	10	2
Bicycles..... crates	30	10	Machinery cases	50	25
Books cases	30	15	Musical Instruments "	35	10
Bottles crates	25	10	Olive Oil "	4	1
Brandy cases	4	2	Oil, Olive 45 gal. casks	15	5
" hhds.	30	10	Paintings cases	40	10
" bbls.	15	5	Paperhangings "	30	10
" oct.	10	5	Pickles..... bbls.	10	3
Burlaps bales	40	20	" cases	4	1
Carpets cases	30	10	Salt 224 lb. sacks	4	1
Champagne baskets	5	2	Sardines cases	5	3
" cases	4	2	Seeds, Garden "	10	5
Chinaware casks	40	10	" Canary bags	6	2
Cordials..... cases	4	2	Soda, Bicarb..... kegs	4	2
Currants bbls.	6	2	" Caustic drums	20	10
Cigars cases	25	10	" Crystal casks	30	10
Dry Goods "	30	10	" Sal. tierces	30	10
Earthenware "	30	10	Sugar, Maple..... bags	4	2
" casks	40	10	Tin Plate boxes	3	2
" crates	40	20	Tobacco cases	25	10
Figs cases	20	10	" bales	8	4
Filberts bags	5	3	Toys cases	30	10
" bales	12	4	" casks	30	10
Fruits (preserved) cases	4	2	Venetian Red..... bbls.	10	5
Gin (one dozen) "	4	2	Walnuts bags	5	2
" Red "	5	2	Wine pipes	35	15
Ginger Ale (bottles) bbls.	8	2	" ½ "	25	10
Hardware cases	35	15	" ¼ "	15	5
" casks	40	15	" ⅓ "	10	5
			" cases	4	2

The Exposition management have provided ample facilities for the storage of empty packing cases, and will, upon proper application on the blanks provided by the Bureau of Transportation, undertake the storage of all such cases, packages, or bales. The charge for this service from the exhibitor's space to warehouse and return to said space at close of Exposition is 4½ cents per cubic foot, for the actual space occupied, with a minimum of 50 cents on any one lot; this charge, however, does not include insurance, which may be obtained through the usual channels.

It is distinctly understood that the World's Columbian Exposition, in undertaking the storage of such empty packing cases, does not assume, and it shall not be subject to, any liability for loss or damage resulting from fire.

W. H. HOLCOMB, General Manager.

Approved,—

D. H. BURNHAM, Director of Works.

GEO. R. DAVIS, Director-General.

APPENDIX S.

Regulations as to Warehouse Storage.

Goods received at the Exhibition with transportation and terminal charges unpaid or only partially paid, or with no responsible party at the grounds to assume charge thereof, will be stored in the warehouse at the expense and risk of the owner.

A schedule of charges, based on those adopted by the United States Government Customs Warehouses, will govern, and will include transfer both ways and storage.

Empty Packing Cases.

The Exposition management have provided facilities for the storage of empty packing cases, and will undertake the storage of such cases, packages, &c. The charge for this service from the exhibitor's space to warehouse and return to said space at close of Exposition will be $4\frac{1}{4}$ cents per cubic foot for the actual space occupied, with a minimum of 50 cents on any one lot. This charge does not include insurance, which may be obtained through the usual channels.

It is distinctly understood that the World's Columbian Exposition, in undertaking the storage of such empty packing cases, does not assume—and it shall not be subject to—any liability for loss or damage resulting from fire.

Arrangements have been made for a special space to be reserved for the packing cases of New South Wales exhibitors, so that they may all be stored together.

APPENDIX T.

The McKinley Tariff Rates.

(By ERNEST H. FISHBOURNE, M.A., Barrister-at-Law.)

THE following Abstract contains the material provisions of the United States Tariff, and shows the duties leviable under it on all classes of goods imported into the States:—

CHEMICALS, OILS, AND PAINTS.

(Schedule A.—§§ 1-92.)

Acid, acetic, not exceeding sp.g. $1\frac{4}{1000}$	1½c. per lb.	Oils (<i>continued</i>)—	
" exceeding " "	4c. "	flax and poppy seed—raw, }	32c. per gall.
boracic	5c. "	boiled, or oxidized ... }	of 7½ lb.
chromic	6c. "	fusel, amylic alcohol ...	10 per cent.
citric	10c. "	hemp and rape seed ...	10c. per gall.
sulphuric	¼c. "	olive	35c. "
tannic	75c. "	peppermint	80c. "
tartaric	10c. "	fish, n.o.p.	8c. "
Alcoholic perfumery, including toilet waters	{ \$2 per gall. and 50 p.c.	Opium, all liquid preparations, n.o.p. containing less than 9 per cent. morphia, or prepared for smoking	40 per cent. \$12 per lb.
Alcoholic compounds, n.o.p.	{ \$2 per gall. and 25 p.c.	Paints, colours, and varnishes—	
Alumina, alum, in their various forms	¼c. per lb.	baryta, sulphate of, including barytes earth, unmanufactured	\$1.12 per ton
Ammonia, carbonate of	1¼c. "	manufactured	\$6.72 "
muriate of, or sal ammoniac	¼c. "	blues, containing ferrocyanide of iron (when in pulp or mixed with water, on the material when dry)	6c. per lb.
sulphate of	½c. "	blanc fixe	¼c. "
Blackening of all kinds	25 per cent.	black from bone, ivory, or vegetable	25 per cent.
Blue vitriol, sulphate of copper	2c. per lb.	chromium colours, in which lead and bichromate of potash or soda component parts (when in pulp or mixed with water, on material therein when dry)	4½c. per lb.
Bone-char, for decolourising sugars.	25 p.c.	ochre, sienna, umber, and their earths, n.o.p., dry	¼c. "
Borax, crude, borate of soda or lime refined	3c. per lb. 5c. "	ground in oil	1¼c. "
Camphor, refined	4c. "	ultramarine	4¼c. "
Chalk, prepared, precipitated, French, and red	1c. "	varnishes, including so-called gold size or japan	35 per cent.
all other preparations, n.o.p.	20 per cent.	if spirit, additional on spirit therein	\$1.32c. per gal.
Chloroform	25c. per lb.	vermilion, red, and colours containing quicksilver	12c. per lb.
Coal, tar, colours, or dyes, n.o.p.	35 per cent.	wash-blue containing ultramarine	3c. "
other preparations, n.o.p.	20 "	whiting and Paris white, dry ground in oil or putty	1c. "
Cobalt, oxide of	30c. per lb.	zinc, oxide of, and white paint, containing zinc, but no lead, dry	1¼c. "
Collodion and all compounds of pyroxyline...	50c. "	ground in oil	1¼c. "
rolled, or in sheets not made up in finished or partly finished articles	60c. " and 25 p.c.	artists' water-colour paints	30 per cent.
Colouring for liquors	50 per cent.	all other paints and colours n.o.p.	25 "
Copperas, sulphate of iron	1½c. per lb.	Lead products—	
Drugs and excrescences, spices, vegetables, seeds aromatic and of morbid growth, weeds, woods used expressly for dyeing, and dried insects, not edible, and advanced in value or condition by process manufacture, n.o.p.	10 per cent.	acetate of lead, white	5½c. per lb.
Ether—		" brown	3¼c. "
sulphuric	40c. per lb.	litharge	3c. "
spirits of nitrous	25c. "	nitrate of lead	3c. "
fruit, oils or essences	\$2.50 "	orange mineral	3¼c. "
other kinds, n.o.p.	\$1 "	red lead	3c. "
Extracts and decoctions of dye woods, sumac, and barks, as used for dyeing or tanning, n.o.p.	¼c. "	white lead and white paint containing lead	3c. "
of hemlock bark	½c. "	phosphorus	20c. "
Gelatine, glue, isinglass, fish glue— value not over 7c. per lb.	1½c. "	Potash—	
" " 30c. "	25 per cent.	bichromate or chromate of	3c. "
" over 30c. "	30 "	caustic, or hydrate of, refined in sticks or rolls	1c. "
Glycerine, crude, not purified	1¼c. "	hydrodate, iodide and iodate	50c. "
refined	4¼c. "	nitrate of, refined	1c. "
Indigo, extracts and pastes...	¼c. "	prussiate of, red	10c. "
carmined	10c. "	" yellow	5c. "
Ink-powders and all ink n.o.p.	30 per cent.	Preparations—	
Iodine, resublimed	30c. per lb.	medicinal, n.o.p.	
Iodoform	\$1.50 "	where alcohol is used	50c. "
Licorice, extracts of...	5½c. "	where no alcohol	25c. "
Magnesia, carbonate of, medicinal	4c. "	calomel and other mercurial medicinal	35c. "
calcined	8c. "	alkalies, alkaloids, distilled, essential, expressed, and rendered oils and their combinations, and all chemical compounds and salts, n.o.p.	25 per cent.
sulphate of	1½c. "		
Morphia and all salts thereof	50c. per oz.		
Oils—			
alizarin, assistant, or soluble oils, containing more than 50 per cent. castor	80c. per gall.		
less than 50 p.c.	40c. "		
all other	30c. "		
castor	80c. "		
cod-liver	15c. "		
cotton seed	10c. per gall. of 7½ lb.		
croton	30c. per lb.		

CHEMICALS, OILS, AND PAINTS—continued.

Preparations (continued)—		Soda (continued)—	
used as applications to the hair, mouth, teeth or skin, n.o.p....	50 per cent.	bichromate and chromate of sal-soda, or soda crystals and soda-ash	3c. per lb. 4c. "
santonine and salts thereof, containing 80 per cent. or over of santonine	\$2.50 per lb.	silicate of soda, or other alkaline silicate	1/2c. "
Soap—		sulphate of	\$1.25 per ton.
Castile	1 1/2c. "	Sponges	20 per cent.
toilet	15c. "	Sulphur, refined	\$8 per ton.
all other, n.o.p....	20 per cent.	sublimed, or flowers of	\$10 "
Soda—		Sumac, ground	1/10c. "
bicarbonate or super-bicarbonate of, or saleratus	1c. per lb.	Tartar, cream of, and patent	6c. "
hydrate of, or caustic	1c. "	Tartars and less crystals, partly refined	4c. "
		Tartrate of soda and potassa	3c. "

EARTHS, EARTHENWARE, AND GLASSWARE.

(Schedule B.—§§ 93-131.)

Bricks and tiles—		Glass (continued)—	
plain	25 per cent.	cylinder and crown polished—	
otherwise	45 "	not over 16 by 24	4c. p. sq. ft.
firebrick, plain	\$1.25 per ton.	" 24 by 30	6c. "
otherwise	45 per cent.	" 24 by 60	20c. "
Cement—		and above	40c. "
hydraulic, in bulk	7c. p. 100 lb.	fluted, rolled, or rough plate—	
otherwise, including weight of barrel or package	8c. "	not over 10 by 15	1/2c. "
other	20 per cent.	" 16 by 24	1c. "
Lime, including weight of barrel or package	6c. p. 100 lb.	" 24 by 30	1 1/2c. "
Plaster of Paris or gypsum—		and above	2c. "
ground	\$1 per ton.	N.B.—Where weight exceeds 100 lb. per 100 sq. ft. additional on excess at same rates.	
calcined	\$1.75 "	Cast polished plate, unsilvered—	
Clays or earths, n.o.p., if wrought or manufactured	\$3 "	not over 16 by 24	5c. p. sq. ft.
otherwise	\$1.50 "	" 24 by 30	8c. "
china clay or kaolin	\$3 "	" 24 by 60	25c. "
Common brown earthen and stone- ware and crucibles, plain	25 per cent.	and above	50c. "
China, earthenstone, and crockery- ware, and manufactures of same—		Cast polished plate, silvered, and looking-glass plates (frames taken separately)—	
if plain white	55 "	not over 16 by 24	6c. "
otherwise	60 "	" 24 by 30	10c. "
Gas retorts... ..	\$3 each.	" 24 by 60	35c. "
Glass bottles—		and above	60c. "
Common, if empty, or contents free or not subject to duty based on value, holding more than 1 pint, and other bottle- ware, glassware, n.o.p.	1c. per lb.	ground, obscured, bevelled, or otherwise ornamented	10 p. c. add.
holding less than 1/4 pint	50c. p. gross	spectacles and eyeglasses, frames, and lenses ready for same	60 per cent.
not more than 1 pint	1 1/2c. per lb.	lenses not over \$1.50 per gross pair	60 "
minimum duty of 40 p.c.		stained or painted for windows, mirrors, not exceeding 144 sq. in., lenses, n.o.p., and fusible enamel	45 "
N.B.—If contents subject to duty based upon value, value of bottle added to that of contents. Otherwise, and if fancy bottles, treated as empty, n.o.p.		Marble—	
Glassware, &c., n.o.p.	60 per cent.	in block, rough, or squared	65c. p. c. ft.
Chemical, for laboratory use, n.o.p.	45 "	veined, sawed, dressed, or other- wise	\$1.10 "
Glass—		(in measuring, no slab to be computed at less than 1 inch thick.)	
unpolished cylinder, crown and common window—		manufactures of, n.o.p.	50 per cent.
not over 10 by 15	1 3/4c. per lb.	Stone—	
" 16 by 24	1 3/4c. "	millstones	15 "
" 24 by 30	2 3/4c. "	building or monumental, n.o.p., hewn, dressed, or polished	40 "
" 24 by 36	2 3/4c. "	otherwise	1 1/2c. p. c. ft.
and above	3 3/4c. "	grindstones	\$1.75 p. ton.
		Slates and manufactures of same, n.o.p.	30 per cent.
		for roofing	25 "

METALS AND MANUFACTURES OF.

(Schedule C.—§§ 132-215.)

Iron, chromate of, and chromic ore sulphur ore with not more than 3 1/2 per cent. copper	15 per cent. 75c. per ton	Iron (continued)—	
N.B.—Ore containing more than 2 per cent. copper to pay in addition 1/2 per cent. per lb. for copper therein. Sulphur ore containing in excess of 25 per cent. sulphur, free, except as to copper therein. No allowance for moisture.		round, not less than 3/4 in. dia....	1/10c. per lb.
Iron in pigs, kentledge, spiegeleisen, ferro manganese, ferro silicon, wrought and cast scrap iron, scrap steel	1/10c. per lb.	" " 1/16 " "	1c. "
in bars, rolled, or hammered, flats, not less than 1 in. by 3/8	1/10c. "	square, not less than 3/4 in dia... ..	1/10c. "
" " " "	1c. "	" " " " " " " "	1c. "
		in coils or rods less than 1/16 in. dia.	1 1/10c. "
		in bars or shapes, rolled, n.o.p.	1 1/10c. "
		(Where charcoal used as fuel in manufacture, duty not less than \$22 per ton).	
		N.B.—In forms less finished than bars, and more advanced than pig-iron, except castings, to be rated as bars, with minimum of 35 per cent., in this and last two cases.	

METALS AND MANUFACTURES OF—continued.

Iron or steel in structural shapes ...	$\frac{1}{10}$ c. per lb.
boiler or other plates (except saw plates), not thinner than No. 10 wire gauge (if thinner pays as sheets), sheared or not, and skelp iron, or sheet sheared or rolled in grooves, value not over 1c. per lb. ...	$\frac{5}{100}$ c. "
" 1 $\frac{1}{2}$ c. " ...	$\frac{6}{100}$ c. "
" 2c. " ...	$\frac{7}{100}$ c. "
" 3c. " ...	$\frac{8}{100}$ c. "
" 4c. " ...	$\frac{9}{100}$ c. "
" 7c. " ...	2c. "
" 10c. " ...	2 $\frac{5}{100}$ c. "
" 13c. " ...	3 $\frac{1}{2}$ c. "
over 13c. " ...	45 per cent.
forgings, n.o.p. (minimum duty of 45 per cent.) ...	2 $\frac{3}{10}$ c. per lb.
hoop, band, or scroll, or other, value not over 3c. per lb., not over 8 in. by $\frac{3}{8}$ in., and not thinner than No. 10 wire gauge ...	1c. "
not thinner than No. 20 ...	1 $\frac{1}{10}$ c. "
thinner than No. 30 ...	1 $\frac{3}{10}$ c. "
hoops for baling purposes, or flayed, splayed, or punched ..	$\frac{2}{10}$ c. ad. "
railway bars, T rails, and punched flat rails ...	$\frac{1}{10}$ c. "
sheets, common or black, valued at not more than 3c. per lb., not thinner than No. 10 wire gauge, pays as plates.	
not thinner than No. 20 ...	1c. "
" " No. 25 ...	1 $\frac{1}{10}$ c. "
thinner than No. 25 ...	$\frac{1}{10}$ c. "
pickled, cleaned, cold, rolled and smoothed only	$\frac{1}{4}$ c. per lb. ad.
polished, plainshed, glanced	2 $\frac{1}{2}$ c. per lb.
sheets, plates, hoop, band or scroll, galvanised or coated with metal or alloy ...	$\frac{3}{4}$ c. per lb. ad.
bars or rods worked up beyond ordinary process of hot rolling or hammering ...	$\frac{1}{4}$ c. "
strips, plates, or sheets other than the polished, plainshed, or glanced, which are worked up to a better surface finish than the grade of cold-rolled smooth, hereinafter provided for ...	Duty as for common or black finish and $\frac{1}{4}$ c. per lb.
tin plates, terme plates, and Taggers' tin ...	2 $\frac{2}{10}$ c. per lb.
manufactures of which foregoing component materials of chief value, or stamped or drawn from sheet being component of chief value, and coated with tin, lead, or mixture of which these or either a component part ...	25 per cent.

N.B.—No manufactured article n.o.p. to pay less duty than that imposed on material from which made, or of which it is a component part of chief value.

Steel and cogged ingots, blooms and slabs; die blocks or blanks, billets, and bars, and tapered or bevelled bars; shafts; shafting; wrist or crank pins; connecting and piston rods; pressed, sheared, or stamped shapes; saw-plates (circular 1 per cent. additional); hammer moulds or swaged steel; gun-barrel moulds not in bars; alloys as substitutes for steel tools; dry sand, loam, or iron moulded steel castings; sheets and plates, and steel in all forms, n.o.p.

value not over 1c. per lb. ...	$\frac{4}{100}$ c. per lb.
" " 1 $\frac{1}{10}$ c. " ...	$\frac{5}{100}$ c. "
" " 1 $\frac{2}{10}$ c. " ...	$\frac{6}{100}$ c. "
" " 2 $\frac{1}{10}$ c. " ...	$\frac{7}{100}$ c. "
" " 3c. " ...	1 $\frac{1}{10}$ c. "
" " 4c. " ...	1 $\frac{2}{10}$ c. "
" " 7c. " ...	2c. "
" " 10c. " ...	2 $\frac{5}{100}$ c. "
" " 13c. " ...	3 $\frac{1}{2}$ c. "
" " 16c. " ...	4 $\frac{1}{10}$ c. "
" over 16c. " ...	7c. "

Iron or steel wire and nail rods—	
not smaller than No. 6 gauge, value not over 3 $\frac{1}{2}$ c. per lb. ...	$\frac{1}{10}$ c. per lb.
flat, with longitudinal ribs for fencing, value not over 3 $\frac{1}{2}$ c. per lb. ...	$\frac{1}{10}$ c. "

N.B.—Rods smaller than No. 6 gauge dutiable as wire.

Iron or steel wire—	
not smaller than No. 10 gauge	1 $\frac{1}{4}$ c. "
" " 16 "	1 $\frac{3}{4}$ c. "
" " 26 "	2 $\frac{1}{4}$ c. "
smaller than No. 26	3c. "
covered with material, and crinoline, corset, and hat ...	5c. "
cloths, nettings made in meshes	2c. p. lb. add.
metal coated (except for fencing) $\frac{1}{2}$ c.	" "
value at more than 4c. per lb., not less than ...	45 per cent.
for manufacture of card clothing	35 "
rope and strand respectively 1c. & 2c. p. c. add.	

Flat steel wire, or sheet steel in strips of any width, $\frac{2}{100}$ in. thick and less ...	50 per cent.
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N.B.—No article made of wire, or of which it is a component part of chief value, to pay a less rate than the wire.

Manufactures of iron and steel—	
Anchors, mill-irons and mill-cranks of wrought-iron, and wrought-iron for ships, forgings for vessels, steam-engines and locomotives, weighing each 25 lb. or more ...	1 $\frac{3}{10}$ c. per lb.

Axles, and parts thereof, and forgings for same ...	2c. "
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N.B.—If fitted in wheels dutiable as wheels.

Anvils ...	2 $\frac{1}{2}$ c. per lb.
Blacksmiths' tools ...	2 $\frac{1}{4}$ c. "
Tubes, pipes, flues, stays of wrought-iron and steel ...	2 $\frac{1}{2}$ c. "
Bolts and blanks, finished hinges and blanks ...	2 $\frac{1}{4}$ c. "
Card clothing—of tempered steel wire ...	50c. p. sq. ft.
all other ...	25c. "
Cast-iron pipe ...	$\frac{1}{10}$ c. per lb.
Cast-iron objects and castings, n.o.p. ...	1 $\frac{2}{10}$ c. "
Castings of malleable iron, n.o.p.	1 $\frac{3}{4}$ c. "
Cast hollow ware, coated, glazed, and tinned ...	3c. "
Chains, minimum ...	45 per cent.
not under $\frac{3}{8}$ -in. dia. ...	1 $\frac{1}{10}$ c. per lb.
" " $\frac{3}{4}$ " ...	1 $\frac{3}{10}$ c. "
under $\frac{3}{8}$ " ...	2 $\frac{1}{2}$ c. "

Cutlery—

pen and pocket knives, erasers and parts thereof—value not over—	
50c. p. doz. ...	12c. p. doz. and 50 p. c.
\$1.50 " ...	50c. " 50 "
\$3 " ...	\$1 " 50 "
over \$3 " ...	\$2 " 50 "
razors and blades—value	
under \$4 p. doz. ...	\$1 p. doz. and 30 p. c.
over \$4 " ...	\$1.75 " 30 "
sword-blades and sidearms ...	35 per cent.
carving and cooks' knives and forks—value not over—	
\$4 p. doz. pcs. ...	\$1 p. doz. pcs. & 30 p.c.
\$8 " ...	\$2 " 30 "
\$12 " ...	\$3 " 30 "
over \$12 " ...	\$5 " 30 "
other knives and forks, steels—value not over—	
\$1 p. doz. pcs. ...	10c. p. doz. pcs. and 30 p.c.
\$2 " ...	35c. " 30 "
\$3 " ...	40c. " 30 "
\$8 " ...	\$1 " 30 "
over \$8 " ...	\$2 " 30 "
files, blanks, rasps, and floats—	
not over 4 inches long ...	35c. p. doz.
9 " ...	75c. "
14 " ...	\$1.30 "
over 14 " ...	\$2 "
Firearms—	
muskets and sporting rifles ...	25 per cent.

METALS AND MANUFACTURES OF—*continued.*

Firearms (<i>continued</i>)—	
double-barrelled sporting breech-loaders—	
value not over—	
\$6 each ...	\$1.50 each and 35 p.c.
\$12 " ...	\$4 " 35 "
over \$12 " ...	\$6 " 35 "
single-barrelled breech-loaders	{ \$1 each and 35 p.c.
revolving pistols—	
value not over—	
\$1.50 each ...	40c. each and 35 p.c.
over \$1.50 " ...	\$1 " 35 "
Iron or steel sheets, plates, wares, or articles—	
enamelled or glazed with vitreous glasses ...	45 per cent.
if in more than one colour ...	50 "
Nails, spikes, tacks, and needles—	
cut nails and spikes ...	1c. per lb.
nails, wrought iron or steel, n.o.p. ...	4c. "
wire nails, wrought iron or steel, 2 in. and longer, and not lighter than No. 12 gauge ...	2c. "
less than 2 in. and not lighter than No. 16 gauge ...	2½c. "
less than 1 in. and lighter than No. 16 gauge ...	4c. "
spikes, nuts, washers, and shoes, wrought iron or steel ...	1½c. "
cut tacks, brads, sprigs—	
not exceeding 16 oz. per 1,000 ...	2½c. p. 1000
exceeding 16 oz. per 1,000	2½c. "
needles for machines, crochet and tape, metal bodkins ...	35 per cent.
all others, n.o.p. ...	25 "
Steel, engraved, &c., and other plates for printing ...	25 "
railway fish-plates ...	1c. per lb.
rivets ...	2½c. "
Saws—	
crosscut ...	8c. p. lnr. ft.
mill, pit, drag—	
not over 9 in. wide ...	10c. "
over 9 in. wide ...	15c. "
circular ...	30 per cent.
hand, back, and other, n.o.p. ...	40 "
Screws—	
over 2 in. in length ...	5c. per lb.
not over 2 in. in length ...	7c. "
" 1 in. " ...	10c. "
" ½ in. " ...	14c. "
Wheels or parts thereof, steel-tyred railway, and locomotive, car, and other railway tyres or parts thereof ingots, blooms, or blanks for same ...	2½c. " 1½c. "
N.B.—If fitted with axles, only dutiable as wheels separately.	
Miscellaneous metals and manufac- tures—	
aluminium, crude, alloys of which it is component material of chief value ...	15 per cent.
antimony, as regulus or metal	¾c. per lb.
argentine, albata, unmfct. ...	25 per cent.

Miscellaneous metals and manufac- tures (<i>continued</i>)—	
brass in bars or pigs, old brass clippings from brass or Dutch metal, and old sheathing or yellow metal fit only for remanufacture ...	1½c. per lb.
bronze powder ...	12c. "
bronze metal in leaf ...	{ 8c. per pkg. of 100 lvs.
copper in form of ores... old, clippings from new, and all composition metal of which it is component of chief value, n.o.p. ...	{ ½c. p. lb. of fine copper. 1c. per lb.
regulus of, black or coarse, cement ...	{ 1c. p. lb. of fine copper.
in plates and other raw forms, n.o.p. ...	1½c. per lb.
in rolled plates, sheets, rods, pipes, and copper bot- toms, also sheathing or yellow metal of which it is component material of chief value and no un- galvanised iron forms part	35 per cent.
gold, silver, or other metals in form of bullion and metal thread, n.o.p....	30 "
gold leaf... ..	{ \$2 p. pkg. of 500 leaves.
silver leaf ...	75 c. "
lead in form of ore and dross...	1½c. per lb.
Note.—Ores containing lead pay duty of 1½ cent. per lb. thereon, according to sample and assay at port of entry.	
lead, in pigs and bars, old scrap, fit only for remanufacture ...	2c. per lb.
in sheets, pipes, shot, gla- siers, and wire ...	2½c. "
metallic mineral substances crude, and unwrought metals, n.o.p. ...	20 per cent. 35 "
mica ...	35 "
nickel, nickel oxide, alloy where it is component of chief value	10c. per lb.
pens, metallic ...	12c. p. gross.
penholders, and parts thereof, and gold pens ...	30 per cent.
pins of all kinds ...	30 "
quicksilver ...	10c. per lb.
Note.—Vessels in which same imported dutiable as empty.	
type metal ...	1½c. per lb.
types, new ...	25 per cent.
tin—bar, block, and pig, casse- tente, from 1 July, 1893 ...	4c. per lb.
watches, and parts of ...	25 per cent.
chronometers, and parts of ...	10 "
zinc, in blocks or pigs ...	1½c. per lb.
in sheets ...	1½c. "
old and worn out... ..	¼c. "
manufactures, articles, or wares, n.o.p., of which any part in metal, in any stage of manu- facture ...	45 per cent.

WOOD, MANUFACTURES OF.

(Sch. D.—§§ 216-230.)

Timber, hewn and sawed, used for spars and in building wharves ...	10 per cent.
square or sided, n.o.p. ...	¾c. p. cub. ft.
Sawed boards, &c., and other lum- ber of hemlock, white wood, sycamore, white pine, and bass- wood.)	{ \$1 per 1,000 cub. feet board measure.
Sawed lumber, n.o.p. (except where export duty imposed by foreign country upon logs, stave bolts, shingle wood, or heading blocks)	\$2 "
Lumber of any sort, if planed or finished on one side—	
for each side ...	50c. " add.
if planed on one side, tongued and grooved ...	\$1 " "
if planed on two sides... ..	\$1.50 " "
Sawed cabinet woods, all forms of...	15 per cent.
Veneers of wood and unmanufac- tured wood, n.o.p. ...	20 "

Cedar—paving, telephone, and tele- graph posts, and railroad ties ...	20 per cent.
Clapboards, spruce ...	\$1.50 per 100.
pine ...	\$1 "
Hubs, posts, blocks, rough hewn or sawn only ...	20 per cent.
Laths... ..	15 per 1000.
Pickets, palings, and staves ...	10 "
Shingles, white pine... ..	20c. "
other ...	30c. "
Casks and barrels (empty), shooks and packing-boxes, n.o.p....	30 per cent.
Chair-cane or reeds, wrought or manufactured from rattans and reeds ...	10 "
Furniture, and manufactures of which wood component material of chief value ...	35 "

SUGAR.

(Schedule E.—§§ 231-241.)

Sugars above No. 16, Dutch standard	1½c. per lb.	Other confectionery, n.o.p....	50 per cent.
Sugar candy and confectionery where sugar used value under 12c. per lb., and sugars tintured, coloured, or adulterated after being refined	5c. "	Glucose	4c. per lb.

TOBACCO, AND MANUFACTURES OF.

(Schedule F.—§§ 242-246.)

Tobacco in leaf suitable for cigar wrappers, stemmed	\$2.76 per lb.	Tobacco (continued)—	
unstemmed	\$2 "	stemmed	50c. per lb.
N.B.—If any portion suitable, whole dutiable, as above.		manufactured, all kinds,	
other, in leaf, unmanufactured, not stemmed...	35c. per lb.	n.o.p.	40c. "
		Snuff and snuff flour	\$4.50 "
		Cigars, cigarettes, and cheroots	{ \$4.50 " and 25 p.c.

AGRICULTURAL PRODUCTS AND PROVISIONS.

(Schedule G.—§§ 247-328.)

Animals, live—		Fish—	
horses, mules	\$30 per head.	anchovies and sardines—	
horses of greater value than \$150	30 per cent.	in boxes not more than 5 x 4 x 3½	10c. p. whl. box
cattle over a year old	\$10 per head.	in half boxes not more than 5 x 4 x 1½	5c. each.
a year old or less	\$2 "	in quarter boxes not more than 4 x 2½ x 3½	2½c. "
hogs	\$1.50 "	otherwise	40 per cent.
sheep one year old or more	\$1.50 "	pickled, in barrels or half barrels, and mackerel or salmon pickled or salted	1c. per lb.
less than a year	75c. "	prepared, and fresh fish n.o.p.	¾c. "
all other live animals, n.o.p.	20 per cent.	herrings—	
Breadstuffs and farinaceous substances—		pickled or salted	¾c. "
barley	30c. p. bush. 48 lb.	fresh	¾c. "
barley malt	45c. " 34 lb.	in cans or packages n.o.p.	30 per cent.
barley, pearled, patent, or pulled	2c. per lb.	cans or packages of metal of shell fish free of duty—	
buckwheat	15c. p. bush. 48 lb.	not exceeding 1 quart in contents	8c. per doz.
corn or maize	15c. " 56 lb.	when exceeding 1 quart in contents on each add. ½ quart or fraction	4c. "
corn meal	20c. " 48 lb.	Fruits—	
macaroni, vermicelli, and similar preparations	2c. per lb.	apples, green or ripe	25c. p. bush.
oats	15c. p. bush.	dried, or in any way prepared and n.o.p.	2c. per lb.
oatmeal	1c. per lb.	figs	2½c. "
rice, cleaned	2c. "	grapes	{ 60c. per barrel of 3 cubic feet capacity or fraction.
uncleaned	1½c. "	oranges, lemons, limes, in packages not exceeding—	
paddy	¾c. "	1½ cubic feet...	13c. per pkg.
flour, meal, or broken to pass 12-wire sieve	¼c. "	2½ " "	25c. "
rye	10c. p. bush.	5 " "	50c. "
rye flour	½c. per lb.	exceeding 5 cubic feet	{ 10c. per cub. foot or fraction of.
wheat	25c. p. bush.	in bulk	\$1.50 per 1000.
wheat flour	25 per cent.	on boxes or barrels containing same	30 p. c. add.
Dairy products—		plums and prunes	2c. per lb.
butter and substitutes therefor	6c. per lb.	raisins	2½c. "
cheese	6c. "	comfits, sweetmeats, and preserved fruits, n.o.p., and jellies	35 per cent.
milk, fresh	5c. per gall.	fruits preserved in their own juices	30 "
preserved, including weight of package	3c. per lb.	orange and lemon-peel, preserved or candied	2c. per lb.
sugar of	8c. "	Nuts—	
Farm and field products—		almonds, not shelled	5c. "
beans	40c. p. bush. 60 lb.	clean, shelled	7½c. "
peas and mushrooms, prepared or preserved	40 per cent.	filberts and walnuts—	
broom corn	\$8 per ton.	not shelled	3c. "
cabbages	3c. each.	shelled	6c. "
cider	5c. per gall.	peanuts or ground beans—	
eggs	5c. per doz.	unshelled	1c. "
yolk of	25 per cent.	shelled	1½c. "
hay	\$4 per ton.	nuts, n.o.p.	1½c. "
honey	20c. per gall.	Meat products—	
hops	15c. per lb.	bacon and hams	5c. "
onions	40c. p. bush.	beef, mutton, and pork	2c. "
nursery stock, n.o.p.	20 per cent.	prepared and preserved meats, n.o.p.	25 per cent.
peas, green, in bulk or in barrel, sacks, &c.	40c. p. bush. 60 lb.	meat extracts, n.o.p.	35c. per lb.
dried	20c. " 60 lb.	fluid	15c. "
split	50c. " 60 lb.		
in cartons, or papers, or small packages	1c. per lb.		
potatoes	25c. p. bush. 60 lb.		
Seeds—			
castor beans	50c. p. bush. 50 lb.		
flax, poppy, and other oil seeds, n.o.p.	30c. p. bush. 56 lb.		
garden, agricultural, and other seeds, n.o.p.	20 per cent.		
vegetables, prepared or preserved, including pickles and sauces, n.o.p.	45 "		
in their natural state, n.o.p.	25 "		
straw and teazles	30 "		

AGRICULTURAL PRODUCTS AND PROVISIONS—*continued.*

Meat products (<i>continued</i>)—		Miscellaneous products (<i>continued</i>)—	
lard	2c. per lb.	salt, in bags, sacks, &c....	12c. p. 100 lb.
poultry, live	3c. "	in bulk	8c. "
dressed	5c. "	starch, and substances fit for use	"
tallow	1c. "	as such	2c. "
wool-grease	½c. "	dextrine, burnt, starch, gum	"
Miscellaneous products—		substitute	1½c. "
chicory root, n.o.p.	2c. "	mustard	10c. "
chocolate, other than con-	"	spices, n.o.p.	4c. "
fectionery	2c. "	cayenne pepper... ..	2½c. "
cocoa, n.o.p.	2c. "	sage	3c. "
butter or butterine	3½c. "	vinegar, standard strength,	"
dandelion root and acorns pre-	"	which requires 35 grains of	"
pared, and other articles used	"	bicarb. potash to neutralise 1	"
as coffee or substitutes there-	"	oz. troy of vinegar	7½c. p. gall.
for, n.o.p.	1½c. "		

SPIRITS, WINES, AND OTHER BEVERAGES.

(Schedule H.—§§ 329-341.)

Spirits and spirituous beverages		in each, and same, n.o.p., pay additional duty of
or bitters of all kinds containing		3c. each, in casks, capacity to be not under 14 gall.
spirit, n.o.p.	\$2.50 p. pf. gall.	Imitations subject to highest rate for genuine
		article, and not less than \$1.50 per gallon.
NOTE.—Where compounds of which distilled		
spirits are component part of chief value, duty		
not less than on same.		
Bay rum or bay water distilled or		Ale, porter, beer—
compounded, of first proof and		in bottles or jugs (when free)
in proportion for any greater		40c. per gall.
strength... ..	\$1.50 per gall.	otherwise
		20c. "
Wines, sparkling, in bottles of not		Malt extract—
more than 1 quart	\$8 per doz.	fluid, in casks
1 pint	\$4 "	20c. "
½ pint	\$2 "	bottles or jugs
		40c. "
bottles or other vessels of more		solid or condensed
than 1 quart.	\$8 p. doz. and	40 per cent.
	\$2.50 p. gall.	Fruit juice, n.o.p., containing not
	on quantity	more than 18 p.c. of alcohol ...
	in excess of	60c. per gall.
	the quart.	if containing more
		\$2.50 p. pf. gall.
still, including ginger wine, or		Ginger-ale, lemonade, sodawater,
cordial and vermouth (not to		and similar waters, in plain
contain more than 24 p.c. of		bottles—
alcohol), in casks	50c. p. gall.	of not more than ¾ pint
in bottles or jugs (when free).		13c. per doz.
per cases of 12 or 24, con-		1½ "
taining quartz or pints		26c. "
respectively	\$1.60 p. case.	if in other bottles or
on excess, if any, further duty		such bottles of more
of	5c. p. pt. or fren.	than 1½ pint
		50c. per gall., and duty
N.B.—Wines, cordials, and spirituous liquors in		covering as empty
bottles and jugs to be in packages, not less than 12		(other free).

COTTON MANUFACTURES.

(Schedule I.—§§ 342-351.)

Cotton thread yard-warps, valued		Cotton (<i>continued</i>)—
at not more than 25c. per lb. ...	10c. per lb.	bleached; not exc. 50 threads to sq.
" 40c. "	18c. "	in., counting warp and filling... ..
" 50c. "	23c. "	2½c. p. sq. yd.
" 60c. "	28c. "	not exc. 100 threads to
" 70c. "	33c. "	sq. in., ditto
" 80c. "	38c. "	3c. "
" \$1 "	48c. "	value over 9c. p. sq. yd.
more than \$1 "	50 per cent.	35 per cent.
spool—thread of, on each spool		not exc. 150 threads to sq. in.,
not exceeding 100 yds.	7c. p. doz.	ditto
every additional 100 yds. in		4c. p. sq. yd.
excess	" "	40 per cent.
cloth, plain unbleached, not exceed-		value over 10c. p. sq. yd.
ing 50 threads to sq. in., count-		not exc. 200 threads to sq. in.,
ing warp and filling	2c. p. sq. yd.	ditto
not exc. 100 threads to sq. in.,		4½c. p. sq. yd.
ditto	2½c. "	45 per cent.
value over 6½c. p. sq. yd. ...	35 per cent.	value over 10c. p. sq. yd.
not exc. 150 threads to sq. in.,		exceeding 200 threads to sq. in.,
ditto	3c. p. sq. yd.	ditto
value over 7½c. p. sq. yd. ...	40 per cent.	5½c. p. sq. yd.
not exc. 200 threads to sq. in.,		45 per cent.
ditto	3½c. p. sq. yd.	value over 12c. p. sq. yd.
value over 8c. p. sq. yd.	45 per cent.	45 per cent.
exceeding 200 threads to sq.		died, coloured, stained, painted,
in., ditto	4½c. p. sq. yd.	or printed, not exceeding 50
value over 10c. p. sq. yard ...	45 per cent.	threads to sq. in. counting warp
		and filling
		4c. p. sq. yd.
		not exc. 100 threads to sq. in.,
		ditto
		" "
		value over 12c. p. sq. yd.
		35 per cent.
		not exc. 150 threads to sq. in.,
		ditto
		5c. p. sq. yd.
		value over 12½c. per sq. yd....
		40 per cent.
		not exc. 200 threads to sq. in.,
		ditto
		5½c. p. sq. yd.
		value over 12½c. p. sq. yd. ...
		45 per cent.
		exceeding 200 threads to sq.
		in., ditto
		6½c. p. sq. yd.
		value over 15c. p. sq. yd. ...
		45 per cent.

SUNDRIES.

Schedule N.—§ 426.

Bristles	1c. per lb.	Precious stones, cut	1c. per cent.
Brushes, brooms, feather dusters, and hair pencils in quills... ..	40 per cent.	set and n.o.p.	25 "
Buttonforms, lastings for buttons exclusively in mohair, silk, or other cloth manufactures... ..	10 per cent.	imitations in paste or glass, not exceeding 1 in. dia., not set	10 "
Buttons—		Leather—	
agate	25 "	belting, sole and leather, n.o.p.	10 "
pearl and shell, per line button measure of $\frac{1}{16}$ inch per gross	2½c. & 25 p.c.	skins, n.o.p.	20 "
ivory, vegetable, bone, or horn shoe, of paper, pulp, and other similar material, n.o.p., value not over 3c. per gross	1c. p. gross.	for morocco, tanned but not finished	10 "
Coal, bituminous and shale... ..	{ 75c. p. ton of 28 bush., 80 lb. to bush.	pianoforte and pianoforte action leather and Japanned calfskins	35 "
slack or calm, pass a ½-in. screen... ..	30c. "	boots and shoes... ..	25 "
Coke	20 per cent.	N.B.—Leather in forms for conversion into manufactured articles pays as such.	
Cork bark cut into squares or cubes	10c. per lb.	Gloves— (minimum rate of 50 p.c.)	
Corks, manufactured	15c. "	ladies' and children's—	
Dice, draughts, chessmen, and balls, billiard, pool, and bagatelle balls..	50 per cent.	schmaschen, 14 in. and under	\$1.75 p. doz.
Dolls, doll-heads, toy marbles, of any material, and all other toys not composed of rubber, china, earthenware or stoneware, and n.o.p.	50 "	lamb	\$2.25 "
Emery in all forms	1c. per lb.	kid	\$3.25 "
Explosive substances used for mining, blasting, artillery, or sporting purposes—		suedes	50 per cent.
value at 20c. or less p. lb.	5c. per lb.	other leather... ..	50 "
„ above 20c. p. lb.	8c. "	men's, and leather over 14 in....	50 "
Fire-crackers, no allowances	8c. "	all men's	\$1 p. doz. add.
Fulminates and like articles, n.o.p.	30 per cent.	lined	\$1 "
Matches of all descriptions, per gross of 144 boxes of not over 100 matches	10c. p. gross.	pique or puck seam	50c. "
otherwise	1c. p. 1,000 matches.	embroidered with above 3 strands	50c. "
Percussion caps	40 per cent.	if represented below actual grade	\$5 "
Feathers and downs—		Manufactures of, or of which these substances component material of chief value, n.o.p.—	
crude	10 "	alabaster, amber, asbestos, bladders, coral, gut, jet, paste, spar, wax	25 per cent.
dressed, coloured, or manufactured, including quilts, dressed birds for millinery, and artificial and ornamental feathers and flowers of whatever material, n.o.p....	50 "	osier or willow	40 "
Furs dressed on the skin, not made up and prepared for hatters' use	20 "	on material prepared for basket-makers	30 "
Glass beads, loose	10 "	bone, chip-grass, horn india-rubber, palm leaf, straw, weeds, or whalebone... ..	30 "
Hair, human, not manufactured	20 "	leather, fur, guttapercha, vulcanised indiarubber, human hair, wool or pulp	35 "
Haircloth—crinoline cloth	8c. p. sq. yd.	ivory, vegetable ivory, mother of pearl and shell	40 "
„ hair seating	30c. "	Masks of paper or pulp	30 "
Hair curled for mattresses	15 per cent.	Matting of cocoa fibre or rattan	12c. p. sq. yd.
Hats, and bodies of fur, or of which same the component material of chief value, wholly or partially manufactured	55 "	Mats of same	8c. „ ft.
Jewellery and cameos in frames	50 "	Paintings and statuary, n.o.p.	15 per cent.
Pearls	10 "	Pencils of wood and lead	{ 50c. p. gross and 30 p.c.
		„ slate	4c. p. gross.
		Pencil leads, not in lead	10 per cent.
		Pipes, bowls, and smokers' materials	70 "
		Pipes, common clay	15c. p. gross.
		Plush used exclusively for hats	10 per cent.
		Umbrella, parasols, and sunshades, covered with silk or alpaca	55 "
		with other material	45 "
		sticks for same, plain	35 "
		„ „ carved	50 "
		Waste, n.o.p....	10 "

FREE LIST.

SECTION 2.

Acids, n.o.p.	Articles in crude state, used in dyeing or tanning, n.o.p.
Aconite.	Articles of American origin returned.
Acorns, unground.	Asbestos, unmanufactured.
Agates, unmanufactured.	Ashes, wood and lye of, beetroot ashes.
Albumen.	Asphaltum and bitumen, crude.
Alizarin, natural or artificial, and alizarine dyes.	Assafetida.
Amber, unmg., or crude gum.	
Amborgis.	Balm of Gilead.
Aniline salts.	Barks from which quinine extracted.
Animals imported specially for breeding purposes or exhibition, and not intended for sale or profit, under certain conditions.	Baryta, carbonate of or witherite.
Annatto, roucon, rocoa, or orleans, and extracts of.	Bauxite.
Antimony ore, crude, sulphite of.	Beeswax.
Apatite.	Bells and bell-metal broken, fit only to be remanufactured.
Argal, or crude tartar.	Birds, stuffed, not suitable for millinery purposes, bird-skins prepared for preservation only.
Arrowroot.	Birds, and land and water fowls.
Arsenic, and sulphide of, or orpiment.	Bismuth.
Arsenate of aniline.	Bladders, fish sounds, crude, and all integuments of animals, n.o.p.
Art, educational, stops of glass or metal, above 6c. per gross.	

FREE LIST—*continued.*

- Blood, dried.
 Bologna sausages.
 Bolting cloths, not fit for wearing.
 Bones, crude, bonedust or animal carbon, fit for fertilising only.
 Books, engravings, photographs, etchings, maps and charts printed and bound or manufactured more than twenty years.
 Books and pamphlets printed exclusively in languages other than English; books and music in raised print used exclusively by the blind.
 Books, engravings, photographs, etchings, maps, and charts, imported by authority or for the use of the U.S., or for use of the Library of Congress.
 Books, maps, lithographic prints and charts, imported, not more than two copies in any one invoice, in good faith, for the use of any Society established for educational, philosophical, literary, or religious purposes, or for encouragement of the fine arts, or for the use or by the order of any college, school, &c., in the U.S., subject to regulations.
 Books or libraries, or parts thereof, and other household effects of foreigners, if actually used abroad by them not less than one year, and not for any other persons, nor for sale.
 Brazil paste.
 Braids, plaits, laces, and like manufactures of straw, chip, grass, palm-leaf, willow, osier or rattan, for hats, bonnets, and hoods.
 Brazilian pebble, raw.
 Breccia, in blocks or slabs.
 Bromine.
 Bullion, gold or silver.
 Burgundy pitch.
- Collections of antiquities.
 Cadmium.
 Calamine.
 Camphor, crude.
 Castor.
 Cat, whip, and worm gut, not further advanced than strings or cords.
 Cerium.
 Chalk, unmanufactured.
 Charcoal.
 Chicory-root, unground.
 Civet, crude.
 Clay, common blue, in casks for crucibles.
 Coal anthracite.
 Coal-tar, crude.
 Cobalt and cobalt ore.
 Cocculus indicus.
 Cochineal.
 Cocoa, crude, fibre, leaves, and shells of.
 Coffee.
 Coins.
 Coir and coir yarn.
 Copper, old, from bottom of American vessels compelled by disaster to repair to foreign parts.
 Coral, marine, unmanufactured.
 Cotton and cotton-waste.
 Cryolite.
 Cudbear.
 Curling stones and handles, quoits.
 Curry and curry-powder.
 Cutch.
 Cuttlefish bone.
- Dandelion roots, unground.
 Diamonds, including glaziers' and engravers', and other precious stones, rough, diamond-dust and jewels for watches.
 Divi-divi.
 Dragons' blood.
 Drugs, excrescences, spices, vegetables, dried insects, seeds, aromatic, and of morbid growth, weeds and woods for dyeing, not edible and in crude state, n.o.p.
- Eggs of birds, fish, and insects.
 Emery ore.
 Ergot.
- Fans, common and unmanufactured, palm-leaf.
 Farina.
 Fashion-plates.
 Feathers and downs for beds.
 Feldspar.
 Felt adhesive for sheathing vessels.
 Fibrin in all forms.
 Fish for bait.
- Fish-skins.
 Flint, flints, and ground flint-stones.
 Floor-matting manufactured of round or split straws.
 Fossils.
 Fruit-plants, tropical, and semi-tropical, for propagation.
 Fruits and nuts; currants, dates, fruits, n.o.p., Tamarinds; cocoa, Brazil, cream, and palm nuts; palm nut kernels.
 Furs and fur-skins, undressed.
- Gambier.
 Glass, fit only to be remanufactured.
 Glass-plates or disks in the raw, and suitable only for optical instruments, spectacles, and eye-glasses.
 N.B.—Disks exceeding 8 inches diameter may be polished sufficiently to determine character.
 Grasses or fibrous substances, textile unmanufactured and undressed, n.o.p.
 Gold-beaters' moulds and skins.
 Grease and oils, fit only for soap, wire-drawing, and stuffing or dressing leather, n.o.p.
 Guano and substances used for manure.
 Gunny bags and cloths, fit only for remanufacture.
 Guts, salted.
 Gutta-percha, crude.
- Hair of animals, unmanufactured, n.o.p.
 Hair, human, raw.
 Hides: Angora goat-skins; raw, without the wool, asses' skins, raw, and skins, except sheep-skins with the wool on.
 Hide cuttings, raw, with or without hair and other glue stock.
 Hide rope.
 Hones and whetstones.
 Hoofs, unmanufactured.
 Hop roots for cultivation.
 Horns and parts of, unmanufactured, strips, and tips.
- Ice.
 Indiarubber, crude, milk of, and refuse.
 Indigo.
 Iodine, crude.
 Ipecac.
 Iridium.
 Ivory, and vegetable ivory, raw.
- Jalap.
 Jet, unmanufactured.
 Joss-stick.
 Junkoid.
- Kelp.
 Kiesenie.
 Kyanite.
- Lac-dye, crude, seed, button, stick and shell.
 Lac spirits.
 Lactarine.
 Lava, unmanufactured.
 Leeches.
 Lemon, lime, and sour orange juice.
 Liquorice root, unground.
 Lifeboats and life-saving apparatus, specially imported by life-saving societies.
 Lime, citrate of.
 " chloride of.
 Lithographic-stones not engraved.
 Litmus.
 Loadstones.
- Madder, prepared, and extracts thereof.
 Magnesite, or native mineral carbonate of magnesia.
 Magnesium.
 Magnets.
 Manna.
 Manuscripts.
 Marrow, crude.
 Marshmallow.
 Medals.
 Meerschaum, crude.
 Mineral waters, all not artificial.
 Minerals, crude, n.o.p.
 Models of inventions and improvements in the arts, including patterns for machinery, not fitted for other use.
 Moss, seaweed, and vegetable substances, crude, n.o.p.
 Musk, crude, in natural pods.
 Myrobolan.

FREE LIST—continued.

- Needles, hand, sewing, and darning.
Newspapers and periodicals.
Nux vomica.
- Oakum.
Oilcake.
Oils : almond, amber, crude and rectified ambergris, anise, aniline, aspic, bergamot, cajeput, caraway, cassia, cinnamon, cedrat, chamomile, citronella, civet, fennel, jasmine, juglandium, juniper, lavender, lemon, limes, mace neroli, nut, n.o.p.; orange and olive, unfit for eating and n.o.p.; ottar of roses, palm and cocoanut, rosemary or outhoss, sesame or bean, thyme origanum, white or red, valerian, fish oils of American fisheries and produce of same.
Olives.
Opium, crude and unadulterated, containing 9 per cent. and over of morphia.
Orange and lemon peel not prepared.
Orchil or orchil liquid.
Orchids and other plants forced under glass for decorative purposes.
Ores of gold, silver, nickel and nicklematte (if last contains more than 2 per cent. copper, duty of $\frac{1}{2}$ c. per pound on copper therein).
Osmium.
- Palladium.
Paper stock, crude, of every description.
Paraffine.
Parchment and vellum.
Pearl, mother of, raw.
Pewter and Britannia metal fit only to be remfct.
Philosophical and scientific apparatus and preparations; statuary and casts; paintings, drawings, and etchings specially imported in good faith for religious, philosophical, educational, scientific, or literary purposes, or encouragement of fine arts, and not intended for sale.
Phosphates, crude or native.
Plants, &c., imported by Department of Agriculture or U.S. Botanic Gardens.
Plaster of Paris and sulphate of lime, unground.
Platina in ingots, bars, sheets, and wire.
Platinum, raw, and apparatus, &c., of same for chemical purposes.
Plumbago.
Polishing stones.
Potash, crude, carbonate of; caustic, hydrate of, not including refined in sticks or rolls; nitrate, crude; sulphate, crude or refined; chlorate, muriate.
Professional books, &c., and tools in actual possession at time of person's arriving in the United States, not for use in any manufacturing establishment or for sale, or for others.
Pulu.
Pumice.
- Quills, not made up.
Quinia, sulphate of, and all alkaloids or salts of cinchona bark.
- Rags, n.o.p.
Regalia and gems, and specimens of sculpture, specially imported in good faith for use of educational, philosophical, literary, or religious societies or encouragement of fine arts, or any college, &c., or public library in the United States.
Rennets.
- Saffron and safflower and extracts, and saffron cake.
Sago, crude, and sago flour.
Salacine.
Sauer krout.
Sausage skins.
Seeds: anise, carraway, cardamon, coriander, cotton, cummin, fennel, fenugreek, hemp, hoarhound, mustard, rape, Saint John's bread, sugar-beet, mangel-wurzel, sorghum, and all flower or grass seeds; bulbs and bulbous roots, not edible, n.o.p.
Selep.
Shells, not manufactured.
Shot-gun, barrels, forged, rough bored.
- Shrimps and other shellfish.
Silk, not advanced in manufacture in any way.
Silk cocoons and waste.
Silkworms' eggs.
Skeletons and other preparations of anatomy.
Snails.
Soda, nitrate, cubic, and chlorate of.
Sodium.
Specimens of natural history, botany, and mineralogy, as objects of science and not for sale.
Spices: Cassia, cassiabera, and buds, unground; cinnamon and chips of, unground; cloves and stems, unground; ginger, unground and not preserved or candied; mace; nutmegs; pepper, unground; pimento, unground; spunk.
Spurs and stilts used in manufacture of earthen porcelain and stoneware.
Stone and sand: crude bur, cliff, pumice, cotten, and sandstone.
Storax.
Strontia, oxide of, protoxide of strontian, strontianite or mineral carbonate of strontia.
Sugars, not above No. 16 Dutch standard in colour, tank bottoms, drainings and sweepings, syrups of cane juice, melada, concentrated melada, and concrete concentrated molasses, and molasses.
Sulphur, crude, in bulk, and n.o.p., and as pyrites or sulphuret of iron in its natural state containing in excess of 25 per cent. of sulphur (except on copper therein).
Sulphuric acid, sp. g. not $1\frac{3200}{80000}$, for agricultural purposes.
Sweepings of silver and gold.
- Tapioca, Cassada.
Tar and pitch of wood and coal-tar.
Tea and tea plants.
Teeth, natural or unmanufactured.
Terra alba.
Terra japonica.
Tin ore, cassiterite and tin in bars, blocks, pigs, or grain or granulated, until July 1, 1893.
Tinsel wire, lame.
Tobacco stems.
Tonquin, tonka beans.
Tripoli.
Turmeric.
Turpentine, Venice.
Turpentine, spirits of.
Turtles.
Types, fit only to be remanufactured.
- Uranium, oxide and salts of.
- Vaccine virus.
Valonia.
Verdigris, or subacetate of copper.
- Wafers, unmedicated.
Wax, vegetable or mineral.
Wearing apparel and other personal effects (not merchandise) of persons arriving in U.S., for their present convenience and not for sale.
Whalebone, unmanufactured.
Wood logs and round unmanufactured timber, n.o.p.; firewood, handle, heading, stave and shingle bolts, hop-poles, fence-posts, railroad ties, ships' timber, and planking, n.o.p.
Woods: Cabinet in the log, rough, or hewn, bamboo and rattan, unmanufactured; briar and the like cut into blocks only suitable for articles into which to be converted; bamboo-reeds, and sticks of partridge, hair, pimento and other, n.o.p., cut into lengths only suitable for sticks for umbrellas, &c.; and India malacca joints, in lengths only suitable for articles into which to be converted.
Works of art, drawings, &c., and apparatus brought in by professional artists, lecturers, or scientists for use by them temporarily for exhibition, and in illustration and promotion of art, science, or industry, or exhibition by any associations established for encouraging art and science, or erecting a public monument, and not intended for sale, subject to regulations.
- Yams.
Zaffer.

RECIPROCITY.

SECTION 4.

Section 3 of the McKinley Tariff Bill enacts that, with a view to secure reciprocal trade with countries producing the following articles, and for this purpose, on and after 1st July, 1892, whenever and so often as the President shall be satisfied that the Government of any country producing and exporting sugar, molasses, coffee, tea, and hides, raw and uncured, or any of such articles, imposes duties or other exactions upon the agricultural or other products of the United States, which, in view of the free introduction of such sugar, molasses, coffee, tea, and hides into the United States he may deem to be reciprocally unequal and unreasonable, he shall have the power, and it shall be his duty to suspend, by proclamation to that effect, the provisions of this Act relating to the free introduction of such sugar, molasses, coffee, tea, and hides, the production of such country, for such time as he shall deem just; and in such case, and during such suspension, duties shall be levied, collected, and paid upon sugar, molasses, coffee, tea, and hides, the product of or exported from such designated country, as follows, namely:—

All sugars not above No. 13 Dutch standard in colour shall pay on their polariscopic tests as follows, namely:—

All sugars not above No. 13 Dutch standard in colour, all tank bottoms, syrups of cane-juice or of beet-juice, melada, concentrated melada, concrete and concentrated molasses, testing by the polariscope not above 75 degrees, $\frac{1}{10}$ of 1 cent per lb.; and for every additional degree or fraction of a degree shown by the polariscopic test $\frac{1}{100}$ of 1 cent, per pound additional.

All sugar above No. 13 Dutch standard in colour, shall be classified by the Dutch standard of colour, and pay duty as follows, namely:—

All sugar above No. 13, and not above No. 16, Dutch standard of colour, 1 $\frac{3}{4}$ cents per lb.

All sugar above No. 16, and not above No. 20, Dutch standard of colour, 1 $\frac{3}{4}$ cents per lb.

All sugar above No. 20 Dutch standard of colour, 2 cents per lb.

Molasses testing above 56 degrees, 4 cents per gallon.

Sugar drainings and sugar sweepings shall be subject to duty either as molasses or sugar, as the case may be, according to polariscopic test.

SECTION 4.—continued.

On coffee, 3 cents per lb.

On tea, 10 cents per lb.

Hides, raw or uncured, whether dry, salted, or pickled; Angora goat-skins, raw, without the wool, unmanufactured: asses' skins, raw or unmanufactured; and skins, except sheepskins with the wool on—1 $\frac{1}{2}$ cents per lb.

SECTION 4.

There shall be paid on—

importation of all raw or unmanufactured articles not enumerated or provided for	10 per cent.
importation of all articles wholly or partly manufactured	20 „

SECTION 5.

Articles not enumerated, but similar in material, quality, texture, or the use to which applied, to any chargeable to pay as same; and if resembling two or more to pay as at highest rate.

SECTIONS 6, 7.

All articles of foreign manufacture, such as usually marked or labelled, and packages containing such or other imported articles to be respectively marked, so as to indicate the country of their origin, and the same not to simulate name or trade mark of any domestic manufacture or manufacturer.

SECTIONS 8, 9, 14.

Material and articles necessary for construction, equipment, and repair of American vessels, and machinery for repair, may be imported in bond, subject to conditions.

SECTION 17.

An additional discriminating duty of 10 per cent. levied on all goods, wares, and merchandise imported in vessels not of the U.S., unless exempted by treaty or any any Act of Congress.

SECTION 20.

Importation of meat, cattle, or their hides is prohibited, unless operation of the section is suspended by the Secretary of the Treasury.

APPENDIX U.

Synopsis of the Classification of the World's Columbian
Exposition, Chicago, U.S.A., 1893.DEPARTMENT A.—AGRICULTURE, FOOD AND ITS ACCESSORIES, FORESTRY AND FOREST
PRODUCTS—MACHINERY AND APPLIANCES.

- Group 1.—Cereals, Grasses, and Forage Plants.
- Group 2.—Bread, Biscuits, Pastes, Starch, Gluten, &c.
- Group 3.—Sugars, Syrups, Confectionery, &c.
- Group 4.—Potatoes, Tubers, and other Root Crops.
- Group 5.—Products of the Farm, not otherwise classed.
- Group 6.—Preserved Meats and Food Preparations.
(For Fish Products as Food, *see* also Group 40.)
- Group 7.—The Dairy and Dairy Products.
- Group 8.—Tea, Coffee, Spices, Hops, and Aromatic and Vegetable Substances.
- Group 9.—Animal and Vegetable Fibres.
- Group 10.—Pure and Mineral Waters, Natural and Artificial.
- Group 11.—Whiskies, Cider, Liqueurs, and Alcohol.
- Group 12.—Malt Liquors.
- Group 13.—Machinery, Processes and Appliance of Fermenting, Distilling, Bottling,
and Storing Beverages.
- Group 14.—Farms and Farm Buildings.
- Group 15.—Literature and Statistics of Agriculture.
- Group 16.—Farming Tools, Implements and Machinery.
- Group 17.—Miscellaneous Animal Products—Fertilizers and Fertilizing Compounds.
- Group 18.—Fats, Oils, Soaps, Candles, &c.
- Group 19.—Forestry, Forest Products.

DEPARTMENT B.—HORTICULTURE, VITICULTURE, POMOLOGY, FLORICULTURE, &c.

- Group 20.—Viticulture, Manufactured Products, Methods, and Appliances.
- Group 21.—Pomology, Manufactured Products, Methods, and Appliances.
- Group 22.—Floriculture.
- Group 23.—Culinary Vegetables.
- Group 24.—Seeds, Seed Raising, Testing, and Distribution.
- Group 25.—Arboriculture.
- Group 26.—Appliances, Methods, &c.

DEPARTMENT C.—LIVE STOCK—DOMESTIC AND WILD ANIMALS.

- Group 27.—Horses, Asses, Mules.
- Group 28.—Cattle.
- Group 29.—Sheep.
- Group 30.—Goats, Llama, Camels, and other Domesticated Animals.
- Group 31.—Swine.
- Group 32.—Dogs.
- Group 33.—Cats, Ferrets, Rabbits, &c.
- Group 34.—Poultry and Birds.
- Group 35.—Insects and Insect Products.
- Group 36.—Wild Animals.

DEPARTMENT D.—FISH, FISHERIES, FISH PRODUCTS, AND APPARATUS OF FISHING.

- Group 37.—Fish, and other forms of Aquatic Life.
- Group 38.—Sea Fishing and Angling.
- Group 39.—Fresh Water Fishing and Angling.
- Group 40.—Products of the Fisheries and their Manipulation.
(*See* also, in part, Groups 6 and 17.)
- Group 41.—Fish Culture.

DEPARTMENT E.—MINES, MINING, AND METALLURGY.

- Group 42.—Minerals, Ores, Native Metals, Gems and Crystals; Geological Specimens.
- Group 43.—Mineral Combustibles—Coal, Coke, Petroleum, Natural Gas, &c.
- Group 44.—Building Stones, Marbles, Ornamental Stones, and Quarry Products.
- Group 45.—Grinding, Abrading, and Polishing Substances.

Group

- Group 46.—Graphite and its Products ; Clays and other Fictile Materials, and their Direct Products ; Asbestos, &c.
- Group 47.—Limestone, Cements, and Artificial Stone.
- Group 48.—Salts, Sulphur, Fertilizers, Pigments, Mineral Waters, and Miscellaneous Useful Minerals and Compounds.
- Group 49.—Metallurgy of Iron and Steel, with the Products.
- Group 50.—Aluminium and its Alloys.
- Group 51.—Copper and its Alloys—Metallurgy.
- Group 52.—Metallurgy of Tin, Tin-plate, &c.
- Group 53.—Metallurgy of Zinc, Nickel, and Cobalt.
- Group 54.—Metallurgy of Antimony and other Metals not Specifically Classed.
- Group 55.—Extraction of Gold and Silver by Milling.
- Group 56.—Extraction of Gold and Silver by Lixiviation.
- Group 57.—Extraction of Gold, Silver, and Lead by Fire.
- Group 58.—Quarrying and Working Stone.
- Group 59.—Placer, Hydraulic, and "Drift" Mining.
- Group 60.—Tools and Appliances of Underground Mining, Timbering, and Supporting.
- Group 61.—Boring and Drilling Tools and Machinery, and Apparatus for breaking out Ore and Coal.
- Group 62.—Pumps, Engines, and Apparatus used in Mining for Pumping, Draining, and Hoisting.
- Group 63.—Moving, Storing, and Delivering Ores, Coals, &c.
- Group 64.—Apparatus for Crushing and Pulverizing.
- Group 65.—Sizing Appliances.
- Group 66.—Assaying Apparatus and Fixtures.
- Group 67.—History and Literature of Mining and Metallurgy.
- Group 68.—Originals or Reproductions of Early and Notable Implements and Apparatus used in Mining and Metallurgy.

DEPARTMENT F.—MACHINERY.

- Group 69.—Motors and Apparatus for the Generation and Transmission of Power—Hydraulic and Pneumatic Apparatus.
- Group 70.—Fire-engines—Apparatus and Appliances for Extinguishing Fire.
- Group 71.—Machine Tools and Machines for Working Metals.
- Group 72.—Machinery for the Manufacture of Textile Fabrics and Clothing.
- Group 73.—Machines for Working Wood.
(See also Departments A. and E.)
- Group 74.—Machines and Apparatus for Type-setting, Printing, Stamping, Embossing, and for Making Books and Paper Working.
- Group 75.—Lithography, Zincography, and Colour Printing.
- Group 76.—Photo-Mechanical and other Mechanical Processes of Illustrating, &c.
- Group 77.—Miscellaneous Hand Tools, Machines, and Apparatus used in Various Arts.
- Group 78.—Machines for Working Stone, Clay, and other Minerals.
(See also Department E.)
- Group 79.—Machinery used in the Preparation of Foods, &c.

DEPARTMENT G.—TRANSPORTATION—RAILWAYS, VESSELS, VEHICLES.

- Group 80.—Railways, Railway Plant and Equipment.
- Group 81.—Street Car and other Short Line Systems.
- Group 82.—Miscellaneous and Special Railways.
- Group 83.—Vehicles and Methods of Transportation on Common Roads.
- Group 84.—Aerial, Pneumatic, and other forms of Transportation.
- Group 85.—Vessels, Boats—Marine, Lake, and River Transportation.
- Group 86.—Naval Warfare and Coast Defence.

DEPARTMENT H.—MANUFACTURES.

- Group 87.—Chemical and Pharmaceutical Products—Druggists' Supplies.
- Group 88.—Paints, Colours, Dyes, and Varnishes. (See also Group 48.)
- Group 89.—Typewriters, Paper, Blank Books, Stationery.
- Group 90.—Furniture of Interiors, Upholstery, and Artistic Decoration.
- Group 91.—Ceramics and Mosaics.
(For Clays and other materials, see Group 46.)
- Group 92.—Marble, Stone, and Metal Monuments, Mausoleums, Mantels, &c., Caskets, Coffins, and Undertakers' Furnishing Goods.
- Group 93.—Art Metal Work—Enamels, &c.
- Group 94.—Glass and Glassware.
- Group 95.—Stained Glass in Decoration.
- Group 96.—Carvings in various Materials.
- Group 97.—Gold and Silver Ware, Plate, &c.
- Group 98.—Jewellery and Ornaments.
- Group 99.—Horology—Watches, Clocks, &c. (See also Group 151.)
- Group 100.—Silk and Silk Fabrics.
- Group 101.—Fabrics of Jute, Ramie, and other Vegetable and Mineral Fibres.

Group

- Group 102.—Yarns and Woven Goods of Cotton, Linen, and other Vegetable Fibres.
 Group 103.—Woven and Felted Goods of Wool, and Mixtures of Wool.
 Group 104.—Clothing and Costumes.
 Group 105.—Furs and Fur Clothing.
 Group 106.—Laces, Embroideries, Trimmings, Artificial Flowers, Fans, &c.
 Group 107.—Hair-work, Coiffures, and Accessories of the Toilet.
 Group 108.—Travelling Equipments—Valises, Trunks, Toilet Cases, Fancy Leather-work, Canes, Umbrellas, Parasols, &c.
 Group 109.—Rubber Goods, Caoutchouc, Gutta-percha, Celluloid, and Zylonite.
 Group 110.—Toys and Fancy Articles.
 Group 111.—Leather and Manufactures of Leather.
 Group 112.—Scales, Weights, and Measures. (*See also* Group 151.)
 Group 113.—Material of War, Ordnance and Ammunition, Weapons and Apparatus of Hunting, Trapping, &c., Military and Sporting Small Arms.
 Group 114.—Lighting Apparatus and Appliances.
 Group 115.—Heating and Cooking Apparatus and Appliances.
 Group 116.—Refrigerators, Hollow Metal Ware, Tinware, Enamelled Ware.
 Group 117.—Wire Goods and Screens, Perforated Sheets, Lattice Work, Fencing, &c.
 Group 118.—Wrought-iron and Thin-metal Exhibits.
 Group 119.—Vaults, Safes, Hardware, Edge Tools, Cutlery.
 Group 120.—Plumbing and Sanitary Materials.
 Group 121.—Miscellaneous Articles of Manufacture not heretofore classed.

DEPARTMENT J.—ELECTRICITY AND ELECTRICAL APPLIANCES.

- Group 122.—Apparatus illustrating the Phenomena and Laws of Electricity and Magnetism.
 Group 123.—Apparatus for Electrical Measurements.
 Group 124.—Electrical Batteries—Primary and Secondary.
 Group 125.—Machines and Appliances for Producing Electrical Currents by Mechanical Power—Dynamical Electricity.
 Group 126.—Transmission and Regulation of the Electrical Current.
 Group 127.—Electric Motors.
 Group 128.—Application of Electric Motors.
 Group 129.—Lighting by Electricity.
 Group 130.—Heating by Electricity.
 Group 131.—Electro-metallurgy and Electro-chemistry.
 Group 132.—Electric Forging, Welding, Stamping, Tempering, Brazing, &c.
 Group 133.—Electric Telegraph and Electric Signals.
 Group 134.—The Telephone and its Appliances.—Phonographs.
 Group 135.—Electricity in Surgery, Dentistry, and Therapeutics.
 Group 136.—Applications of Electricity in various ways not hereinbefore specified.
 Group 137.—History and Statistics of Electrical Invention.
 Group 138.—Progress and Development in Electrical Science and Construction, as Illustrated by Drawings and Models of various Countries.

DEPARTMENT K.—FINE ARTS—PAINTING, SCULPTURE, ARCHITECTURE AND DECORATION.

- Group 139.—Sculpture.
 Group 140.—Paintings in Oil.
 Group 141.—Paintings in Water Colours.
 Group 142.—Paintings on Ivory, on Enamel, on Metal, on Porcelain, or other wares ; Fresco Painting on Walls, &c.
 Group 143.—Engravings and Etchings—Prints.
 Group 144.—Chalk, Charcoal, Pastel, and other Drawings.
 Group 145.—Antique and Modern Carvings ; Engravings in Medallions or in Gems ; Cameos, Intaglios.
 Group 146.—Exhibits of Private Collections.

DEPARTMENT L.—LIBERAL ARTS—EDUCATION, LITERATURE, ENGINEERING, PUBLIC WORKS, MUSIC AND THE DRAMA.

- Group 147.—Physical Development, Training, and Condition—Hygiene.
 Group 148.—Instruments and Apparatus of Medicine, Surgery, and Prosthesis.
 Group 149.—Primary, Secondary, and Superior Education.
 Group 150.—Books, Libraries, Literature, Journalism.
 Group 151.—Instruments of Precision, Experiment, Research, and Photography. Photographs.
 Group 152.—Civil Engineering—Public Works, Constructive Architecture.
 Group 153.—Government and Law.
 Group 154.—Commerce, Trade, and Banking.
 Group 155.—Institutions and Organisations for the Increase and Diffusion of Knowledge.
 Group 156.—Social, Industrial, and Co-operative Associations.
 Group 157.—Religious Organisations and Systems.—Statistics and Publications.
 Group 158.—Music and Musical Instruments. The Theatre.

DEPARTMENT

- DEPARTMENT M.—ETHNOLOGY, ARCHÆOLOGY, PROGRESS OF LABOUR AND INVENTION.
- Group 159.—Views, Plans, or Models of Prehistoric Architectural Monuments and Habitations.
- Group 160.—Furniture and Clothing of Aboriginal, Uncivilised, and but Partly Civilised Races.
- Group 161.—Implements of War and the Chase.
(See also Groups 86 and 113.)
- Group 162.—Tools and Implements of Industrial Operations.
- Group 163.—Athletic Exercises—Games.
- Group 164.—Objects of Spiritual Significance and Veneration, Representation of Deities, Appliances of Worship.
- Group 165.—Historic Archæology—Objects Illustrating the Progress of Nations.
- Group 166.—Models and Representations of Ancient Vessels, particularly of the Period of the Discovery of America.
- Group 167.—Reproductions of Ancient Maps, Charts, and Apparatus of Navigation.
- Group 168.—Models and Representations of Ancient Buildings, Cities, or Monuments of the Historic Period anterior to the Discovery of America.
- Group 169.—Models and Representations of Habitations and Dwellings built since the Discovery of America.
- Group 170.—Originals, Copies of Models, or Graphic Representations of Notable Inventions.
- Group 171.—Objects illustrating generally the Progress of the Amelioration of the Conditions of Life and Labour.
- Group 172.—Woman's Work.
- Group 173.—State, National and Foreign Government Exhibits.
- Group 174.—The North American Indian.
- Group 175.—Portraits, Busts, and Statues of Great Inventors and others who have contributed largely to the Progress of Civilisation and the Well-being of Man.
- Group 176.—Isolated and Collective Exhibits.

WOMAN'S WORK

(subject to the above classification).

APPENDIX V.

Foreign Labour.

THE following joint resolution passed the Senate and the House of Representatives of the United States. Its object was to authorise foreign exhibitors at the World's Columbian Exposition to bring in foreign labourers from their respective countries for the purpose of preparing and making their exhibits :—

“PUBLIC RESOLUTION—No. 30.

“Whereas, under and in pursuance of the Act approved 25th April, Anno Domini 1890, the President of the United States has invited the Governments and citizens of foreign nations to participate in the International Exhibition authorised by the Act above recited ; and

“Whereas the invitations so extended have been accepted by the several nations, and space for installing foreign exhibits has been applied for and duly apportioned, and concessions and privileges granted by the Exposition management to the citizens and subjects of foreign nations ; and

“Whereas, for the purpose of securing the production upon the Exposition Grounds of scenes illustrative of the architecture, dress, habits, and modes of life, occupation, industries, means of locomotion and transportation, amusements, entertainments, and so forth, of the natives of foreign countries, it has been necessary for the World's Columbian Exposition to grant concessions and privileges to certain firms and corporations conceding the right to make such productions : Therefore,

“*Resolved by the Senate and House of Representatives of the United States of America, in Congress assembled* : That the Act of Congress, approved 26th February, 1885, prohibiting the importation of foreigners under contract to perform labour, and the Acts of Congress prohibiting the coming of Chinese persons into the United States, and the Acts amendatory of these Acts, shall not be so construed, nor shall anything therein operate to prevent, hinder, or in anywise restrict any foreign exhibitor, representative, or citizen of a foreign nation, or the holder who is a citizen of a foreign nation, of any concession or privilege from the World's Columbian Exposition, from bringing into the United States, under contract, such mechanics, artisans, agents, or other employees, natives of their respective foreign countries, as they, or any of them, may deem necessary for the purpose of making preparation for installing or conducting any business authorised or permitted under, or by virtue of or pertaining to, any concession or privilege which may have been granted by the World's Columbian Exposition in connection with such Exposition : Provided, however, that no alien shall, by virtue of this Act, enter the United States under contract to perform labour except by express permission, naming such alien, of the Secretary of the Treasury ; and any such alien who may remain in the United States for more than one year after the close of said Exposition shall thereafter be subject to all the processes and penalties applicable to aliens coming in violation of the alien contract labour laws aforesaid.

“Approved, 5th August, 1892.”

APPENDIX W:

Rules of New South Wales Court.

RULES to be observed in the various courts and buildings of the New South Wales Department of the World's Columbian Exposition, Chicago.

Superintendents.

1. Mr. Hudson, as General Superintendent, will have the oversight of all exhibits in the various courts with special supervision of, and responsibility for, the exhibits in the Agriculture, Forestry, and Machinery Buildings.
2. Mr. Pugh, as Assistant General Superintendent, will be responsible for the exhibits in Ethnology, Fisheries, Transportation, Horticulture (including the wine court), and Fine Arts Buildings.
3. Mr. Carne will be responsible for the exhibits in the Mining Building.
4. Mr. Terry will be responsible for the exhibits in the Liberal Arts, Manufactures, and Electricity Buildings.
5. Mrs. Terry will have charge of the exhibits in the Women's Building.
6. Mr. Bruce will be in charge of the wool and stock exhibits.

Assistants.

1. Assistants must be uniformly civil and obliging, and at all times ready to give information to visitors.
2. They shall keep the courts, the exhibits, and the precincts clean and tidy.
3. They shall carefully guard all exhibits, and shall not alter their disposition without reference to the superintendents.
4. They shall loyally carry out the instructions of the superintendents.
5. They shall attend in their respective courts at least half an hour before the public opening of the Exhibition, so as to have everything clean and tidy for the day.
6. They shall carefully cover the exhibits, and leave them well protected, before reporting themselves to the superintendents at the close of the day's work.

Attendance Book and Diary.

1. An attendance book and diary shall be kept in each court, in which shall be inserted daily the hour of arrival and departure of each officer belonging to the court, as well as the names of visitors from Australia or elsewhere, and all events requiring remark.
2. When entering their names, such visitors shall be invited to visit Australia House personally, to insert their names, and any remarks they may be pleased to make regarding their representation, or the exhibits generally, in the visitors' book kept there.
3. The superintendents shall be responsible for the due keeping of the attendance books, and shall direct them to be forwarded to Australia House every Saturday for inspection by the Executive Commissioner.

Hours for Meals, &c.

The superintendents shall make such arrangements as may be necessary to enable the assistants to relieve each other at meal times, so that in no cases shall the courts at any time be without due attendance from an officer.

Complaints.

1. Any officer may make any grievance under which he supposes himself to suffer known to his superintendent, and through him to the Executive Commissioner.
2. In case of urgency the Executive Commissioner may be directly appealed to.

Final Decision.

The Executive Commissioner's decision shall be final in all matters connected with the business of the various courts.

ARTHUR RENWICK, Executive Commissioner.

APPENDIX X.

Books and Pamphlets Distributed.

DISTRIBUTION OF "AN AUSTRALIAN LANGUAGE."

(BY DR. FRASER.)

UNITED STATES.

(Acknowledgments of receipt of the volume have been made in the majority of cases.)

Ann Arbor—University of Michigan.
 Albany—New York State Library.
 Baltimore—Johns Hopkins University.
 Beloit—Library of Beloit College.
 Bloomington—University of Indiana.
 Berkley—University of California.
 Boston—American Academy of Arts and Sciences.
 Brooklyn—Library.
 Cambridge—Harvard University.
 Chicago—Academy of Sciences.
 Athenæum.
 Public Library.
 Library of University of Chicago.
 Charlottesville—Library of the University of Virginia.
 Iowa City—Library of University of Iowa.
 Ithica—Cornell University.
 Lake Forest—Lake Forest University.
 Madison—University of Wisconsin.
 New Haven—American Journal of Science.
 Connecticut Academy of Arts and Sciences.
 Library of Yale College.
 New York City—American Geographical Society.
 University of New York.
 Nashville—Fisk University.
 Oberlin—Oberlin University.
 Philadelphia—Academy of Natural Sciences.
 American Philosophical Society.
 Franklin Institute.
 Wagner Free Institute of Science.
 University of Pennsylvania.
 Princeton—Princeton College.
 Salem—American Association for Advancement of Science.
 Essex Institute.
 Peabody Academy of Science.
 Syracuse—Syracuse University.
 San Francisco—Lick University.
 California Academy of Science.
 St. Paul—Macalister College.
 St. Louis—Academy of Science.
 Washington—Bureau of Ethnology.
 National Academy of Sciences.
 Philosophical Society.
 Smithsonian Institution.
 Congressional Library.

CANADA.

Fredericton—University of New Brunswick.
 Hamilton—Hamilton Association.
 Halifax—Library of Legislative Assembly.
 Dalhousie College.
 Kingston—Queen's University.
 Principal Grant, Queen's University.
 Montreal—McGill University.
 Presbyterian College.
 Professor Campbell, Presbyterian College.
 The Celtic Society of Montreal, care of Professor Campbell.
 Ottawa—The Parliament Library.
 Quebec—Laval University.
 Library of Legislative Assembly.
 Toronto—University of Toronto.
 Canadian Institute.
 Library of Legislative Assembly.
 Public Library.
 Knox College.
 Winnipeg—Manitoba College.
 Windsor—King's College.
 Wolfville—Acadia College.

Sets of Pamphlets have also been sent to the following :—

FOREIGN.

Austria—Hon. Anton Von. Palitschek Palmforst, LL.D.
 Belgium—H. E. Alfred Le Ghait, C.E. and M.P. of Belgium.
 Berlin—Dr. Hauskrecht.
 Brazil—Mr. Adolpho Aschoff, Secretary to Commission.
 Columbia—Dr. Carlos Martinez Silva, Commissioner-General.
 Costa Rica—Señor Dr. Don D. J. Guzman, Commissioner-General.
 Denmark—Mr. C. Mitchelson.
 France—M. Edmond Bruwaert, Consul-General.
 Professor Pierre Arbel, Paris.
 Germany—Hon. Adolph Wermuth, Imperial Commissioner.
 Dr. Buenz, Imperial German Consul.
 Dr. Norrenburg, Superintendent, German Liberal Arts Court.
 Guatemala—Señor Don Manuel Lemus, President of Commission.
 Hayti—Hon. Frederick Douglass, Commissioner.
 Hungary—Professor Krensz.
 Italy—H. E. Marquis Enrico Ungaro, Royal Commissioner-General.
 Chevalier C. Cappacci.
 Japan—Hon. S. Tegima, Imperial Commissioner.
 Hon. S. Mianami.
 Mexico—Hon. Miguel Serrano, Delegate General.
 Professor Perez.
 Don José Godoy.
 Monaco—Mr. A. Mackie, Commercial Commissioner.
 Netherlands—Mr. George Birkhoff, Jr., Royal Commissioner-General.
 Norway—Mr. Chr. Ravn, Royal Commissioner-General.
 Paraguay—Dr. Emil Hassler, Commissioner-General.
 Russia—H. E. P. Gloukhovskoy, Imperial Chamberlain.
 Madame Semetchkin.
 Professor Heard.
 Spain—H. E. Señor Don E. Dupuy de Lome, Royal Commissioner-General.
 Sweden—Mr. Artur Leffler, Royal Commissioner.
 Switzerland—Mr. James Perrenoud, Executive Commissioner.
 Leon Genoud, Delegate.
 Venezuela—The Executive Commissioner.

UNITED STATES.

Through their Representatives at the World's Columbian Exposition—

Arizona.	Louisiana.	New Jersey.
Arkansas.	Massachusetts.	Ohio.
California.	Missouri.	Pennsylvania.
Colorado.	Minnesota.	Rhode Island.
Connecticut.	Michigan.	Texas.
Delaware.	Montana.	Utah.
Florida.	Maine.	Vermont.
Indiana.	Maryland.	Virginia.
Iowa.	New York.	West Virginia.
Idaho.	North Dakota.	Wisconsin.
Kansas.	Nebraska.	Washington.
Kentucky.	New Hampshire.	

Government Departments.

Department of State.	Postal Department.
Department of the Interior.	Smithsonian Institution.
Department of Agriculture.	Department of Education (General
Department of Fisheries.	Eaton).

Institutions, &c.

Professor Williams.
 Professor Gore, Washington University.
 Professor Mrs. Ivy, M.O.
 Professor Folwell, Minn. University.
 Professor Shin, Arkansas.
 Dr. Schwarzkoff, Cincinnati.
 W. K. Higley, Academy of Science, Chicago.
 Library of Congress, Washington, D.C.
 Bureau of Education.
 Museum of Geology, Princeton, N.J.
 James B. Ives, F.G.S.
 George Frederick Kunz, Hon. Special Agent, Mines and Mining.
 Albert S. Bickmore, Curator, American Museum of Natural History, New York.
 Mr. Peters, representing Statistical Department of Agriculture.
 Y.M.C.A., Chicago.
 Minnesota State Historical Society, St. Paul, Minnesota.

Professor

Professor Dana, Editor, American Journal of Science, New Haven, Conn.
 State Historical Library, Madison, Wis.
 Chicago Free Public Library.
 Chicago, Newberry Library.
 Mr. William Curtis, Department Foreign Affairs.
 Two copies of the Patent Laws of New South Wales were sent to Hon. John
 S. Seymour, Commissioner of Patents, United States.
 Ten copies of the Patent Laws of New South Wales were sent to the World's
 Congress on Law.

Chiefs of Departments.—(W.C.E.)—

Agriculture	...	...	...	Mr. Buchanan.
Fisheries	...	...	...	Captain Collins.
Transportation	...	...	...	Mr. Willard Smith.
Mining	...	...	...	Mr. F. J. Skiff.
Publications and Promotion	...	...	...	Major Handy.
Foreign Affairs	...	...	...	Hon. Walker Fearn.
Bureau of Awards	...	...	...	Hon. Boyd Thacher.
Official Publisher	...	...	...	W. B. Conkey, Esq.
Director-General	...	...	...	Hon. George R. Davis.

CANADA.

Mr. J. S. Larke, Executive Commissioner.
 Mr. Dimock, Secretary.
 Dr. Ross, Minister of Education.
 Dr. May, Department of Instruction.
 Mr. W. Morton, Superintendent, Liberal Arts Court.
 Hamilton Public Library, per favour of Mr. A. Brown.

GREAT BRITAIN.

Sir Henry Trueman Wood, Secretary British Royal Commission:
Per kind favour of Sir Henry Trueman Wood:—
 Library of Buckingham Palace.
 India Office.
 South Kensington Museum.
 Athenæum Club.
 London Library.
 British Museum.
 University Library, Cambridge.
 Bodleian Library, Oxford.
 Bodleian Free Library, Manchester.
 Peoples' Palace.
 Statistical Society.
 Walter Harris, Esq., H.M.L., Member of British Commission.
 James Dredge, Esq., Member of British Commission.
 Professor Elgar, Member of British Commission.
 Sir Saul Samuel, Agent-General.
 The Imperial Institute.
 The Royal Colonial Institute.

THE COLONIES.

British Guiana—Mr. J. J. Quelch, Special Commissioner.
 Cape Colony—Mr. L. Weiner, M.L.A., Executive Commissioner.
 Ceylon—Hon. J. J. Grinlinton, M.L.C., Special Commissioner.
 Jamaica—Colonel Ward, Executive Commissioner.
 Trinidad—Mr. Harry Vincent, Executive Commissioner.

STATUTES of New South Wales have been sent to the following countries and States by their representatives at the World's Columbian Exposition.

Library of the Legislature of:—

California.	Congregational Library, Wash-
Iowa.	ington, D.C.
Illinois.	Ontario.
Kentucky.	Ottawa.
New Jersey.	Ceylon.
New York.	France.
Pennsylvania.	Germany.
South Carolina.	Italy.
Texas.	Jamaica.
Wisconsin.	Spain.
Boston.	Venezuela.
Chicago Free Public Library.	Jamaica.

AUTOMATIC MOLDING MACHINES.

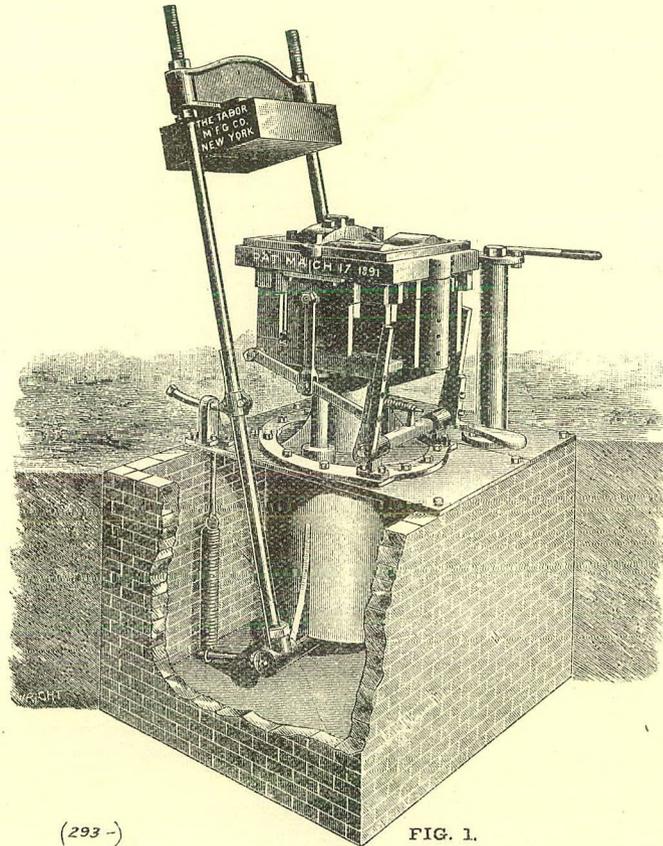


FIG. 1.

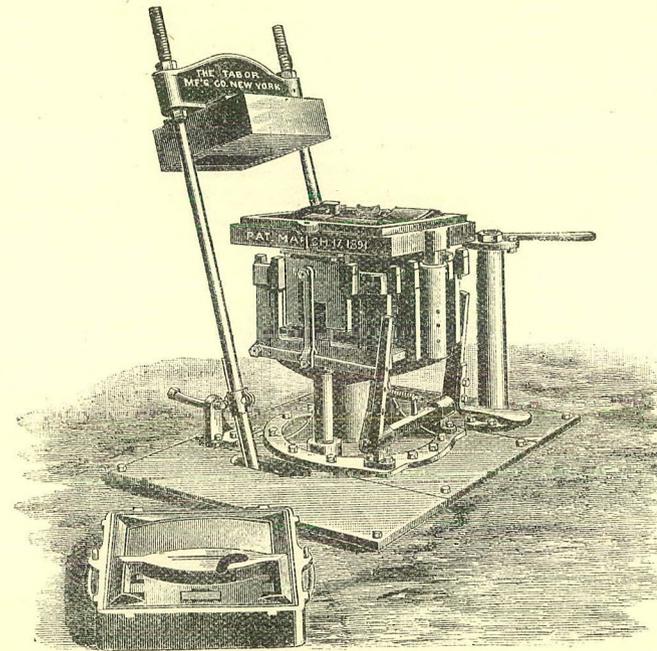


FIG. 2.

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

APPENDIX Y.

A New System of Making Sand Moulds for Metal Castings.

IN view of the public interest which has lately been manifested in the question of the practicableness of using New South Wales iron-ores for the production of iron for water-pipes, &c., the following information with regard to a new system of making sand-moulds for metal castings is likely to prove of great interest and practical utility to persons engaged in the iron-trade.

AUTOMATIC MOLDING MACHINES.

The cuts (figs. 1 and 2) show the general outlines of the machines. The power used is steam, which may be taken direct from shop boiler.

Fig. 1 shows the foundation, the foundry floor being cut away, exposing the arrangement of the cylinder, swinging arms, and counterbalancing of same.

The machine above the floor consists of a table with upward projecting lugs, which support a frame to which is attached the patterns. This frame has an annular space, into which steam is admitted each time a mould is rammed, for the purpose of keeping the patterns warm, to prevent sweating, and to make them draw cleaner from the sand.

Directly over the frame, and resting on it, is the stripping-plate frame, which supports the stripping-plate; on each side of the machine is a lever, pivoted at the back end to the table, and connected in the middle by a link to the stripping-plate frame, the other ends being free. Directly in front of the machine is a tumbling or tripping shaft, with two arms projecting upward and along the line of motion of the free ends of the side levers. These arms are provided with stops of suitable length, which engage the free ends of the levers on the downward stroke, reducing the motion of the stripping-plate one-half, and drawing the pattern through the stripping-plate.

The stripping-plate frame is guided in the bored sockets in the table below, the sockets being provided with air-cushions to prevent jar and noise when stripping-plate is dropped.

This cut also shows the pattern projecting through the stripping-plate, ready for flask.

Fig. 2 shows the patterns drawn through the stripping-plate after the mould has been made.

The operation of making a mould is very simple. The half-flask is put on the stripping-plate, with the sand-box to hold the sand which is to be compressed, and both are filled with sand.

The ramming-head is then swung forward over the flask against stops, which define its position, and the throttle-valve is opened.

The upward motion of the piston and attached parts carries the flask and sand up to the ramming head, where it is rammed instantly, and upon the throttle-valve lever being moved again steam is cut off and, at the same time, exhausted, allowing the flask to descend, the stops then engaging the free ends of the side levers and arresting the downward motion of the stripping-plate at a point about midway; the pattern, continuing to descend, is drawn from the mould, and when the piston has returned to its lowest position the sand is struck off the flask, and the flask is then removed from the machine. As the man removes it he presses the tripping-treadle with his foot to release the stripping-plate frame, which then falls to its proper position with respect to the pattern, and the machine is ready to make another mould.

The capacity of these machines depends largely upon the number of moulds that can be taken care of after they leave the machine.

To ensure good moulds, the sand must be packed hardest at the joints and softer over the pattern. This is accomplished by cutting out the wood ramming head freely over the pattern. The head may be changed to suit any size flask within the limit of the machine.

A large number of these machines are in operation, doing good and satisfactory work.

The machines are not standardised according to flasks, for the reason that each machine will take a variety of sizes.

Machines with the following sizes of cylinders can be furnished with reasonable promptness:—

30 inch,	...	...	...	...	...	...	...	...	...	single
24 "	...	...	...	...	...	...	...	...	...	"
20 "	...	...	...	...	...	...	...	...	...	single and duplex
16 "	...	...	...	...	...	...	...	...	...	"

AUTOMATIC

AUTOMATIC DUPLEX MOULDING MACHINES.

The cuts (figs. 3 and 4) represent the Automatic Duplex Moulding Machine for making light castings.

Fig. 3 shows the machine with flasks on, filled with sand, ready for ramming, and fig. 4 illustrates same after a complete mould has been made by one operation of machine. In this case the patterns moulded are journal bearings—brass—for railway cars of 60,000 lb. capacity.

The duplex was designed especially to meet the requirements of iron and brass founders who are engaged in making light castings for the trade, where competition is severe and prices low.

Its distinctive feature, when compared with the standard single machine, is in moulding both parts of flask at one operation. It is, in fact, two machines in one, and will make a complete mould, or two nowels or two copes for separate moulds in the same time, and with the same operations that are required to make a half mould on the single machine.

The duplex principle makes a great saving in moulding light bench-work, which has, until the introduction of this machine, been confined almost solely to hand labour.

Sand will stick to cold metal patterns and often cause a break in the mould. This is avoided by keeping the patterns constantly warmed by the steam used for ramming, which in many cases dispenses with stripping-plates and to use the ordinary match-plates; when this is done the match-plate is automatically drawn from the mould by the machine, the same as patterns are drawn through a stripping-plate.

Power moulding machines are ordinarily so constructed that each machine is limited to one size flask only, which is a serious defect, and often compels the use of several machines to do work which would go on one if it were more universal in its range. These machines possess this feature, and will mould any size of flask within the ramming capacity of the cylinder; they will also conform to any irregular shape in flask, which is often necessary when cheap castings are made, to save handling a needless amount of sand.

We (the Tabor Manufacturing Co.) recommend the duplex machine especially for steam fittings, such as sight-feed lubricators, injectors, globe, gate, angle and check-valve bodies in brass; elbows, tees, return bends, and all valve-cases in iron; plumbers' supplies, such as brass fittings and iron tees, Y's and bends; sewing-machine castings and hardware; agricultural implement and lighter car castings, such as brake-shoes and journal bearings; and, in fact, bench-work generally.

The duplex may also be used as a single machine when desired, and when so used will take a much larger flask. The 16-inch machine—16-inch cylinder—when working duplex will take both parts of flask 12 in. x 15 in., and when working single will take one-half of flask 15 in. x 24 in.

When flasks are not too heavy one man will operate machine economically. A fair labourer, running a duplex with flasks 12 in. x 15 in. of average depth, should mould from twenty-five to forty complete moulds per hour, the number depending on the amount of core setting. An additional man on the machine would give a greatly increased product, and would make it more economical.

The value of a successful moulding machine in a foundry which has a fair amount of duplicate work cannot be estimated. We believe the moulding machine is destined to do for the foundry what the turret lathe and milling machine have done in the machine-shop, viz., reduce cost and increase quality, and this with a class of labour which is within the reach of all. It has been said of the turret lathe that its use is limited only by the skill and ingenuity of the toolmaker; if we substitute pattern-maker, the same may be said of a good moulding machine.

A large number of these machines are in operation, doing good and satisfactory work.

The machines of the Tudor Manufacturing Co. are not standardized according to flask, for the reason that each machine will take a variety of sizes.

Machines are made with the following size cylinders, which can be furnished with reasonable promptness:—

30 inch	...	...	...	...	...	...	...	...	single.
24 "	...	...	...	...	...	...	...	...	"
20 "	...	...	...	...	...	...	...	...	single and duplex.
16 "	...	...	...	...	...	...	...	...	"

AUTOMATIC DUPLEX MOLDING MACHINES.

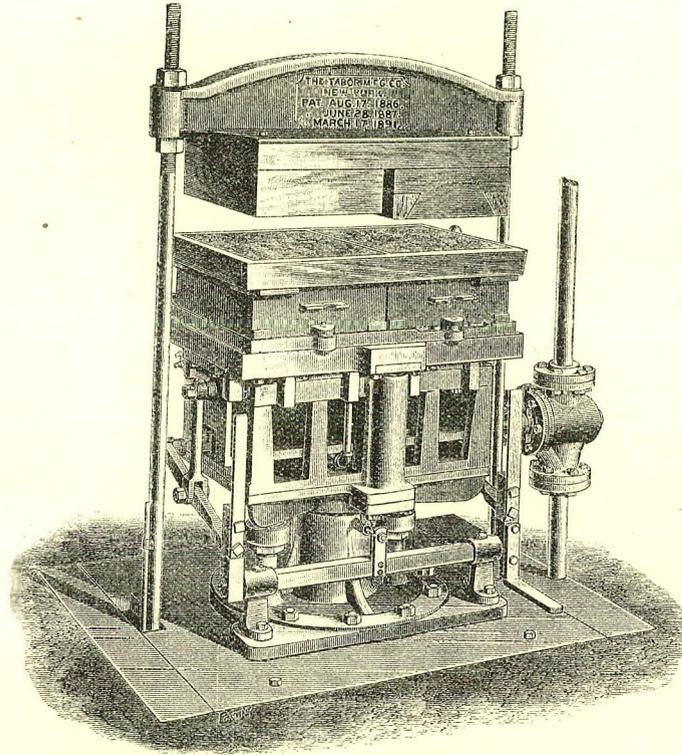


FIG. 3.

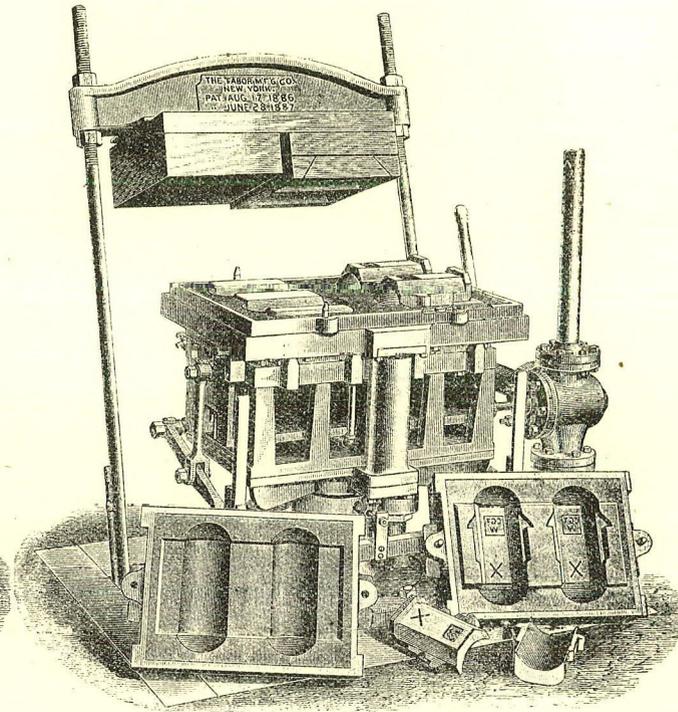


FIG. 4.

APPENDIX Z.

Description of Exhibit of the Niles Tool Works
Company of Hamilton, Ohio.

TWELVE-FOOT PLANER.

HAS two heads on cross-rail and two side-heads.

A planer of great weight, strength, and power.

This machine is driven by all spur-gearing, though in the smaller sized planing machines of this company, an especial form of tangent gearing is used.

The table moves at cutting-speed of 19 feet per minute, and on return at 50 feet per minute. The table is the largest single casting, and weighs 35 tons. For chucking-work upon this table, a design of oblong square edged holes are provided, no continuous slots or round holes being used in the table, or in any of the Niles machines.

The "V's" are open angle and very wide, giving ample bearings. Lubrication of same is thoroughly accomplished by means of rollers of metal revolving in oil pockets; these rollers having grooves across the face, which grooves act as buckets for lifting the oil from the reservoir—not depending, therefore, on capillary attraction alone, as in most devices of this kind. Patented.

The bed is very heavy, and thoroughly braced with box-girders throughout. The housings are of hollow-box form, double-webbed, of great strength and good depth, and are both keyed and bolted securely to the bed. The vertical working edges of the housings are square, giving greatest strength and wear. These housings are tied together at the top with a top-rail of superior form and strength, upon which is mounted the works for raising and lowering the cross-rail, using a separate counter-shaft for same. The cross-rail is raised and lowered by power, is very deep in the centre from front to back, and of very wide face. All working edges on cross-rail are square, and saddles have wide bearings. Cross-rail is extended to the left, so that left hand head can be run entirely out of the way, giving the other head free movement the entire width between the housings. The two heads on cross-rail are counter-weighted for easy hand movement. These heads can be swung at any angle, and have independent vertical, horizontal, or angular feed by hand or power; motion being communicated to them through splined-rods for vertical and angular movement, and a screw for horizontal movement, making four horizontal rods within the cross-rail, each of these rods being provided with a ratchet-pinion at both ends, which regulates the degree of feed.

A fifth horizontal rod in the cross-rail operates a tool-lifting device, which lifts the tools on the cross-rail at every return stroke of the table. This is a positive tool-lifting device, and operates without any cords or weights, the entire mechanism being contained in the cross-rail. A rapid horizontal hand movement of the heads for adjustment is provided by means of a rack and ratchet.

The side heads are counter-weighted, and raised and lowered, and feed vertically, horizontally, and angularly by power. They are very heavy and can be dropped below the surface of the table, if necessary, when not in use.

The various movements of the tools on each head are made through a vertical splined-rod and screw, the lower end of these rods and screws being provided with ratchet-pinion for regulating the feed.

The machine is provided with an out-bracket or housing for work that will not pass through the regular housings. The bracket can be adjusted in every direction, the limits being 6-foot movement of entire bracket parallel to planer, 6-foot vertical movement to head, and 4-foot horizontal movement to column. The head used is one of the sideheads taken from regular housing, but extra head could be provided if wanted. When head is placed on outside bracket it is counterweighted in the usual way, and has every movement of regular side-head.

The feeds being by power, the arrangement of splined rod and screw and feeds in this out-bracket are the same as in the side housings, the power being given through a single splined rod running close to bed of planer, being broken by bevelled pinion where necessary. The other end of this bracket rests on a single base-plate with plain upper sides having holes mortised in top to engage bar for hand movement.

Throughout this machine, as in all planers of the Niles Tool Works Company, the driving-shafts run in brass bushings. The belts are shifted by a patented device which moves but one belt at a time, and the table can be stopped or started instantly from either side of the machine.

All feeds are positive and are operated in a very short distance travel of the table, the feeds taking no power whatever, except when feeding, and each head having independent feed in every direction.

The entire machine weighs 270,000 lb. Two of these machines have recently been built by the Niles Tool Works Company, one of which is now in operation at the General Electric Company, at Lynn, Massachusetts, and the one on exhibition being for a large engineering concern in New York State.

SIX-FOOT BORING AND TURNING MILL.

This machine, swinging 73 in. in diameter, takes in under the tool-holders, when the rail is raised to the top, 36 in. Boring-bars have 24 in. traverse. Cone has six steps for 4-in. belt, and is strongly back-gearred. Range of feed from $\frac{1}{32}$ in. to $\frac{1}{16}$ in.

The housings are double-web or box-girder form, and are well secured to the bed by strong bolts. Both the housings and the bed are exceedingly heavy and strong.

Driving gear.—The table is driven by an accurately cut internal spur-gear. The cone transmits power to a pair of heavy-cut bevel gears, thence to a steel pinion driving the internal spur on the table. This construction insures a steady-running machine without clatter and free from any lifting tendency.

Spindle.—The spindle is of great length, with very liberal bearings. It rests below on a steel step. The spindle-bearing has ample provision for taking up wear, and this adjustment is arranged to keep the spindle central.

Cone.—The driving-cone is placed at the side of the machine, and the bolts are as convenient as those on a lathe. Each mill is strongly back-gearred, giving a wide range of speeds.

Table-bearing.—An annular bearing under the outer edge of the table is provided, and when heavy pieces are to be worked the spindle is relieved and the table allowed to rest lightly on this outer bearing. Thus adjusted, the machine works with all the steadiness of a heavy planer and all the precision of the most accurate lathe.

Boring-bars.—The boring-bars are octagon in section, accurately fitted to their bearings. One bar is brought exactly central with the spindle. This form of bar is very stiff and rigid, and at the same time convenient to handle. The tool-holders are steel forgings arranged to hold the tools in any required position, and may be removed for other tool-holders if desired. The bars may be set over at any angle, and are quickly handled by means of worm and worm-wheel. They may be fed in any direction independently of each other.

Counter-weight.—Many attempts have been made to secure a balancing device for the bars that will compare in simplicity and efficiency with our patented device. The device, simple as it appears, is worthy of consideration. It will be noticed that a single chain is attached at one end to an arm rigidly secured to the rail, and that a similar arm at the other end of the rail carries a pulley over which the weighted end of the chain falls. There is a sheave on the face of each tool-bar, and each saddle carries two sheaves straddling its bar, and the chain is looped over the single sheave, and under the tool-bar sheave. This is a very simple and perfect arrangement, and possesses quite a number of advantages not apparent at first sight.

1. The counter-weight requires to be only half as heavy as the parts to be counter-balanced.
2. The counterbalance is perfect, no matter how much one or both of the tool-bars may be set over for angular work. As the saddles are moved along the rail no effect is had on the counter-balance weight, the sheave simply moving along the chain. When the swing is unbolted, so that it may be set over to an angle, the counter-weight has no tendency to pull the swing around and endanger a workman's life.
3. When a saddle nut is opened, and a swing quickly moved along by the ratchet lever, the counter-weight has no tendency to resist the motion, or to suddenly pull the swing along the rail out of the control of the workman.

There are no overhead arrangements to interfere with, or to be interfered with by belts or cranes.

Feeds.—The feeds are operated by a friction disk, and have a range of $\frac{1}{32}$ in. to $\frac{1}{8}$ in. The feed is thoroughly reliable, and very simple in construction and operation. It may be instantly varied to any degree within its range.

At the end of the rail are a pair of gears, by means of which the speed can be increased or decreased 100 per cent. without shifting the friction-disk. The feeds are independent. The saddles or bars may be fed in the same or in opposite directions at the same time.

Cross Rail.—The rail is of box girder form, with wide bearings. It is raised or lowered by power. The saddles are made right and left, so that they may be brought close together. The right-hand saddle has quick hand traverse by rack and pinion.

In General.—These mills are the result of years of experience both in their construction and operation, and embody the most advanced practice in machine tool construction. Ample weight has been given to all the parts. All sliding-fits are made by scraping, and the workmanship throughout is of the best character.

HORIZONTAL BORING, DRILLING, AND MILLING MACHINE.

Will bore or drill holes, or mill-off any surface in a space 9 ft. or more in length, by 6 ft. in width.

The machine consists of a heavy column, 10 ft. 6 ft. high, mounted on a bed-plate of any length to suit requirements. The column is moved along the bed-plate by power, operating through worm gear and rack. The column is 31 inches wide on the face, and is fitted with a heavy saddle 40 in. square, carrying the spindle.

The saddle has a vertical traverse on the column of 6 ft., and is raised and lowered by heavy screw. It is balanced by counterweight hung in the column.

Boring

Boring and milling spindle is hammered steel, $4\frac{1}{2}$ in. in diameter; it slides in a heavy revolving sleeve, and has a traverse of 4 ft. It revolves in either direction, right or left hand, reversing by lever conveniently located, and has eight power feeds, ranging from $\frac{3}{16}$ in. to $\frac{1}{4}$ in. per revolution of spindle. It is also provided with hand feed and quick return.

The milling feeds are six in number, ranging from $\frac{1}{16}$ in. to $\frac{1}{8}$ in. per revolution of spindle. These feeds are applied only to the column and saddle, and are by power only.

Any of these feeds for the quick motion may be utilised to set a drill, boring-bar, or milling cutter to work anywhere on the surface which the machine will reach.

At one end of the bed plate is placed the driving gear, milling feed, and quick traversing mechanism for the column. The quick-power traverse of the column has a speed of 5 ft. per minute.

The driving cone has six steps for 4 in. belt, and is strongly back-gearred, giving twelve changes of speed, ranging from two to 200 revolutions per minute, and has ample power for boring up to 24 in. diameter.

A platen is placed in front of the column, convenient to the spindle, for the operator to stand on, and all the movements of the spindle, saddle, and column may be started, stopped, or reversed by levers conveniently arranged on, and travelling with the saddle, within easy reach of the operator while he watches the work.

No. 3. SCREW MACHINE.

Capacity, $\frac{5}{8}$ in. to $1\frac{1}{2}$ in. screws.

This is a very heavy and powerful machine, embracing the latest patented improvements.

Dies will work up to 2 in. With the leaders, threads can be cut up to the full size of stock the machine will take.

The spindle is $4\frac{1}{4}$ in. in diameter, with a front bearing $6\frac{1}{4}$ in. long, and has a hole $2\frac{1}{8}$ in. diameter through it.

The cone ranges from 14 in. to 7 in. diameter, and has four steps for a $3\frac{1}{2}$ -in. belt.

Both the cone and face-gear are loose on the spindle, and are driven, the one by a friction, the other by a positive clutch, connected to a sliding hub, splined to the spindle. The friction obviates the shock incident to starting the spindle at a high velocity, as the motion is gradual, while the positive clutch on the face gear insures steadiness of motion under heavy strain.

The manner of mounting the turret and the arrangement of feeds, which have proved so satisfactory in the No 2 machine, are still retained, while in addition the turret is made to revolve and lock automatically. The point at which the revolution of turret takes place is adjustable, and is indicated by a gauge at the front of the turret slides.

The carriage has a power feed operated from the back feed shaft, independent of the motion obtained by the leaders.

A pump is supplied with each machine, which pumps the oil or water from a tank in the bed of the machine, and is provided with a safety-valve whereby all excesses of oil are returned to the tank, and allows the pump to continue working when the drip cocks at the tools are closed.

SIXTY-THREE-INCH HEAVY FORGE LATHE.

A machine of great weight, strength, and power.

Designed for use in forges for rough turning or finishing heavy shafts, rolls, cranks, &c., also for machine shop use where extra duty is required, as in turning or boring large steel castings.

Swings 63 in. over the ways and $47\frac{1}{2}$ in. over the carriage.

Has a bed 30 ft. long, and will turn 20 ft. between centres.

Cone is mounted on an independent steel spindle, with a steel pinion gearing into an internal gear on back of face-plate. It has five steps for a belt $4\frac{1}{2}$ in. wide, and has two sets of back gears, giving fifteen changes of speed.

The main spindle is 10 in. in diameter at the front end, with a bearing 15 in. long. The face plate is driven on and bolted fast to it.

All gearing is accurately cut from the solid.

Carriage is 68 in. long, and is of a very rigid form. It is accurately fitted to the bed its entire length, and gibbed both front and back.

The rest has compound movement, with longitudinal cross and angular power feed.

The feed mechanism is made in the strongest manner, and very rigidly supported in the apron, to enable it to withstand severe duty. The feed reversal is by strong tumbler gearing in the head, so that no change in the stud gear is needed in cutting either right or left hand threads.

Lead screw is placed well up under the screw of the bed and the nut so arranged as to bring the strain on the carriage as direct as possible.

The tail stock is held down by four bolts, and is also provided with a strong pawl engaging with a rack cast in the bed. Thus a positive resistance is offered, preventing all danger of slipping. The pawl is raised or lowered by a hand knob on the side of the tail stock.

The upper slide of the tail stock is also held independently by four bolts.

This arrangement allows the tail stock to be set over for taper work without unclamping from the bed.

The lathe is provided with a very heavy, steady, and follower rests. The steady rest has its opening of extra size to admit large shafts.

APPENDIX AA.

List of Awards to N. S. Wales Exhibitors.

NOTE.—The Diplomas which will be issued to Exhibitors will contain in a summarised form the Reports of the Juror on Exhibits, giving the reasons why the awards were made. Each Exhibitor will also receive uniform Bronze Medal.

DEPARTMENT A.—AGRICULTURE.

GROUP 1.

Name.	Address.	Description.
Anderson, William...	... Moama ...	... Norfolk Red Wheat.
Black and Sons ...	... Molong ...	... Purple Straw Wheat.
Brunton & Co. ...	... Granville ...	... do do
Clout, George ...	... Brungle, via Gundagai	Steinweidel Wheat.
Cohen and Levy ...	... Tamworth ...	... Purple Straw Wheat.
Commissioners for N.S.W....	Sydney ...	... Wheats (7 awards).
Holschier, John ...	... Moama ...	... Wheat.
Matthews, H. C. ...	... Bathurst ...	... Brown Hogan Wheat.
Moore, George ...	... Corowa ...	... Purple Straw Wheat.
M'Gee and Quinn ...	... Parkes ...	... Wheat.
M'Shane, Patrick ...	... Goulburn ...	... do
Pawley and M'Intyre ...	... Inverell ...	... White Tuscan Wheat.
Quirk & Co. ...	... Wellington ...	... Purple Straw Wheat.
Reirath, C. ...	... Albury ...	... White Mexican Wheat.
Spratt, James ...	... Orange ...	... Wheat.
Tremain, William ...	... Bathurst ...	... Hogan Wheat.
Utz, F. ...	... Glen Innes ...	... White Tuscan Wheat.
Commissioners for N.S.W....	Sydney ...	... Trophy of Maize in Cob.
M'Shane, Patrick ...	... Goulburn ...	... Maize.
Waters, Michael ...	... Richmond ...	... Hawkesbury Champion Maize.
Commissioners for N.S.W....	Sydney ...	... Oats.
Clout, George ...	... Brungle, via Gundagai	do
Spratt, James ...	... Orange ...	do
Clout, George ...	... Brungle, via Gundagai	Barley.
White, J. ...	... Albury ...	do
Clout, George ...	... Brungle, via Gundagai	Rye.
Laurie, Alexander T. ...	... Rawden Vale, Gloucester.	Arrowroot.
Department of Agriculture	Sydney ...	... Collection of Grasses.
Spratt, James ...	... Orange ...	... Hay.
Department of Agriculture	Sydney ...	... Collection of Fodder Plants
Allsopp, Thomas ...	... Murrumburrah ...	... Flour.
Brunton & Co. ...	... Sydney and Granville..	do
Cohen and Levy ...	... Tamworth ...	do
Cootamundra Farmers' Co-operative Association.	Cootamundra ...	do
Gardiner, Edwin ...	... Temora ...	do
Grover, E. ...	... Glen Innes ...	do
Matthews, H. C. ...	... Bathurst ...	do
M'Gee and Quinn ...	... Parkes ...	do
Pawley and M'Intyre ...	... Inverell ...	do
Tremain, William ...	... Bathurst ...	do
Utz, F. ...	... Glen Innes ...	do
Young Co-operative Flour-milling Co.	Young ...	do
Do do	do ...	... Photo. of Mill.
Cohen and Levy ...	... Tamworth ...	... Corn-meal.

GROUP 2.

Hood, Phineas A. Russell-st., Bathurst...	Baking Powder.
Leslie, William Dubbo ...	do
Peate, Lawrence George-st., Bathurst...	do

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GROUP 3.

Name.	Address.	Description.
Cowan, David William ...	Tomki, Richmond River.	Sugar-cane.
Kirk, J. and W. ...	Chatsworth ...	do
Robertson, Duncan ...	Grafton ...	do
Hunter River Bee-keepers' Association.	Care of R. Patten, Bolwarra, West Maitland.	General Award, Honey.

GROUP 5.

Commissioners for N.S.W....	Sydney	Peas, "Black-eyed Susan."
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GROUP 6.

Australian Meat Co. ...	Ramornie, Clarence River.	Beef Extract.
Do ...	do ...	Canned Meats.
Do ...	do ...	Canned Soups.
Sydney Meat Preserving Co. ...	Sydney ...	Extract of Beef.
Do do ...	do ...	Canned Soups.
Do do ...	do ...	Canned Meats.
Peate, Lawrence ...	George-st., Bathurst ...	Various Sauces, &c.

GROUP 7.

Spies, Wilton, & Co. ...	Mudgee ...	Patent Churn.
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GROUP 8.

Abbott, William ...	Wagga Wagga ...	Tobacco.
Ah Chung ...	Tumut ...	do
Commissioners for N.S.W....	Sydney ...	do
Shu Pack ...	Tumut ...	do

GROUP 9.

PURE-BRED FINE WOOLS (MERINO).

Allen, Edmund John ...	Stoney Creek, Young...	Two Fleeces.
Bettington, J. B. ...	Brindley Park, Merriwa	One Fleece.
Collaroy Co. ...	Collaroy, Merriwa ...	Two Fleeces.
Cox, Henry George...	Burrundulla, Mudgee..	Three Fleeces.
Dickson, W. and T. C. ...	Yarrawin, Brewarrina.	Two Fleeces.
Dowling, Vincent James ...	Lue, Rylstone ...	Four Fleeces.
Dulhunty and Deakin ...	Killoola, Peel ...	One Fleece.
Duntroon Estate (Executors of).	Queanbeyan ...	Two Fleeces.
Faithfull, W. P. ...	Springfield, Goulburn..	Three Fleeces.
Featherstonhaugh, C. ...	Goorianawa, Gilgandra	One Fleece.
Gibb and Son ...	Berthong, Wallendbeen.	Four Fleeces.
Hall, Charles Castle ...	Yeumburra, Yass ...	do
Horsley, R. F. ...	Yabtree, Wagga Wagga	One Fleece.
Hume, Frederick William...	Tarengo, Burrowa ...	Three Fleeces.
Loder, Andrew ...	Colley Creek, Willow Tree.	Six Fleeces.
Manchee, John Charles ...	Glen Moan, Willow Tree.	One Fleece.
Merriman, George ...	Ravensworth, Yass ...	Two Fleeces.
Mulholland, Geo. J. ...	Oura, Wagga Wagga...	Three Fleeces.
Murray, Andrew ...	Bannockburn, Inverell	One Fleece.
M'Callum, Argyle ...	Goodhope, Yass ...	Four Fleeces.
Peel River Land and Mineral Company.	Goonoo Goonoo, Tamworth.	do
Roberts, Richard Hutchinson	Tiverton, Barwang ...	Three Fleeces.
Scott, James Weir ...	Bogamildi, Warialda...	One Fleece.
Sloane, Alexander ...	Mulwala ...	Three Fleeces.
Suckling, John Lionel ...	Barsham, Blandford...	One Fleece.
Trail Brothers ...	Llangollen, Cassilis ...	Two Fleeces.
Vivers, William (Estate of)..	King's Plains, Glen Innes.	do
Walker, Henry ...	Tong Bong, Rylstone..	Four Fleeces.
Wilson, Son, & Co., S. ...	Lake Cowal, Murrumbidgee.	Two Fleeces.

PURE-BRED MIDDLE WOOLS (MERINO).

Name.	Address.	Description.
Allen, Edmund John	... Stoney Creek, Young...	Three Fleeces.
Crozier, Wm. Douglas	... Horseshoe, Wentworth	do
Crozier, William	... Moorna, Wentworth...	One Fleece.
Devlin & Co.	... Ganmain, Wagga Wagga.	Two Fleeces.
Dowling, Vincent James	... Lue, Rylstone	... Five Fleeces.
Dulhunty and Deakin	... Killoola, Peel	... Two Fleeces.
Hall, Charles Castle	... Yeumburra, Yass	... One Fleece.
Horsfall & Co., J. F.	... Kerarbury, Nar- rander.	Two Fleeces.
James and Gray	... Kentucky, Corowa	... One Fleece.
Merriman, George	... Ravensworth, Yass	... do
Mulholland, George J.	... Oura, Wagga Wagga	do
Scott, James Weir	... Bogamildi, Warialda...	Two Fleeces.
Warby, James E.	... Billembah, Narrandera	One Fleece.

PURE-BRED LONG WOOLS.

Executors of Duntroon Estate	Queanbeyan	... Four Fleeces.
Murray, Andrew	... Bannockburn, Inverell	Two Fleeces.

ALL CROSS-BRED WOOLS.

Executors of Duntroon Estate	Queanbeyan	... Three Fleeces.
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FLEECE WOOL (UNCLASSIFIED).

Tubbo Estate, Co.	... Wallendbeen	... Two Fleeces.
Vivers, William (Estate of)	Glen Innes	... Four Fleeces.
Commissioners for N.S.W.	Sydney	... Collection of Merino Combing Wool in bales.
Do	do	... Collection of Merino Clothing Wools.
Do	do	... Extensive Practical Display of Wool.
Hawkesworth, Alfred	Technical College, Sydney.	Collection of Samples of Wool.
Commissioners for N.S.W.	Sydney	... Photos. illustrating Sheep-farming.
Do	do	... Photos. illustrating N.S.W. Sheep.
Dalgety & Co.	5, Bent-st., Sydney	... Photo. of Wool Warehouse.
New Zealand Loan and Mer- cantile Agency Co.	Bridge-st., Sydney	... Photo. of Wool Store.
Australian Shearer Co.	Care of Jas. Martin & Co., 249, Clarence- street, Sydney.	Sheep-shearing Machine.
Department of Agriculture	Sydney	... Vols. 1 and 2, <i>Agricultural Gazette</i> .
Chief Secretary for N.S.W.	do	... Sample of Raw Silk.

GROUP 11.

Levy, Miss Rosa	... 443, Bourke-st., Sydney	Liqueurs.
Oertel, Charles	... 403, Pitt-st., Sydney	Lemon Syrup.
Pollock, Alexander	... Berry-street, Nowra	Cordials.
Monk, D. J.	... Henderson Road, Alex- andria, Sydney.	Wine Vinegar.

GROUP 12.

Australian Brewery and Spirit Co.	Wine Bourke-st., Sydney.	Waterloo, Ale in Wood and Bottle, and Stout in Wood.
Elwin & Co.	... Orange	... India Ale in Bottle; Extra Fine Stout in Bottles.
Fisher and Fraser	... Grenfell	... Ale in Wood.

GROUP 14.

Australian Jockey Club	... 14, Castlereagh-street, Sydney.	Series of Photos.
Reynolds, Frank	... Tocal, Paterson River	Photo. of "Splendor," by "Bathilde," out of "Stockwell."
Patent Asphaltum Co.	... 244, Pitt-st., Sydney	Asphalt Blocks.
O'Neill, Charles	... 200, Cumberland-st., Sydney.	O'Neill's Patent Caithness Flagging.
Commissioners for N.S.W.	Sydney	... Wooden Block Road.
Do	do	... Section of same Road, showing Foundation.

GROUP 16.

Name.	Address.	Description.
Jamieson, Neil	Albury	Double Furrow Plough and Patent Appliances.

GROUP 18.

Sydney Meat Preserving Co.	Sydney	Neatsfoot and Trotter Oil.
Mallaby, George	Armidale	"Champion Cleanser" Soap.
Sachs, Valentine	Glen Innes	"Australian Eucalyptus" Soap.
Mowbray & Co., M.	Goulburn	Branding Black for Wool.

DEPARTMENT B.—HORTICULTURE.

POMOLOGY.

GROUP 21.

Purcell, J.	Parramatta	Oranges.
Do	do	Lemons.
Commissioners for N.S.W....	Sydney	Oranges.
Do do	do	Periodical Shipments of Fruit (4 awards).
Faint, A. and J.	Spring Valley, Armidale.	Fruits grown in New England.
Mitchell, J. L.	do	do do
Green, G. K.	Tumut	Dried Fruits.
Commissioners for N.S.W....	Sydney	do
Coleman Brothers	Unwin-st., Canterbury, Sydney.	Collection of Jams and Marmalades.
Mitchell & Co., D.	153, Clarence-street, Sydney.	Jams in Variety.
Cousins, W. Y.	Bebeah, Singleton	Orange Wine.
Pollock, Alexander	Berry-st., Nowra	Lime Juice Cordial.
Commissioners for N.S.W....	Sydney	Apples and Pears.
Do do	do	Lemons.

FLORICULTURE.

Commissioners for N.S.W....	Sydney	Asplenium Nidus.
Do do	do	Platyterium Alciorne.
Do do	do	Dicksonia Antartica.
Do do	do	Alsophila Australis.
Do do	do	Todea Barbara.
Do do	do	Photographs of the Botanical Gardens.

VITICULTURE.

GROUP 20.

Bouffier Brothers	Oxford-street, Sydney..	Hock and Chablis.
Brecht Brothers	Rosemount, Denman...	Muscatel and Shiraz.
Caldwell & Co.	Lake Albert, Wagga Wagga.	Verdeilho and Chablis.
Carmichael, G. T. and J. B.	Porphyry, Seaham	Porphyry.
Cousins, Walter Young	Bebeah, Singleton	Verdeilho and Pineau.
Doyle, James F.	Kaludah, Lochinvar... ..	White Wines.
Fallon, James T.	Kiewa-street, Albury..	Tokay and Reisling.
Fiaschi, Thomas, M.D.	39, Phillip-st., Sydney	Shiraz.
Genty, L. T.	Eaglemunt, Minto	Reisling and Chablis.
Gray, John Guthrie	Kentucky, Corowa	White Wine.
Green, Walter C.	Norwood, Allandale	do
Kelman, James	Kirkton, Branxton	Hermitage and Reisling.
Kurtz, F.	Mt. Olivet, Dubbo	Reisling.
Lankester, Alfred Ernest	Emu Park, Albury	White Wine.
Lindeman, Henry John	Exchange, Sydney	Sauterne, Hock, Tokay, Chablis, Hermitage, and Muscat.
Mather, Thomas	Roslyn, Inverell	Shiraz, Pineau, and Tokay.
Sanger, John Mildred	Wangamong, Corowa..	Reisling.
Wyndham, Egbert	Bukkulla, Inverell	Pineau, 1877.
Wyndham, J. (Estate of)	Dalwood, Branxton	Shiraz, Reisling, Pineau.
Wyndham, William	Kulki, Inverell	White Wine.
Harbottle, Allsopp, & Co.	Ettamogah, Albury	do

Red Wines.

Barnett, Joel	Beaulieu, Inverell	Hermitage.
Bouffier Brothers	Oxford-street, Sydney..	Claret.
Bray, Thomas	Mossgiel, Corowa	Clarets.
Brecht Bros	Rosemount, Denman...	Sherry.
Caldwell & Co.	Lake Albert, Wagga Wagga.	Shiraz and Claret.

Name.	Address.	Description.
Cousins, Walter Young	... Bebeah, Singleton	... Malbec, Claret, Hermitage, Lambruscat, Verdôt, and Muscat.
Doyle, James F.	... Kaludah, Lochinvar	... Kaludah.
Eaton and Grant	... Albury	... Muscat.
Fiaschi, Thomas, M.D.	... 39, Phillip-st., Sydney	Claret, Hermitage.
Frankland, G. J.	... Mowbray House, Paterson.	Hermitage.
Genty, L. T.	... Eaglemont, Minto	... Claret and Hermitage.
Gray, John Guthrie	... Kentucky, Corowa	... Malbec.
Green, Walter Clement	... Norwood, Allandale	... Hermitage.
Harbottle, Allsopp, & Co.	... Ettamogah	... Muscat.
Kelman, James	... Kirkton, Branxton	... Hermitage and Claret.
Kurtz, F.	... Mount Olivet, Dubbo	Malbec.
Lang, John	... Midarro, Corowa	... Shiraz, Muscat.
Lankester, Alfred Ernest	... Emu Park, Albury	... Carbinet, Sauvignon, Verdôt.
Lindeman, Henry John	... Exchange, Sydney	... Claret, Frontignac, Carbinet, Claret, Muscat.
Mather, Thomas	... Roslyn, Inverell	... Malbec.
Wyndham, Egbert	... Bukkulla, Inverell	... Burgundy, Hermitage.
Wyndham, William	... Kulki, Inverell	... Red Sweet Wines.
Wyndham, J., Estate of	... Dalwood, Branxton	... Hermitage, Sherry.
Brecht Bros.	... Rosemount, Denman	Sherry and Port.
Busch, William	... Moss Vale, Young	... Madeira.
Frankland, G. J.	... Mowbray House, Paterson.	do
Lindeman, Henry John	... Exchange, Sydney	... Port, Madeira.
Bray, Thomas	... Mossiel, Corowa	... Brandy (one year old).
Brecht Bros.	... Rosemount, Denman	do
Cousins, Walter Young	... Bebeah, Singleton	do
Kelman, James	... Kirkton, Branxton	do
Wyndham, Egbert	... Bukkulla, Inverell	do

DEPARTMENT C.—LIVE STOCK.

GROUP 9.

Bruce, Alexander	... Chief Inspector of Stock, Sydney	... System of Registration of Horse and Cattle Brands.
Do	... do	... System of Sheep Brands and Marks.
Do	... do	... System of Horse and Cattle Brands.

DEPARTMENT D.—FISHERIES.

GROUP 37.

Commissioners for N.S.W.	... Sydney	... Collection of Fishes in Alcohol.
Do	... do	... Collection of Oysters and other Shells.
Do	... do	... Collection of Crustacea.
Do	... do	... Series of Paintings of Fishes and Crustacea.
Do	... do	... Collection of Reptiles in Alcohol.
Holt, Hugh William Lee	... Waratah	... Collection of Snakes and Reptiles.
Commissioners for N.S.W.	... Sydney	... Collection of Mounted Birds Destructive to Fish.
Do	... do	... Mounted Seals.
Do	... do	... Seal Skins and Skeletons.

GROUP 38.

Commissioners for N.S.W.	... Sydney	... Series of Pamphlets on Fish and Fisheries of New South Wales.
Do	... do	... Model, New South Wales Fishing Boat.
Fanner, R. E.	... Willoughby-st., North Sydney.	Yacht's Gig.

GROUP 40.

Clarence River Fresh Fish Canning Co.	Iluka, Clarence River	Tinned Flat-tail.
Commissioners for N.S.W.	... Sydney	... Collection of Fish Oils.
Do	... do	... Porpoise Skins Fish Manures, Fish Oil, Soap.
Lichtner and Solomon	... Wynyard Buildings, Wynyard Square, Sydney.	Pearl Shell.

DEPARTMENT E.—MINES, MINING, AND METALLURGY.

GROUP 42.

Name.	Address.	Description.
Minister for Mines...	Sydney ...	Collection of Tin Ores.
Do ...	do ...	Collection of Iron, Managnese, and Cobalt Ores.
Do ...	do ...	Collection of Fossils.
Do ...	do ...	Collection of Gemstones and Associated Gravels.
Do ...	do ...	Samples of Coal.
Do ...	do ...	Antimony, Bismuth &c., Ores.
Do ...	do ...	Copper Ore (Burraga).
Do ...	do ...	Iron Ore, Fitzroy Mine.
Do ...	do ...	Magnetic Iron Ore, Blayney.
Do ...	do ...	Iron Ore, Blayney.
Do ...	do ...	Chrome Iron Ore (Nundle).
Do ...	do ...	Collection Silver Ores.
Do ...	do ...	Samples of Alluvial Gold.
Do ...	do ...	Collection of Auriferous Veinstones.
Do ...	do ...	Collection of Block Specimens, Gold Bearing.
Do ...	do ...	Silver Ores, in bulk.
Do ...	do ...	Collection of Rock Specimens.
Do ...	do ...	Tin Ores, in bulk.
Do ...	do ...	Collection of Copper Ores.
Do ...	do ...	Manganese Oxide (Woodstock).
Liversidge, Archibald, M.A., F.R.S.	University of Sydney.	Crystallised and other Gold Specimens.
Do do ...	do do ...	Gem Sands and Associated Minerals.
Do do ...	do do ...	Metalliferous Minerals.
Do do ...	do do ...	Minerals, New Caledonia.
Isaacsohn, Martin ...	Nundle ...	Collection of Gold and other Metals and Minerals.
Horton, T., junr. ...	Drake ...	Collection of Minerals, New England.
Crown of the Peak G. M. Co.	131, Pitt-street, Sydney	Auriferous Lodestuff.
Eleanora G. and A. M. Co...	Hillgrove, Armidale...	do and Stibnite.
Garibaldi G. M. Co...	19, Post Office Chambers, Pitt-street, Sydney.	do do
Mitchell's Creek G. M. Co...	Cape's Chambers, Bond- street, Sydney.	do
Mount Gahan G. M. Co. ...	Pambula ...	do
Peak Hill Proprietary G. M. Co.	Dubbo ...	do
British Broken Hill S. M. Co.	39, Queen-street, Mel- bourne.	Argentiferous Lodestuff.
Broken Hill Block 10 S. M. Co.	15, Queen-street, Mel- bourne.	Argentiferous Ores.
Broken Hill Proprietary S. M. Co.	31, Queen-street, Mel- bourne.	do and Trophy.
Carcoar Cobalt Co....	Carcoar ...	Cobalt Ore.
White Rock S. M. Co. ...	Drake ...	Silver Ore.
Spiers and Rigg ...	76, Pitt-street, Sydney	Tin Ore and Associated Gemstones.
Great Cobar Copper-mining Co.	131, Pitt-street, Sydney	Copper Ore.
Lark & Sons ...	Wynyard-street, Sydney	Star and Crude Antimony.
Brazenall, W., junior ...	Mittagong ...	Iron Ores, Castings, &c.
Donnelly, D. C. J. ...	Cowra ...	Magnetic Iron Ore.
Hayes, W. G. ...	Picton ...	Iron Ore.
Hayton, G. ...	Newbridge ...	do
Rothery, W. M. ...	Lyndhurst ...	do
Australian Agricultural Co.	Newcastle ...	Coal.
Brown, J. and A. ...	do ...	do
Burwood Coal-mining Co. ...	do ...	do
Greta Collieries Co....	63, Pitt-street, Sydney.	do
Hetton Coal-mining Co. ...	Bond-street, Sydney ...	do
Newcastle Coal-mining Co....	Newcastle ...	do
Newcastle Wallsend Co. ...	12, Bridge-st., Sydney	do
Osborne Wallsend Co. ...	Change Alley, Sydney.	do
Saywell, T. ...	6, Park-street, Sydney.	do
South Bulli Coal-mining Co.	78, Pitt-street, Sydney.	do
Wallarrah Coal Co. ...	Catherine Hill Bay ...	do
West Wallsend Coal-mining Co.	7, Exchange, Sydney...	do
Wickham and Bullock Island Coal-mining Co.	Pitt-street, Sydney ...	do

Name.	Address.	Description.
Australian Kerosene, Oil, and Mineral Co.	Gresham-street, Sydney	Petroleum Oil, Cannel Coal (Joadja).
Do do ...	do do ...	do do (Katoomba).
Genowlan Shale Co.	Victoria Chambers, Castlereagh-street, Sydney.	do do (near Capertee).
N.S.W. Shale and Oil Co. ...	162, Clarence-street, Sydney.	do do (Hartley).
GROUP 44.		
Bishop, L. ...	Muree, Raymond Terrace.	Freestone.
Browne, T. ...	West Maitland	do
Burns, J. ...	Bathurst	Marble.
Lewis, Mortimer W.	East Maitland	Building Stones.
Saunders, R. ...	Amy-st., Pyrmont, Sydney.	do
Do ...	do do	Granite (Moruya).
Do ...	do do	Syenite (Bowral).
N.S.W. Commissioners Minister for Mines...	Sydney ... Phillip-st., Sydney	Marble, Mullion, &c. Collection of Marbles and Serpentine.
Do ...	do do	Collection of Freestone and Granite.
Do ...	do do	Inlaid Table, Marble and Serpentine.
GROUP 46.		
Minister for Mines...	Phillip-st., Sydney	Collection of Brick and Pottery Clays.
GROUP 47.		
Cullen Bullen Lime and Cement Co.	347, 353, Sussex-street, Sydney.	Cement, Cement Materials, and Castings.
GROUP 48.		
Australian Alum Co.	12, O'Connell-street, Sydney.	Alumstone and Alum.
Clabby, John ...	Belgravia ...	Paint Ochres.
Gordon Emery & Colour Co.	P.O. Chambers, Pitt-street, Sydney.	do
Kalsomine and Metallic Paint Co.	Nelson-st., Annandale, Sydney.	Kalsomines.
GROUP 67.		
Minister for Mines...	Phillip-st., Sydney	Geological Map of N.S.W., 1890.
Do ...	do do	Maps and Publications.
Commissioners for N.S.W. ...	Sydney ...	Photos. of Cave Scenery.
Do do ...	do ...	Photos. of Broken Hill Mines.
Do do ...	do ...	Catalogue of Mining Exhibits.
Liversidge, Archibald	University of Sydney.	Scientific Publication.
Do ...	do do	Crystal Models and Laboratory Lamp.
Commissioners for N.S.W. ...	Sydney ...	Refined Copper in Ingots.
Do do ...	do ...	Refined Tin in Ingot.

DEPARTMENT F.—MACHINERY.

GROUP 71.

Hoskins, C. & S. ...	Hay-street, Darling Harbour, Sydney.	Pneumatic Punching and Riveting Machine.
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GROUP 77.

Austin, Robert ...	362, Sussex-st., Sydney	The "Austin Perfect Patent Washer."
M'Creddie, Arthur Latimer...	250, Pitt-st., Sydney	Patent Rail Switch.

DEPARTMENT G.—TRANSPORTATION.

GROUP 80.

Commissioners for Railways.	N.S.W. Macquarie-st., Sydney	Two Maps, showing the R.R. System of N.S.W.
Do do ...	do do ...	Sample of Permanent Way.
Do do ...	do do ...	Series of Miscellaneous Photographs.
Do do ...	do do ...	Series of Photos., illustrating R.R. Stations and Bridges.
Do do ...	do do ...	Series of Photos. of Rolling Stock.
M'Creddie, Arthur Latimer..	250, Pitt-st., Sydney	Patent Rail Switch.
Commissioners for Railways.	N.S.W. Macquarie-st., Sydney	Samples of Old Ties.

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GROUP 82.

Name.	Address.	Description.
Commissioners for N.S.W....	Sydney ...	Model of Lithgow Valley Zig Zag.

GROUP 83.

Goodwin, Henry ...	Valentine-lane, Harris-st., Sydney.	Squatter's Wool Waggon.
Glencross, C. ...	M'Donald Town ...	Patent Hansom Cab.
Sydney Omnibus and Tramway Co.	Macquarie Place ...	Omnibus Wheels.
M'Grath, John J. ...	Fitzmaurice-st., Wagga Wagga.	Improved Riding Saddle.
Fanner, Robert Edmund ...	Willoughby-st., North Sydney.	Yacht's Gig.
Commissioners for N.S.W....	Sydney ...	Model of the Sutherland Dock.
Orient Steam Navigation Co.	London ...	Model of R.M.S. "Austral," and Photos.
Marine Board of N.S.W. ...	Loftus-st., Sydney ...	Charts of the Coast of N.S.W.

DEPARTMENT H.—MANUFACTURES.

GROUP 87.

Colemane and Sons...	Cootamundra...	Various Eucalyptus Extracts.
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GROUP 88.

Peithman & Co. ...	28 & 30, Hopewell-st., Paddington.	Blacking.
Williams, Edward ...	Bay-st., Botany, near Sydney.	Writing Ink.

GROUP 90.

Heiron and Smith ...	216, Castlereagh-st., Sydney.	Billiard Table and Fittings.
Commissioners for N.S.W....	Sydney ...	Suite of Dining Room Furniture.
Do do ...	do ...	Suite of Bedroom Furniture.
Do do ...	do ...	Suite of Library Furniture.
Do do ...	do ...	Hall Stands of Colonial Rosewood.
Do do ...	do ...	Doorway of Black Bean.

GROUP 91.

Committee on Women's Work	Sydney ...	Three Specimen Tiles, Imitation Roman Mosaic.
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GROUP 96.

Shakespear, Mrs. Elizabeth	Albion-st., Blayney ...	Picture Frame of Nuts and Seeds.
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GROUP 99.

Benjamin, Marcus ...	Care of Messrs. Hardy Bros., Hunter-st., Sydney.	Patent Watch Movement.
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GROUP 100.

Committee on Women's Work	Sydney ...	White Lace Shawl.
Do do	do ...	Doll, Dressed in Knitted Clothing.

GROUP 104.

Clark, Miss Mabel ...	School of Industry, Darlinghurst, Sydney.	Ladies' Underwear.
Committee on Women's Work	Sydney ...	Costume in New South Wales Tweed.
Ellis, Mrs. E. J. ...	Darlinghurst, Sydney	Child's Frock, smocked in old gold.
Head, Miss Georgina	School of Industry, Sydney.	Ladies' Underwear.
Maher, Mrs. ...	Collaroy, Merriwa ...	Child's Frock.
Orr, Mrs. F. M. ...	Edgecliff Road, Woollahra, Sydney.	Cashmere Tea Gown.
Scott, Miss Jeannie	Marrickville, Sydney	Three Garments—Underwear.
Windeyer, Lady ...	Roslyn Gardens, Sydney.	Ladies' Underwear
Committee on Women's Work	Sydney ...	Infants' Hoods—two silk, one cashmere.
Macdermott, Miss Ellen	William Town ...	Cabbage-tree Hat.
Keever, Mrs. ...	Jamberoo, Illawarra...	do
M'Innes, Mrs. ...	Ivy Lodge, Middle Arm	Opossum Fur, Gloves, and Socks.

GROUP 105.		
Name.	Address.	Description.
Grant, William ...	Rankin-st., Bathurst...	Collection of Tanned Fur Skins.
Sunderland, William ...	Cooma-st., Yass ...	do do
Lockhart, Miss ...	Sydney ...	Rug of Platypus Fur.
Wintle, Mrs. ...	do ...	Mats of Emu Skins.
Committee on Women's Work	do ...	Rug of Platypus Fur.
Do do	do ...	Rug of Dingo Skins.
Do do	do ...	Rug of Native Bear.
Windeyer, Lady ...	Roslyn Gardens, Sydney.	Rug of Grey Opossum.
Do ...	do ...	Fire Screen.
Committee on Women's Work	Sydney ...	Boa Cuffs of Red Opossum.
Do do	do ...	Collarette of Red Opossum.
Do do	do ...	Collarette and Muffs, Swansdown, Black.
Do do	do ...	Collarette and Muffs, Pelican.
Do do	do ...	Collarette and Muffs, Rock Wallaby.
Do do	do ...	Collar and Muffs, Native Cat.
Do do	do ...	Muff of Plucked Platypus Fur.
Do do	do ...	Collarette and Muffs, Swansdown.
Do do	do ...	Collarette, Mountain Wallaby.
Do do	do ...	Toque, Platypus Fur.
Do do	do ...	Muff, Emu Skin.
Do do	do ...	Muff, Swansdown, unplucked.
Do do	do ...	Swansdown Muff, plucked.
Do do	do ...	Muff, Platypus Fur.
Do do	do ...	Muff and Reticule, Platypus.

GROUP 106.		
Fischer, Mrs. W. Carl ...	Sydney ...	Honiton Lace Handkerchief.
Do ...	do ...	Lace Handkerchief, embroidered.
Freeman, Miss Annie ...	Montpelier, Randwick	Collection of Point Lace.
Guille, Mrs. Harriet ...	Goulburn (now of Maryborough, Q.)	Old Honiton Point Bib, and Cravat Ends.
Kendall, Mrs. T. M. ...	28, College-st., Sydney	Honiton Lace Handkerchief.
M'Carthy, Miss ...	Leinster Hall, Darling- ton, Sydney.	Scarf in Limerick Lace.
Punch, Mrs. Mary ...	Forbes-st., Sydney.....	Handkerchief of Modern Point Lace.
Scott, Mrs. Annie ...	Mandurama ...	Point Lace Collarette.
Vincent, Miss E. B. ...	Sand-hill, Neutral Bay	Point Lace.
Wisby, Mrs. Harriet ...	Union-st., Petersham...	Handkerchief in Brussels Lace.
Collins, Mrs. Jane ...	Milson's Point, Sydney	Crochet in Lace.
Daunt, Mrs. Margaret ...	Mount Vincent ...	Specimens of Knitting.
Gilmour, Miss Ruby ...	Stannmore Road, Stan- more.	Doll's Outfit.
Moorehouse, Mrs. ...	Darlinghurst, Sydney	Collar in Fine Tatting.
Twynam, Mrs. ...	Victoria-street, Dar- linghurst.	Hand Knitted Counterpane.
Watkins, Mrs. John ...	Llanthony, Gladesville	Specimens of Fine Netting.
Windeyer, Lady ...	Roslyn Gardens, Syd- ney.	Embroidery by a lady 75 years old.
Committee on Women's Work	Sydney ...	Flowers made of Fish Scales.
M'Myles, Mrs. W. C. ...	Bathurst ...	Flowers made from Feathers.
Palmer and Green, Mesdames	Sydney ...	Australian Native Flowers in Bullion.
Dobbin, Miss L. ...	Care of Allen and Allen, Phillip-st., Sydney.	Embroidered Book Cover.
Overman, Miss Fanny ...	Willoughby-st., North Sydney.	Embroidered Roumanian Chair Cover.
Rectress, The Rev. Mother...	St. Vincent's Hospital, Sydney.	Pair of Satin Curtains.
Steffanoni, Miss Sophie ...	31, Clarence-street, Sydney.	Australian Arms in Bullion.

GROUP 108.		
M'Carthy, Miss ...	Leinster Hall, Darling- ton, Sydney.	Fancy Bracket in Leather Work.

GROUP 110.		
Russell, J. E. M. (Mr.) ...	John-st., off Stannmore Road, Petersham.	Safety Bullion Bank.
Committee on Women's Work	Sydney ...	Doll, Dressed in Knitted Clothing.
Marsh, Miss Sybil ...	Care of Mrs. Belisario, Lyons Terrace, Hyde Park, Sydney.	Dressed Doll.

GROUP 111.

Name.	Address.	Description.
Grant, W.	Rankin-st., Bathurst...	Leather.
Ludowici & Sons	162, Clarence-street, Sydney.	Belting.
Do	do	Pump Leather.

GROUP 115.

M'Nab, Estate of Robert	47, Collins-street, Surry Hills, Sydney.	Sets of Bellows.
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GROUP 118.

M'Eachern, John L.	Dean-street, Albury ..	Sets of Horse-shoes.
Do	do	Draught, Coach, Hunting, and Racing Shoes.
Do	do	Set of Farrier's Tools.
Do	do	Horse Sling.
Pitman, William	Bayswater Road, Pad- dington, Sydney.	Specimens of Horse-shoes.

GROUP 119.

Gross, A.	263, George-st., Sydney	Universal Patent Nut Lock Bolt.
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GROUP 120.

Sinclair, W. T.	Parramatta Rd., Peter- sham, Sydney..	Sanitary Plumbing Work.
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DEPARTMENT K.—FINE ARTS.

GROUP 140.

Fullwood, A. H.	88, King-street, Sydney	"How sweet the Moonlight."
Do	do	"The Station Boundary."
Do	do	"Shoalhaven River."
Do	do	"Rain and Sunshine."
Rowan, Mrs. Ellis	Mt. Macedon, Victoria	Panel of Lilies.
Do	do	Panel, "Acanthus."
Lister, W. Lister	Paling's Buildings, Syd- ney.	"After the Shower."
Roberts, Tom	Riley Bros' Buildings, Sydney.	"Eileen."
Do	do	"Aboriginal Head."
Mosley, Mrs. E.	133, Macquarie-street, Sydney.	"He who runs may read."
Saxby, Miss L. A.	Norton-street, Leich- hardt, Sydney.	"Govett's Leap."
Williamson, Mrs. Weldon	Summer Hill, near Sydney.	Group of Australian Flowers for Panel.

DEPARTMENT L.—LIBERAL ARTS.

GROUP 147.

Kerry, Charles H.	308, George-st., Sydney	Panorama of Association Cricket Ground, and other Photos.
Holdsworth, Macpherson, & Co.	254, George-st., Sydney	Patent Rapid Filters.
Harding, Miss Fox... ..	Surry-street, Darling- hurst, Sydney.	Improved Invalid Mattress.

GROUP 148.

Carruthers, Mrs. Hethering- ton.	Sydney	Electrical Medical Appliances.
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GROUP 149.

Commissioners for N.S.W....	Sydney	Photos. of Public Schools.
Do	do	Report on School Buildings.
Department of Public In- struction.	do	Specimens of School Work.
Public School	Albury	do ... do
Do	Armidale	do ... do

Name.	Address.	Description.
Public School	Burwood	Specimens of Needlework, and other Exercises.
Do	Cook's Hill	Exercise Book, and other Specimens.
Do	Erina	Specimens of School Work.
Do	Forest Lodge	do do
Do	Gladstone Park	do do
Do	Goulburn	do do
Do	Gowrie	do do
Do	Gundaroo	do do
Do	Hamilton	do do
Do	Hillgrove	do do
Do	Kogarah	do do
Do	West Maitland	do do
Do	Fort-street, Sydney	do do
Do	Mudgee	Freehand Drawing, and other Specimens.
Do	Muswellbrook	Copybooks, and Specimens of School Work.
Do	Newcastle	Specimens of School Work.
Do	Newcastle, South	Postage Stamps and other Work.
Do	do East	Freehand Drawing and other Work.
Do	New Italy	Specimens of School Work.
Do	Paddington	do do
Do	Parramatta, South	do do
Do	Roughit, via Singleton	do do
Do	Summer Hill	Pupil Work.
Do	Thalaba, near Dungog	do
Do	Waverley	do
Do	Wickham	do
Slandon, James	Canterbury Public School.	Ornamental Writing.
Eagleton, August	Clarence Town Public School.	Sketch, Fruit; and Map, Ireland.
Ingram, H. A.	Eschol Public School, near Dubbo.	Map, S. America; Map, S. Australia.
Fullerton, B.	Fort-st. Public School	Album.
Olsen, V. P. H.	Quandong Public School, via Grenfell.	Pen and Ink Sketch, "Cardinal Wolsey."
Zeehlke, Herman	Wellington Public School.	Map, North America.
Terry, Miss Amy	Woollahra	Specimen of Handwriting.
Eyles, Miss Ethel	Ryde Public School	Picture, "Dog's Head."
Starling, Miss Edith	West Maitland Public School.	Writing, Mapping, &c.
Architecture Classes	Technical College, Sydney.	
Carpentry Class	do	
Technical College	Sydney	Sanitary Plumbing Exhibits.
Mechanical Drawing Classes	Technical College, Sydney.	
Manual Training Classes	do	Polished Bookstand.
Art Classes	do	
Masonry Class	do	Rampant and Pointed Arch.
Industrial Art Class	do	
Taylor, James W.	do	Castings, &c.
Ockleford, George	do	Specimens of Wood Carving.
Johnson, P. W.	do	Silver and Embossed Design on Glass.
Mueller, E., and others	do	Ornamental Design.
Hargreaves, Geo. H.	do	Panel Pilaster.
Technical College	Sydney	Calendar of various Classes.
Maiden, J. H.	Technological Museum, Sydney.	A Century of N.S.W. Economic Plants.
Department of Public Instruction.	In-Sydney	Substances used as Food by the Aborigines.
Do	do	Specimens of Industrial Work.
Do	do	90 Specimens.
Do	do	Collection of Gums, Resins, and Kinos.
Technological Museum	do	Collection of Tan Barks.
Maiden, J. H., and Hawkesworth, Alfred.	Technological Museum, Sydney.	Pamphlet—Wattles and Wattle Bark.
Do	do	Pamphlet—Raw Wools.
Do	do	Pamphlet—Wool Sorting, Classing, &c.
Do	do	Pamphlet—Illustrations of Types of Wool.

Name.	Address.	Description.
Liversidge, Archibald ...	University of Sydney	Two Models of Crystals.
Deaf, Dumb, and Blind Institution, Sydney.	Newtown Road, Sydney.	Six Specimens of Industries.
Wrench, J. T. ...	Wallaby Rocks, Sofala.	Painting, "Roses in Bloom."
University of Sydney (Senate of the).	Sydney ...	Series of Photos. of the University.
University of Sydney (Trustees of Macleay Museum).	do ...	Collection of Insects.

GROUP 150.

Chief Secretary of New South Wales.	Sydney ...	"Geographical Encyclopedia of New South Wales."
Commissioners for N.S.W....	do ...	"Flora of New South Wales."
Picturesque Atlas Co.	Wynyard Square, Sydney.	"Picturesque Atlas of Australia."
Turner & Henderson	16 and 18, Hunter-st., Sydney.	"The Federal Geography of British Australasia."
Government Printer	Bent and Phillip Sts., Sydney.	Historic Records.
Rankin, George	Care of Messrs. Turner and Henderson, 16 and 18, Hunter-st., Sydney.	"British-Australasian Geography."
Fraser, Dr. J.	Care of Dr. J. Benvie, West Maitland.	"An Australian Language."
Coombes, E., C.M.G., M.L.C.	Glanmire, near Bathurst.	Reports on School Buildings.
Campbell, W. S.	Department of Agriculture Sydney.	"Silk Culture and Agriculture."
Fairfax & Sons	Sydney ...	<i>Sydney Mail</i> Sketches.
Myers, Fr.	Athenæum Club, Sydney.	Coastal Survey.
Government Printer	Bent and Phillip Sts., Sydney.	Reports on Crown Lands.
Australian Museum	College-street, Sydney	Catalogue of Mammals.
Minister for Mines and Agriculture.	Phillip-street, Sydney	Report of the Department.
Government Printer	Bent and Phillip Sts., Sydney.	First Legislative Assembly.
Postmaster-General	Sydney ...	Annual Report of the Department.
Potter, C.	Government Printer, Sydney.	Report on Tanks and Wells.
Government Printer	Bent and Phillip Sts., Sydney.	"Geographical Encyclopedia."
Do	do do	Account Books.
Coghlan, T. A.	Government Statistician, Sydney.	"Wealth and Progress of New South Wales."
Secretary for Lands	Sydney ...	Annual Report of the Department.
Government Printer	Bent and Phillip Sts., Sydney.	Lord Howe Island.
Postmaster-General...	Sydney ...	Album of Postage Stamps.
Minister for Mines...	Phillip-street, Sydney	Report on the Bulli Disaster, 1887.
Secretary for Railways	Macquarie-st., Sydney	Souvenir of the Hawkesbury Bridge.
Postmaster-General	Sydney ...	History of the General Post Office.
Minister for Mines...	Phillip-street, Sydney	Report on the Conservation of Water, and Plans.
Colonial Secretary ...	Sydney ...	Report on the Conservation of Water.
Government Printer	Bent and Phillip Sts., Sydney.	Report of Royal Commission on Conservation of Water.
Coombes, E., C.M.G., M.L.C.	Glanmire, near Bathurst.	Report on Technical Education.
Coghlan, T. ...	Government Statistician, Sydney.	Statistical Register.
Secretary for Mines and Agriculture.	Sydney ...	"Forage Plants."
Commissioners for N.S.W. Railways.	Macquarie-st., Sydney	R. R. Guide for New South Wales.
Fisheries Commission	Colonial Secretary's Office, Sydney.	"Fish and Fisheries" of New South Wales.
Government Printer	Bent and Phillip Sts., Sydney.	History of the Government Printing Office.
Potter, Charles	Government Printer, Sydney.	"Commerce and Resources of New South Wales."

Name.	Address.	Description.
Government Printer	... Bent and Phillip Sts., Sydney.	Report on Government Asylums.
Do	... do do	... "Australian Orchids."
Do	... do do	... Blue Book for 1890.
Department of Agriculture...	Macquarie-st., Sydney	Publications.
Do	... do do	... Reports.
Fitzgerald, Miss M. A.	... 364, Bourke-st., Sydney	"Australian Furs and Feathers."
Daily Telegraph Newspaper Co.	King-street, Sydney	... Sketches, &c.
Fairfax & Sons	... Pitt and Hunter Sts., Sydney.	Vols. of <i>Sydney Morning Herald</i> .
Evening News and Town and Country Journal.	Market-street, Sydney	Picture of Office, &c.
Turner & Henderson	... 16 and 18, Hunter-st., Sydney.	Municipal Directory and Govern- ment Blue Book.
Sharp, Alfred	... Watt-street, Newcastle	Pictures of Christmas Tree of N.Z., Banks of the Camden River, the Vegetable Octopus of N.S.W.
Frost, Douglas James	... Grafton	... Map of Clarence River.
Higinbotham & Robinson	... 62, Elizabeth-street, Sydney.	Series of Maps and Statistical Dia- grams.
Secretary for Lands	... Sydney	... Series of Maps.

GROUP 151.

Commissioners for N.S.W.	... Sydney	... Series of Photographs (6 awards).
Do	... do	... Photographs of Country Town.
Do	... do	... Series of Photographs of Defence Forces.
Do	... do	... Photographs of Mountain Scenery.
Holden, R. Henry	... Kiama	... Specimens of Photography.
Newman, J. Hubert	... 316, George-st., Sydney	Portraits of Public Men.
Potter, Charles	... Bent and Phillip Sts., Sydney.	Photographic Enlargements.
Kitch & Co.	... Katoomba	... Photographs.
King, H.	... 316, George-st., Sydney	do
Government Printer	... Bent and Phillip Sts., Sydney.	do
Kerry & Co.	... 308, George-st., Sydney	do
Turner and Henderson	... 16 and 18, Hunter-st., Sydney.	Heraldic and Commercial Emboss- ing.
Do	... do do	... Specimens of Chromo-lithography.

GROUP 152.

M'Donald, J. A.	... Department of Public Works, Sydney.	Expansion Rollers for Bridges.
Hutchins, —	... Sydney	Patent Sash Reverser.
Grice, E. J.	... 71, Hunter-st., Sydney.	Design for Ceiling.

GROUP 153.

Commissioners for N.S.W.	... Sydney	... Public Statutes of N.S.W.
Lambton, S. H.	... Deputy Postmaster- General, Sydney.	Revolving Stand.
Do	... do do	... Map showing Postal Stations.
Commissioners for N.S.W.	... Sydney	... "The Prison System of N.S.W."

GROUP 154.

Commissioners for N.S.W.	... Sydney	... Four Pamphlets on N.S.W.
Do	... do	... Catalogue of N.S.W. Exhibits at the World's Fair.
Do	... do	... History and Progress of N.S.W.
Do	... do	... Pamphlet: "Coinage, &c., of Aus- tralia."
Hyman, Coleman P.	... 187, Castlereagh-street, Sydney	Loan Collection of Coins, &c.

GROUP 155.

Government Astronomer	... Sydney	... Series of Photographs of the Moon, &c.
Royal Geographical Society of Australia.	do	... Transactions of the Society.
Watson, A. E.	... Circular Quay, Sydney	Water colours of Australian Birds.
Hetley, Mrs. G. B.	... Sydney	... 15 Watercolours of Australian Flora.
Wright, Mrs.	... Toile, Bourke-street, Glen Innes.	Water colours of Australian Flora.
Rowan, Mrs. Ellis	... Mt. Macedon, Victoria	99 Watercolours of Australian Flora.

Name.	Address.	Description.
Australian Museum, Trustees of.	Sydney	Series of Catalogues.
Do	do	Series of Monographs.
Do	do	Memoirs.
Do	do	Miscellaneous Publications.
Commissioners for N.S.W.	do	Catalogue of Australian Mammals.
Do	do	Collection of N.S.W. Birds.
Do	do	Collection of N.S.W. Mammals.
Do	do	Series of N.S.W. Birds (Photos. of)
Do	do	Birds of Australia (Gould).
Maiden, J. H.	Technological Museum, Sydney.	Century of Fruits and Seeds.
Technological Museum	Sydney	Animal Products (other than wool).
Department of Public Instruction.	do	Fibres, Wools, &c.
Commissioners for N.S.W.	do	Collection of Plants, Fruits, &c.
Committee on Women's Work	do	Flowers painted on Opal.
Do	do	Australian Butterflies.
Seton, Miss Therese	Victoria-st., Sydney	Miniature Portraits on Ivory.
Paterson, Mrs. John	Rock End, Gladesville	Pictures of Australian Flowers.
M'Myles, Mrs. W. C.	Bathurst	Flowers from Feathers.
Harris, Mrs. Matthew	Warrane, Ultimo, Sydney.	Animals Modelled in Wax.
Cohen, Mrs. Victor	Billyard Avenue, Elizabeth Bay, Sydney	do
Committee 12 on Women's Work.	Sydney	Specimens of Modelling, Photos, Paintings, &c.
Summerbelle, Miss A. M.	Double Bay, Sydney	Musical Compositions.
Reese, Miss Ada M.	395, Darling-st., Balmain, Sydney.	Hand-painted Curtains.
Committee on Women's Work	Sydney	Collective Exhibit.

DEPARTMENT M.—ETHNOLOGY.

GROUP, 164.

Board for the Protection of Aborigines.	Phillip-street, Sydney.	Weapons of the Aborigines.
Bowman, H. W.	do	Collection of South Sea Island Weapons, &c.
Commissioners for N.S.W.	do	Wooden Idols—Male and Female.
Do	do	Collection of Weapons by Stockdale.
Do	do	Collection of Articles of Clothing.
Do	Sydney	Collection of Articles from South Sea Islands. (By Wolfe.)
Do	do	Sixty Spears, "Obsidian."
Do	do	Enlarged Photographs of Aborigines.
Do	do	Two Photographs of Aborigines.
Do	do	Series of Enlarged Photographs Illustrating Aborigines of New South Wales and South Sea Islands.
Do	do	Pamphlet: "The Aborigines of New South Wales."
Do	do	Pamphlet: "The South Pacific and New Guinea—Past and Present."
Do	do	"An Australian Language."
Hannay, James Blair	do	Weapons from Richmond River District.
Ilett, George	Milton	Two Drawings by "Mickey."
Jenkins, Lieut. R. L. H. B.	Victoria Barracks, Sydney.	Weapons and Implements of South Sea Islands.
Lichtner & Solomon	Wynyard Buildings, Wynyard Square, Sydney.	Idols, Implements, &c., of the New Hebrides and South Sea Islands.
Liversidge, Archibald, M.A., G.R.S.	University of Sydney.	Collection of Aboriginal Weapons.
Lumsdaine, Herbert S.	Bank of New South Wales, Casino.	Drawing by Aboriginal.
Mullen, W. H.	West Maitland	Collection of Ethnological Specimens from the South Sea Islands.
The late James E. Wolfe	Care of Mr. J. D. Prentice, West Maitland.	Weapons of Aborigines of New South Wales.

Name.	Address.	Description.
Committee on Ethnology ...	Sydney ...	Collection of Obsidian Spears.
Do ...	do ...	Wooden Idols—Male and Female.
Do ...	do ...	Clothing, Implements of War and the Chase, and Tools of South Sea Islands.
Board for the Protection of Aborigines.	Phillip-street, Sydney...	Writing and Needlework of Aboriginal Children.
Do do ...	do do ...	Weapons of Aborigines of N.S.W.
Do do ...	do do ...	Photographs of Aborigines of N.S.W.
Moore, Charles ...	Director of Botanic Gardens, Sydney.	Handbook of Flora of N.S.W.
Cohen, Mrs. Victor...	Billyard Avenue, Elizabeth Bay, Sydney.	Animals Modelled in Wax.
Harris, Mrs. Matthew	Warrane, Ultimo, near Sydney.	Cows and Calf Modelled in Wax.
Seton, Mrs. Therese	Victoria-street, Sydney	Miniature Portraits.
On Lee, Miss Olive...	Clergy Daughters' School, Waverley, Sydney.	Drawing from the Round.
Warner, Miss Nellie	do do ...	do do
Shaw, Miss Emmeline	Sydney ...	Fish Scale Flowers.
Stephen, Miss L. F.	Enmore, Sydney ...	Painting on Opal.
Rohu, Mrs. Jane ...	60, William-st., Sydney	Two Stuffed Specimens of the Apteryx.
M'Myles, Mrs. W. C.	Bathurst ...	Flowers from Feathers of the Lachlan.
Australian Museum	Sydney ...	Series of Publications.
Ramsay, Dr. E. P. ...	Australian Museum, Sydney.	Catalogue of Australian Birds.
Technological Museum	Sydney ...	Substances used as food by the Aborigines.
University of Sydney	do ...	Rare Beetles and Insects of Australia.
Macleay Museum ...	do ...	Rare Butterflies and Moths.
Mosley, Mrs. E. ...	133, Macquarie-street, Sydney.	"He who Runs may Read."
Hyman, Coleman P.	187, Castlereagh-street, Sydney.	Book, "Coinage, &c., of Australasia."
Do	do do ...	Collection of Early Tokens and Currency of Australia.
Hetley, Mrs. G. B. ...	Sydney ...	Watercolours of N.S.W. Flora.
Williamson, Mrs. Weldon	Care of Mr. H. W. Williamson, 53 York-street.	Group of Australian Flowers.
Wright, Mrs. ...	Toile, Bourke-street, Glen Innes.	Six Paintings of Flora of N.S.W.
Palmer and Green, Mesdames	Care of the Misses Lane, 188 King-street, Newtown.	Australian Flowers made in Bullion.
Stephen, Miss L. F.	Enmore, Sydney ...	Terra Cotta Plaque.
Weiss, Mrs. ...	Sydney ...	Branch of Plumbago.
Do ...	do ...	Pointsettia, Painting on Opal.
Halligan, Mrs. Gerald H.	Eugowra, Hunter's Hill	Original Design for Wall Papers.
Paterson, Mrs. John	Rockend, Gladesville, Sydney.	Four Pictures of Australian Flowers.
Saxby, Miss L. A. ...	Norton-st., Leichhardt, Sydney.	Painting, "Govett's Leap."
Royal Geographical Society of Australasia.	Sydney ...	Transactions of the Society (4 vols.)
Commissioners for N.S.W. ...	do ...	Nets, Baskets, &c., made by Aboriginal Women.

GROUP 171.

Commissioners for N.S.W. ... Sydney ... Settler's Bark Hut.

DEPARTMENT N.—FORESTRY.

GROUP 19.

Breckenridge, J. ...	Failford ...	Dressed and Undressed Hardwood Timbers.
Baker, Frederick Robert	Fernmount, Bellinger River.	Three exhibits of Timber.
Commissioners for N.S.W. ...	Sydney ...	Collection of Commercial Timbers.
Do do ...	do ...	Merchantable Length Timbers.
Do do ...	do ...	Polished Specimens of Timber.
Abbott, Lady ...	Teralla, North Sydney	Cabinet Collection of Wood.
Department of Forestry	Sydney ...	Herbarium Specimens of Forest Flora.
Do do ...	do ...	Seeds and Seed Vessels.

Name.	Address.	Description.
Technological Museum ...	Sydney ...	... Collection of Barks.
Department of Forestry ...	do ...	... Trophy of Wooden Blocks of Colonial Hardwood.
Commissioners for N.S.W....	do ...	... Polished Gunstocks, made from Native Woods.
Lewis, Mortimer William ...	East Maitland ...	... Specimens of N.S.W. Timbers.
Mazoudier & Co. ...	Clarinda-st., Parkes ...	... Specimens of Worked Timbers.
Commissioners for N.S.W. Railways.	Sydney ...	... Collection of R.R. Ties.
Department of Forestry ...	do ...	... Collection of Wattle Bark.
Commissioners for N.S.W....	do ...	... Collection of Manufactured Ornamental Articles.
Halliday, F. ...	Railway Tannery, Bathurst.	Wattle Bark for Tanning Purposes.
Raymond & Co. ...	77, Pitt-street, Sydney	Wattle Bark.
Department of Forestry ...	do ...	... Collection of Resinous Gums.
Do do ...	do ...	... Settler's Bark Hut.
Commissioners for N.S.W. ...	do ...	... Photographs of Forest Trees.
Minister for Agriculture ..	do Collection of Woods and Manufactured Articles.
Department of Forestry ...	do Collection of Medicinal Plants.

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1894.
(SECOND SESSION.)

NEW SOUTH WALES.

World's Columbian Exposition, Chicago, 1893

REPORT OF THE PRESIDENT

OF THE

NEW SOUTH WALES COMMISSION.

&c. &c. &c.

Presented to Parliament by Command.



SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

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REPORT

OF THE

PRESIDENT OF THE NEW SOUTH WALES COMMISSION,

World's Columbian Exposition, Chicago, 1893.

To His Excellency the Right Honorable SIR ROBERT WILLIAM DUFF,
a Member of Her Majesty's Most Honorable Privy Council,
Knight Grand Cross of the Most Distinguished Order of Saint
Michael and Saint George, Governor and Commander-in-Chief of
the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

The Commissioners appointed under the Great Seal of the Colony to devise and carry out the details necessary for the collection and transmission to the World's Columbian Exposition, Chicago, of all articles intended for display thereat, have the honor to submit to Your Excellency this, their report.

Appointment of Commission.

The first members of your Commission were gazetted on 29th September, 1891, and the names of the members of the Commission originally appointed, together with those of gentlemen who, from time to time, were added to the original number, will be found in Appendix A, along with the text of the Commission in accordance with which these gentlemen were gazetted, which Commission defines the duties with the carrying out of which they were entrusted under the Seal of the Colony.

First Meeting of Commission.—Appointment of Administrative Committee.

The first meeting of the Commission was held at the Colonial Secretary's Office on the 7th October, 1891, William McMillan, Esq., M.P., President, in the chair, there being in attendance no less than forty-four members out of a total of fifty-one appointed. An Administrative Committee was called into existence, on the motion of Sir Joseph Abbott, Vice-President, seconded by W. P. Manning, Esq. (now Sir W. Patrick Manning, M.P.), Mayor of Sydney, Vice-President, whose duties, as stated in the resolution, were to nominate the staff of the Commission, and generally to carry out all preliminary arrangements, and, from time to time, to report for approval to the Commission. A further resolution empowered the same Committee to consider the various applications for the position of Secretary, and select therefrom the names of four persons for submission to the Commission for its advice.

Appointment of Secretary.

The Administrative Committee held its first meeting on the 12th October, 1891, and resolved to recommend to the Commission the appointment of Mr. Alexander Cumming as Secretary. Recommendations were also made in connection with the positions of Clerk to the Secretary, and Messenger to the Commission. At a meeting of the Commissioners, held on the 16th October, the recommendations of the Administrative Committee were approved.

Preliminary arrangements.

At the second meeting of the Commission, held on the 20th October, 1891, preliminary arrangements were made for obtaining suitable office accommodation, and the Secretary was instructed to prepare drafts of an official programme and form of application for space or entry form. A number of matters of detail, having regard to the relations of the Commission with exhibitors, were decided upon at this meeting, to be embodied by the Secretary in the documents referred to, and a sub-committee was appointed to subdivide the very elaborate classification of the Chicago Exhibition authorities into departments to be placed under the control of various committees. A Finance Sub-committee of the Administrative Committee was also appointed, and the meeting of Commission instructed the Secretary to obtain information as to the cost of previous Commissions for Exhibitions at which New South Wales had been represented, in order to guide them in forming an estimate of the probable total expenditure in connection with the Chicago representation.

Executive Commissioner's Staff.

At a meeting of the Administrative Committee, held on the 26th October, 1891, the President drew attention to letters which he had received from the Colonial Secretary (the Honorable Sir Henry Parkes, G.C.M.G.), intimating the following appointments had been made on the staff of the Executive Commissioner:—Mr. Oscar Meyer, as Organising Secretary, and Mr. William Wilkins, as Literary Secretary; while he had also been officially informed that James Martin, Esquire, M.P., had been appointed as a Special Commissioner to report upon Manufactures. It seemed to him that this Commission had no responsibility in connection with the appointments made on the Executive Commissioner's staff, and that their notification should be regarded simply as an act of courtesy to this Commission. Dr. Renwick, Executive Commissioner, in the course of the discussion which ensued, said that his duties in that position were defined by a Special Commission under the Great Seal of the Colony, and the powers given to him therein were independent of the Commission itself, although he recognised the fact that an Executive Commissioner should act in perfect harmony with the Commission; and with respect to the two appointments on his staff which had been mentioned to-day, he might state that he had been consulted on the subject. The letters were read and received.

Classification.—Sub-Committees.

James Martin, Esq., M.P., brought up a report from sub-committee as to the arrangement of the original classification of the Chicago Exhibition authorities into divisions before issue, for organising the work of local committees, and this report was duly adopted. It was further agreed to recommend to the Commission the appointment of a number of ladies to act as a Sub-Committee of Department M, to deal specially with group 168, Woman's Work. A resolution was also passed, deciding that members of the Commission should elect to serve upon no more than three of its committees, the President and Vice-Presidents, however, to be *ex-officio* members of all committees.

Relations between Exhibitors and Executive Commissioner.

At a meeting of the Administrative Committee, held on the 2nd November, 1891, it was resolved, after discussion, that, subject in all cases to the approval of the Executive Commissioner, and under his control, an exhibitor of this Colony or his accredited agent may take charge of the arrangement and display of all his goods in the New South Wales Court at Chicago, and that any other special arrangement in connection with exhibits while at the Exhibition be subject to the approval and decision of the Executive Commissioner.

What

What the representation should be.—Relative duties of the Commission and Executive Commissioner.

At the next ensuing meeting of Commissioners, held on the 2nd November, Dr. Renwick, Executive Commissioner, addressed the members, chiefly on the subject of the important duties with which he had been entrusted by the Government of the Colony. Special reference was made by the Executive Commissioner to the principal sections in which it was desirable to have a very complete representation, and in order to ensure this result the Commissioners depended upon the efforts of the sub-committees in charge of the various Departments of Classification. Our mineral industry and our wool production would require to be prominently presented, and wherever practicable our raw produce should be displayed at Chicago in the form of bulky trophies. At this meeting an opinion was expressed that it would be well to have a clear definition of the respective duties of the local Commission and the Executive Commissioner, and copies of the latter's appointment under the seal of the Colony were submitted to the meeting. The President, speaking on this subject, said that the position was very clear, and that the Executive Commissioner, who was also a member of the local Commission, desired to work harmoniously with the general body of Commissioners. The moment the exhibits arrived at Chicago they were under the control of the Executive Commissioner.

Appointments under the Executive Commissioner, &c.

The President notified the receipt from the Principal Under Secretary of an official communication respecting the appointment of Sir Roderick W. Cameron as a Commissioner for New South Wales in America. Official letters of appointment of Mr. James Martin, M.P., Mr. Oscar Meyer, and Mr. W. Wilkins were submitted to the meeting; and an official communication was also submitted, notifying the appointment of Dr. Renwick as Executive Commissioner.

Probable cost of Representation.

The Honorable John Davies asked what would be the probable cost of the representation of the Colony? The President said he thought about £50,000, but that it was his intention to have an interview with the Premier without delay on the subject of an estimate of probable expenditure, the result of which he would report to the Commission.

Composition of Committees.

Dr. Renwick was appointed an *ex-officio* member of all committees, and it was decided to send out a circular to all the members of the Commission who had not yet replied, asking them to decide without delay as to the committees upon which they desired to serve.

Cost of Representation.

At a meeting of the Administrative Committee, held on the 10th November, 1891, drafts of official programme and form of application for space were submitted and approved. The President reported that he had had a preliminary conversation with the Honorable the Chief Secretary and Premier, Sir Henry Parkes, G.C.M.G., M.P., as to the estimate of expenditure for the proper representation of the Colony, and he stated that the Premier was inclined to leave this matter in the hands of the Commissioners themselves, they acting as economically as possible under their responsibility as Commissioners appointed for a specific purpose.

Resignation of Administrative and Finance Committees.

After discussion it was resolved that the President be requested to report to the Commission the resignation of the Administrative Committee for the conduct of preliminary business, and of the Finance Sub-committee, in terms which had been indicated in an address of the President made to the meeting at an earlier stage.

Combined representation of the Colonies.

Letters from the Premiers of South Australia and Tasmania to the Premier of New South Wales, having reference to the combined representation of the Australian Colonies at Chicago, were read to meeting of Commissioners held on the 10th November, 1891, and the opinion of the Commission was asked as to how this could be arranged. The President was of opinion that co-operation between the Colonies, while likely to be of little value in connection with the local work of collecting exhibits of each Colony, would prove a most excellent thing in America, where it was desirable that the Executive Commissioners representing the various Australian Colonies should work together for the general interest. As suggested by the new Premier, the Honorable George Dibbs (now Sir George Dibbs, K.C.M.G., M.P.), co-operation of this kind in Chicago would probably result in largely minimising the combined expenditure. The President was requested to communicate with the Chief Secretary in accordance with the views he had enunciated to the members.

Appointment of Committees.

Committees of Classification were then appointed, with power to add to their number. The resignation of the Administrative and Finance Committees was reported, and new Administrative and Finance Committees were elected in their place. It was agreed that the duties of members of the Administrative Committee should comprise all matters of finance, appointments, and general detail, to be reported upon to the Commission as a body. The names of the members composing the various Committees will be found in Appendix B.

Cancellation of appointments to staff of Executive Commissioner, and definition of powers of local Commission.

Letter dated the 12th November, 1891, from the Principal Under Secretary to the President of the Commission, was read to meeting of the Commission held on the 20th November, enclosing minute of the Premier, referring to the cancellation of the appointments of Mr. Meyer and Mr. Wilkins, which appointments had been made by the late Ministry, and to the necessity for a complete reorganisation of the working of the Commission. At present there was a dual management in the fact that there was a President and a Commission to deal with work which would entail the expenditure of large sums of money, and an Executive Commissioner also, with the power of employing a staff and incurring the expenditure also of large sums of money. The Premier therefore recommended that the dual form of management should cease. The Government would hold the President of the Commission as the responsible head of the whole business, and it must be understood that the Executive Commissioner, as such, is not independent of the President of the Commission and the Commission itself, except in regard to his duties at Chicago as defined in his commission. The President, in referring to the letter above cited, said that he believed that Dr. Renwick should have full control over and the nomination of those who would be attached to his staff in Chicago—men in whom he would feel the fullest possible reliance, and who should be appointed subject to the approval of the Commission here. The Executive Commissioner said that there was no doubt that this Commission should be consulted in all matters connected with the representation of the Colony. He was of opinion that the Government would yet find it necessary to have an Organising Secretary, who was a very important officer. His whole desire as Executive Commissioner was to work harmoniously with the Commission here, to secure the best possible representation of the Colony, and the matter of appointments was comparatively a small one.

Conjoint Australian Representation.—Wool Exhibits.—Minerals.

At this same meeting there was read a letter, dated 18th November, 1891, from the Principal Under Secretary to the President of the Commission, enclosing copy of a communication made by the Premier to the Prime Ministers of the other Australian Colonies, with reference to a conjoint representation at Chicago, with separate Courts for the various Colonies. There was read Report from the Wool Committee recommending that all classes of the product should be shown in bale and fleece; that the
wools

wools from each district or division of the Colony should be shown separately, as the characteristics of the wool product of the various divisions are essentially different, and the committee was of opinion that by this mode of arrangement woolbuyers would be better able to choose whatever samples may be best suited to their special requirements ; that greater care than usual should be taken in classifying the exhibits ; that commercial samples with prices attached should be part of the wool display ; and that it is not so necessary to take steps to secure exhibits of the present season's clip as it is to so arrange that there shall be a full representation of that of next year, which would be in ample time for despatch to the New South Wales Court. The committee finally requested the Executive Commissioner to write to the Exhibition authorities for full information with respect to wool exhibits—the form in which they are to be shown, and the detailed classification, if any, which has been adopted for wool. A report was also read from a preliminary meeting of the Mining Committee, which stated that the Executive Commissioner had undertaken to see the Minister for Mines as to the extent of the Departmental representation, and the committee expressed it as their opinion that it was extremely desirable that apart from Departmental exhibits an effort should be made to secure from the chief mining districts samples of various ores in bulk as private exhibits, portions of which might be submitted to experts from Germany, Great Britain, &c., with a view to obtaining from their after analyses suggestions as to their more efficient and economical treatment. Preliminary meetings of Committees VIII on Machinery and Implements, and IX on Manufactures also reported dealing with proposals which they had discussed with respect to obtaining definite information as to persons throughout the Colony most likely to contribute suitable exhibits.

Cost of Representation estimated at £30,000.

At a special meeting of the Administrative Committee, held on the 30th November, 1891, there was taken into consideration the question of the sum which will probably be required to meet the expenses of the representation of the Colony at Chicago, with a view to informing the Honorable the Chief Secretary, and the following resolution was agreed to:—"That the committee report to the Commission that they are of opinion that a reply may be sent to the Chief Secretary's letter of the 25th November, asking for an approximate estimate of the probable cost of the representation of the Colony at Chicago, in the following terms:—"That the Committee is impressed with the necessity for economy in connection with the Exposition, and is of opinion that an adequate representation should be secured for a sum not exceeding £30,000'" ; and at a special meeting of the Commission, held on the 4th December, the report of the Administrative Committee was brought up, and the resolution adopted by the Commissioners with the verbal alteration that the " Commission " instead of the " Committee is impressed, &c."

Woman's Work Committee.—Scope of Sectional Committees.—Wool Exhibits.

At the same meeting of the Commission, held on the 4th December, a committee of ladies was appointed to inquire into the question of exhibits of woman's industry, and to report to the Commission the result of their deliberations, and to also state if they could, what would be the probable cost thereof, the Executive officers of the Commission to advise with the committee. The names of the ladies referred to will be found in Appendix C, with the addition thereto of a report from Lady Windeyer, as President of Committee XII, giving a statement of the work done by that Committee, which reported soon after the meeting referred to that it was thought possible that a suitable representation in this section could be obtained for a sum not exceeding £500. It was resolved to call a meeting of the chairmen of departments to consider the scope of their several sections, and also the work that required to be done by canvassers, with a view to reporting to the Commission ; and it was agreed that a selection of the names of four persons to act as canvassers be left with the Administrative Committee. On the report of the Wool Committee it was agreed that the Woolbrokers' Association be requested to meet, and after discussion to select such brands as they may deem most suitable to represent different districts of the Colony, and that it is desirable, as far as practicable, for manufacturing purposes, to give the quantity of each class of wool available for sale. Committees III, on Viticulture, Wines, &c. ; IV, on Horticulture ; VI, on Fish and Fisheries ;

Fisheries; VII, on Mines, Mining, and Metallurgy; VIII, on Machinery and Implements; IX, on Manufactures; X, on Fine Arts; and XI, on Liberal Arts; also reported detailing the progress of work entered into by members of these committees, in order to secure suitable representation.

Appointment of Canvassers.—Forest Products and Cereals.—Wool.—Minerals.

At a meeting of the Administrative Committee, held on the 16th December, 1891, four canvassers were appointed—two for the city and suburbs, and two for the country—and these appointments were reported to the Commission at meeting held two days later. A report was received from Committee I on Agriculture and Forest Products, stating the steps that had been taken in order to secure a suitable representation of the Colony in forest products, and that a letter had been received from Mr. J. Ednie Brown, F.L.S., Director-General of Forests, promising the fullest possible assistance to the committee in this important matter. The committee had decided to have the cereal produce of the Colony well represented, especially in the matter of maize in cob for trophies. The Wool Committee reported that to the Woolbrokers' Association had been left the work of selecting the brands of wool from the various districts of the Colony which it was most desirable should be shown in competition at Chicago. Committee VII on Mining and Metallurgy reported recommending that with respect to refractory ores the exhibits should be in bulk, not only to impress visitors by their size, but also to leave sufficient for samples to be at the disposal of the Executive Commissioner for treatment by experts. It may be mentioned that about this period in the history of the work of the Commission, committees began to report to the general Commission, in accordance with its resolutions, the various classes in the official schedule of the Exhibition authorities to which they had decided to confine their efforts, there being a number of classes and groups which might practically be omitted from the classification of the several departments owing to the fact that no suitable exhibits of colonial production were likely to be forthcoming therein.

Regulations for Canvassers.—Timbers.—General expenses in connection with all departments of classification.—Opinion expressed by Chamber of Commerce.—Fisheries exhibits and pamphlets.—Project to cross from Sydney to San Francisco in small boat.—Photographic illustrations of public buildings.—Proposal to show aborigines at Chicago.

A series of regulations for the guidance of canvassers was adopted at a meeting of the Administrative Committee held on the 23rd December, 1891. A report was adopted from Committee I on Agriculture, in which that committee recommended that timbers in the shape of railway sleepers, wooden blocks, planks of cedar, tallow-wood, and other of our more valuable timbers should be shown, as also furniture made from colonial woods suitable for the purpose, but it was understood that as this matter was more properly in the hands of the Committee on Manufactures the Agricultural Committee would only seek to render all assistance in its power in this regard. The committee, at the instance of the President and the Executive Commissioner, entered into consideration of what would probably be the general expenses in connection with the various departments of classification, and prepared the following rough estimate to be submitted to the general Commission:—Agriculture and forestry, £2,000; wool, £500; viticulture, £500; horticulture, £100; live stock, (sum not stated); fish and fisheries, £500; mining and metallurgy, £2,000; machinery and implements, £250; manufactures, £1,000; liberal arts, &c., £2,000; fine arts, £500; woman's work, £500; total, £15,850. A general standing advertisement for insertion in the daily and weekly papers was adopted by the Administrative Committee at meeting held on the 30th January, 1892, and the first series of reports from canvassers in town and country was submitted for the information of the committee. A letter from Mr. H. C. Mitchell, Secretary of the Sydney Chamber of Commerce, was read to meeting of Commission held on the 15th January, 1892. It enclosed, by direction of the committee of the Chamber, the following resolution: "That it is the opinion of this Chamber that the exhibits

exhibits from this Colony should be confined to natural products, and such other materials as would be likely to produce practical results." After discussion the letter was remitted to the Administrative and Finance Committee for consideration and report. A report from the Administrative Committee, furnishing an estimate of the probable expenditure in connection with all departments of classification, was received and adopted. The Fish and Fisheries Committee (No. VI) reported as to the action they had taken in order to secure suitable exhibits illustrating the fish supply of the Colony, and also the arrangements they had made as to pamphlets illustrating the subject. Committee VIII on Machinery and Implements reported that they had taken into consideration a proposal of Messrs. Von Rantzow and Engelhardt to obtain the assistance of the Commission in the construction of a lifeboat in which they proposed to cross from Sydney to San Francisco, and that they had decided, that the matter was one that did not come within the scope of the Commission's operations. Committee X on Fine Arts reported that they had taken over from Committee XI on Liberal Arts, at its request, all photographic illustrations of public buildings, &c. Committee XI on Liberal Arts reported as to proposals of Mr. H. Stockdale for the display of fifty or sixty natives of the Northern Territory of South Australia at the Chicago Exhibition, and also for assistance in enabling him (Mr. Stockdale) to procure photographic or other reproductions of cave drawings by aborigines in the Northern Territory, and the Commission unanimously decided that Mr. Stockdale be informed that it declines his proposed representation of Australian aborigines in America.

Appointment of Special Canvasser for Ethnology.—Storage for Timbers.—Gun-stocks from Colonial timbers.—Ethnological Collections.

Meeting of the Administrative Committee, held on the 27th January, approved of the appointment of a special canvasser in the ethnological section, and of the compilation of a pamphlet on the manners, customs, religious belief, &c., of the Australian aborigines. Committee I on Agriculture reported, recommending that storage be obtained for the reception and inspection of timber exhibits, and that they had decided to obtain gun-stocks prepared from suitable timbers, while the Director-General of Forests had intimated to the committee that there were in course of preparation designs for suites of furniture to illustrate the suitable character of some of our principal woods for the purposes of the cabinetmaker. Committee XI on Liberal Arts related the steps they had taken to date to obtain suitable ethnological collections of Australian weapons, as well as similar collections from the South Sea Islands, and mention was made of the assistance which had been promised by the Trustees of the Australian Museum in the natural history section.

Departure of the President for England.

The President of the Commission reported to meeting of Administrative Committee, held on the 3rd February, 1892, that he proposed in about a week to leave for England. He had thought it right, before leaving, to report to the Administrative Committee his intention. He was not certain whether, in the circumstances of his absence from the Colony for a period of at least six months, he ought to retain the Presidency. The members of the Administrative Committee expressed a unanimous hope that the President would retain his position now that the preliminary arrangements were well settled, and it was agreed to recommend to the Commission that during the absence of the President the power of appointment and dismissal of canvassing agents and other officers be left to the Administrative Committee. The President also reported his intended departure to the Commission on the 5th February, and expressed it as his feeling that in view of his necessary absence from the Colony he ought to place his resignation in the hands of the Honorable the Colonial Secretary; but the Honorable R. Burdett-Smith moved the following resolution, which was unanimously agreed to: "That the President be desired to retain his position as head of this Commission, and that whatever leave of absence he may require will be willingly granted by the Commission," and in speaking to the resolution several members, including the

Executive

Executive Commissioner, joined in the hope that the President might benefit by the change he was about to take. The Administrative Committee was, by resolution, authorised to deal with appointments and dismissals in the absence of the President. The Executive Commissioner, in reply to a question on the subject, said that no definite decision had yet been arrived at by the other colonies as to joining in a united Australian representation. The meeting adjourned after passing the following resolution: "That, during the absence of the President, the Secretary confer with the Executive Commissioner on all matters of importance outside of meetings of the Administrative Committee and of Commission."

Failure of negotiations for combined Australasian representation.—

Typical plants of the Colony.—Suggested exhibit of Live Stock.—

Exhibits of Tinned Fish.—Arrangements with Mines Department for display of Mineral exhibits.—Photographs of Public and Commercial Buildings.

The Executive Commissioner reported to meeting of Commission, held on the 12th February, 1892, that the negotiations that had been entered into by the Honorable the Chief Secretary, at the suggestion of the Premiers of South Australia and Tasmania, for a combined Australasian Court, with himself as Executive Commissioner, had fallen through. In his report Dr. Renwick said he regretted that unfortunately thus had been lost an excellent opportunity of "presenting to the world a practical proof of the value and importance of the Federal idea as it is regarded in Australia, together with the opportunity afforded for obtaining a united representation of Australasia on an economical basis in connection with the united efforts of all the Colonies to display their resources as a whole." He might state that the Honorable the Chief Secretary had been good enough to give every assistance in connection with this important matter, but his suggestions and those of the two colonies named had not been adopted. Committee IV on Horticulture reported that in its opinion it might be possible with due care in the preliminary arrangements, which would include the developing of the plants in conservatories in some of the public gardens in Chicago some months before the opening of the Exhibition, to send a number of the gigantic ferns of the Colony for the decoration of the Court; and a further report of a subsequent meeting was submitted, suggesting that inquiries might be made in Chicago from the authorities there, whether, if the plants were forwarded, due care would be taken to protect them against excessive cold, and to see to their proper development. The Commission adopted report from the Live Stock Committee, recommending that if suitable exhibits were offered, principally of sheep, they might be sent to the Exhibition, together with typical live Australian animals, and this report further recommended that, subject to the approval of the Minister for Mines agreeing to his services being placed at the disposal of the Commission for supervision of this section, Mr. Alexander Bruce, Chief Inspector of Stock for New South Wales, be appointed to take charge of the exhibits. Committee VI on Fish and Fisheries reported that it had been decided to ask the Sydney Meat Preserving Company if they will be so good as to undertake to assist the Commission by preparing tinned fish to be shown in the New South Wales Court, and, in addition, to be used in connection with such luncheons as may be given by the Executive Commissioner. Committee VII on Mining and Metallurgy reported, and the report was adopted, that the Chairman had had an interview with the Honorable T. M. Slattery, Minister for Mines, as well as the Under Secretary of the Mines Department, with reference to the assistance which the Department would be in a position to afford to the Commission, when the following matters were agreed to, subject to the approval of the Commission, on the report of the Chairman:—1. All exhibits to be shown in the name of the Commission. 2. The Mines Department to lend the Commission its present collection of geological mineral specimens, and such to be exhibited as lent to the Commission by the Minister for Mines or Department of Mines. 3. An officer of the Mines Department to accompany the exhibits, display them, and to be responsible for their care. 4. The Commission to defray all costs in connection with the collection, despatch, and display of exhibits. 5. The officer allotted by the Minister for Mines to collect and prepare exhibits, to confer generally with the committee, and report progress

progress from time to time at approved intervals. 6. Bulk samples to be available for experimental treatment, and reports to be made upon them by experts in Chicago. Committee X on Fine Arts reported that they had taken steps to obtain, with the assistance of the Government Printer, a large number of well-selected photographic illustrations of the principal public and commercial buildings, with selections from leading churches.

The Question of a Federal Court.—Co-operation of Leading Wine-growers.—Publications on the Colony.—Busts of distinguished Colonists.

The Executive Commissioner, at meeting of the Commission held on the 26th February, 1892, drew attention to an article in the "Melbourne Age," which had asserted that the Colony had been opposed to a Federal Australian Court, whereas the contrary had been the case; and he had deemed it his duty to send a reply to that paper, and to communicate the nature of his reply to the Premier of this Colony, and of all the other Australian Colonies, with the exception of New Zealand and Western Australia. The report presented by Committee III on Viticulture, Wines, &c., showed that all the principal wine-growers throughout the Colony had promised to become exhibitors. A communication from the Under Secretary for Mines, reported upon by Committee VII on Mines, Mining, and Metallurgy stated that Mr. Carne, Curator and Secretary of the Mining Museum, would be detailed to visit the principal mines to collect suitable specimens, including bulk samples of refractory ores. The Commission adopted, on the report of Committee XI on Liberal Arts, a draft list of the publications upon the Colony, which it was proposed should be printed and published in Sydney, and issued from the New South Wales Courts. The same Committee furnished a list of distinguished Colonists in various spheres of usefulness, whose busts it was proposed should be prepared in plaster, and shown at Chicago, to illustrate a special group in the classification of the World's Fair purposely inserted to allow of their display; but after discussion the proposal of this Committee was declared to be lost.

Show-cases.—Shipment of Exhibits to Chicago.

It was announced to meeting of the Administrative Committee held on the 9th of March, 1892, by the Executive Commissioner, who was in the chair, that, in order to avoid expenses of freight, &c., he was obtaining from the Mines Department, Technological Museum, Australian Museum, Technical College, and other institutions, information as to the number of show-cases (Sage's counter-cases), which will be required for the display of case specimens they are about to forward; and he would take the necessary steps, if inquiries which he was about to make proved favourable, to have this work done in America, if the cases required could not be obtained on hire. A resolution was passed affirming the expediency of shipping to Chicago the bulk exhibits not later than September, in order to obtain moderate rates of freight.

Maize in Cob for Trophy.—Suites of Furniture.—Representation of Fishing Industry.—Co-operation of the Education Department.

The Agricultural Committee (No. 1) obtained the approval of Commission meeting held on the 11th of March, 1892, for the purchase of maize in cob for trophies in the New South Wales Court; and a sub-committee to supervise the matter of designs for and construction of suites of furniture, to be made from Colonial timbers, was appointed on the recommendation of Committee IX on Manufactures. The Fisheries Committee gave information as to their proposals for securing a suitable representation of the fishing industry. The Liberal Arts Committee (No. XI) announced the co-operation there was being obtained from the Department of Public Instruction, together with the Technical College and the Technological Museum, and Trustees of the Australian Museum.

Collection of Natural History Specimens.—Tender for Cartage.

The Administrative and Finance Committee, on 16th March, 1892, adopted a joint recommendation from Committee VI on Fish and Fisheries and Committee XI

on Liberal Arts for an expenditure of, say, £500, for a full collection of natural history specimens including fishes and also ethnology from the Australian Museum Trustees. The tender of Mr. J. McMahon & Co. for cartage was accepted as being the lowest of all the tenders submitted in answer to advertisement.

**Exhibit of Cereals.—Popular Pamphlet on the Fisheries of the Colony.—
Samples of Marble, and Photographs of Cave Scenery.**

At meeting of Commission held on the 20th March, 1892, Committee I on Agriculture reported that Mr. Anderson, Director of Agriculture, had reported to them as to the steps that would be taken to obtain a collection of maize in cob for trophies in the New South Wales Court, and also well-selected samples of other agricultural products. Committee VI on Fish and Fisheries reported the steps they had taken for the preparation of a popular pamphlet upon the fish and fisheries of New South Wales. The Mining Committee (No. VII) reported as to the action they had taken to secure samples of Colonial marble of suitable quality and photographic illustrations of the various limestone caves throughout the Colony.

**The late George Cass, Esq., M.P.—Appointment of United States
Consul to all Committees.—Typical Plants.—Photographs of
Aboriginal Natives.—Exhibit illustrative of work of Fisheries
Commission.—Technical Education.**

At meeting of the Commissioners, on the 8th April, 1892, the Executive Commissioner expressed the sympathy of the Commission with the widow of the late George Cass, Esquire, M.P., a member of the Commission. In order to facilitate his communication of important letters from the United States, to the various committees of the Commission, Alexander Cameron, Esquire, Acting United States Consul, was appointed *ex officio* a member of all committees. Committee IV on Horticulture made known the progress of the steps they had taken to secure a suitable representation of the typical plants of the Colony. The Liberal Arts Committee stated that they had taken action to secure the preparation by a photographer in Sydney of well-chosen enlarged photographs of the aboriginal natives of the Clarence and Richmond Rivers districts. The Commission approved of recommendation from the Fish and Fisheries Committee that a sum not exceeding £250 be at their disposal for a collective exhibit from the Fisheries Commission, to be completely illustrative of the work of that department; and approval was also given to a recommendation from Committee XI on Liberal Arts that a sum not exceeding £500 be placed to the credit of the Committee for the full representation of the technical educational system of the Colony, including the work of the principal classes of the Technical College, and also exhibits from the Technological Museum.

**Circular to probable Wool Exhibitors.—Suggested appointment of
Mr. Bruce to take charge of Wool Exhibits at Chicago.—Prepara-
tion of Preserved Fish.—Exhibit Illustrative of Ethnology of
South Sea Islands.—Acceptance of Tenders for Furniture.**

The Wool Committee (II) reported to the Commission of the 26th April, 1892, that they had arranged for the issue of a circular to embody the classification for exhibits. It was also resolved, as apart from competitive fleeces, to accept exhibits of bale wool, scoured, washed, and greasy, this wool not to be too hard pressed; and it was further stated that the committee had resolved to recommend to the Minister for Mines that Alexander Bruce, Esquire, Chief Inspector of Stock, be allowed leave of absence from his ordinary duties during the currency of the Exhibition, in order that his services may be at the disposal of the Executive Commissioner at Chicago in connection with the wool exhibits to be sent from the Colony, as well as live stock, should it be determined to send contributions in the latter department. The Fish and Fisheries Committee intimated that they had taken steps to have a large quantity of our best Colonial edible fish preserved in tins for despatch to Chicago. It was agreed to place a sum not exceeding £300 at the disposal of the Liberal Arts Committee, in order to

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ensure an efficient display of the ethnology of the South Sea Islands. Committee IX on Manufactures reported the acceptance of tenders for bed-room, dining-room, and library suites of furniture, to be constructed of Colonial timbers, in accordance with designs specially prepared, which were to illustrate Australian flora and vegetation.

Suspense Account for Purchase of Metals.

The Executive Commissioner, at meeting of the Commission held on the 6th May, 1892, reported as to the steps he had taken for obtaining sum of £4,500 as a Suspense Account for the purchase of silver in bar, and tin and copper in ingot, as under the circumstances it was thought that this sum should be obtained in this particular manner rather than made a charge against the funds placed at the disposal of the Commissioners for general purposes, because the minerals so purchased would be permanent actual value for the amount of purchase money, and that little or no loss, and probably gain, would be the result of sale after exhibition. It was subsequently decided, however, to purchase tin and copper in ingot only, and not to go to the expense of purchasing silver, so that the sum obtained from the Treasury for the purchase of metals was reduced to £826 2s.

Exhibits of Wines.

J. F. Burns, Esquire, the Chairman of the Wine Committee, reported to meeting of Commission held on the 20th May, 1892, that the principal wine-growers throughout the leading districts of the Colony in which viticulture was pursued, had decided to send samples of their wines for exhibition, and that steps had been taken to communicate with the very few of the leading vigneron who had not yet intimated their intention of contributing, and that the Committee were of opinion that it was desirable that, in addition to samples of wine in bottle, the growers of the best-known brands of Colonial wines should be invited to send selected vintages in wood, which could be disposed of on their behalf from the New South Wales Court, either during the currency of the Exhibition or after its close, so as to popularise, as far as possible, the best-known and most-prized of New South Wales wines.

Photographs and Collections of Fine Art Exhibits.

The Honorable R. Burdett Smith reported from the Fine Arts Committee that it had been arranged to take steps for the full illustration of the scenery of the Blue Mountains, and of city and country life. Arrangements have been made for a competitive collection of pictures from the Art Society of New South Wales, and for the loan of a collection of works by Australian artists from the Trustees of the National Art Gallery.

Storage.

The Administrative Committee, at meeting held on the 1st June, 1892, decided to rent stores at Nicholson-street, Woolloomooloo, for the reception and packing of mineral exhibits; and subsequently Messrs. Hudson Brothers granted storage free of expense to the Commission at the Government Meat Stores, Darling Harbour.

Proposed Exhibit of Sheep.

The Honorable G. H. Cox, Chairman of the Live Stock Committee, at Commission meeting held on the 3rd June, 1892, obtained the approval of the meeting to the advance of sum not exceeding £250 to be devoted to the purpose of defraying the expense of conveying exhibits of sheep to Chicago, the estimated number being about thirty. At an after stage in the proceedings of the Commission it was, however, found impracticable to carry the intention of the Live Stock Committee into effect, and the vote of the Commission was not drawn upon.

Question of a Combined Australasian Representation.

At the same meeting the Executive Commissioner gave a summary of the correspondence with the other colonies on the subject of a joint Australian representation which had extended from the month of August, 1891, to the present date. In referring to this correspondence Dr. Renwick said: At first, South
Australia

Australia proposed that a joint representation should be carried into effect for purposes of economy, and communications were addressed to the various colonies upon this subject, asking them whether they were willing to fall in with the idea. The Government of Tasmania, on his meeting their representative while in that colony, had agreed to the proposal. Queensland at first was favourable, but afterwards intimated that it was found impossible to carry out the idea, as it was not now proposed to have a representation, and this was the tenor of the reply which had now been received from the whole of the Colonies, that they did not see their way to be represented, and it would now seem that New South Wales would be the only Colony to send exhibits to Chicago.

Dr. Renwick's Departure.

In reply to a question, Dr. Renwick said he proposed to leave for Chicago on the 27th of that month, when he would visit the continent of Europe for a little relaxation, and afterwards proceed to London. He had a good deal of business to transact in England in connection with insurances, railway freights, and other matters of the utmost importance, that could not be so well dealt with in this Colony. W. S. Dowel, Esq., M.P., and J. F. Burns, Esq., referring to the approaching departure of the Executive Commissioner, bore testimony to the great attention which he had bestowed upon the work of the Commission to date, and were of opinion that the intended visit to England and America would be to the best advantage of our representation.

Conveyance of Exhibits to America.—Appointment of J. F. Burns, Esquire, as Vice-President.—Exhibits of Cereals.—Wooden Blocks for Paving Purposes.

The meeting of Administrative and Finance Committee, held on the 15th June, 1892, decided to advertise for tenders for the conveyance of exhibits by steamer from Sydney to New York or Newport News, in Virginia, but, as will be hereafter seen, it was subsequently agreed to send the goods by the Union Steamship Company to San Francisco, and thence by rail to Chicago; and at the following meeting of the general body of Commissioners, held on the 17th June, the Executive Commissioner stated that they would be glad to hear that Mr. Burns had been appointed Vice-President by the Government, to act as executive head of the business of the Commission during absence of the President and himself from the Colony, but he thought a resolution might be passed by the Commission placing the work in the hands of that gentleman, and accordingly a resolution to that effect was unanimously carried. Committee I on Agriculture reported that it had taken steps to obtain, with the assistance of H. C. L. Anderson, Esq., Director of Agriculture, from the principal farming centres of the Colony, samples of cereals other than maize, to include wheat, rye, barley, and oats, together with rice and fodder plants; and the same committee further reported that it had agreed to recommend to the Administrative Committee that an expenditure be made upon the formation, on an elevated platform in the New South Wales Court, of a section of roadway paved with wooden blocks, to show the use of our Colonial timbers for this purpose, and, in addition, to provide for a trophy of these blocks to be exhibited in the New South Wales Court in the Agricultural Building. Committee VIII on Machinery and Implements reported, through the Honorable John Davies, C.M.G., M.L.C., that it was desirable to have prepared models of prominent public works, to include the Sutherland Dock at Cockatoo Island and the Lithgow Valley Zig-Zag, and this report was accordingly adopted.

Negotiations for Space.—Departure of the Executive Commissioner.

The Executive Commissioner reported for the information of the Commission on this subject, commencing with the promise that had been made by Colonel Campbell, delegate from the Exhibition authorities, of not less than 300,000 superficial feet of space for Australian exhibits, and he had thought that the pledges entered into by that gentleman would be implicitly carried out. On the 3rd February he, however, received from the Honorable Walker Fearn, Chief of the Department of Foreign Affairs of the Exhibition, a letter asking that we should apply for space to the British Royal Commission from whom Mr. Fearn hoped we might obtain

a good allotment. In reply he told Mr. Fearn that, as a Royal Commission, we preferred to deal directly with the Exhibition authorities as to our own space requirements, and that Great Britain, having only at her own disposal about as much space as we ourselves would require, was not in a position to treat with us on the subject. The result was that we were informed that this Colony would have the most liberal treatment possible, but that it was thought by the Exhibition authorities, and by the Royal Commission in London, that some mistake must have been made in the figures set down as representing our requirements in the matter of space. By every mail since then, from the offices of the Commission, and through the Agent-General by medium of the Colonial Secretary, the demands of this Colony for space were submitted to the Executive in Chicago, who replied that our requirements would meet with every consideration. He had lately been in a position to advise Mr. Fearn that this Colony would be the only one in Australia to be officially represented, so that there should be no difficulty in complying with our request to have sufficient space placed at our disposal. It seemed possible, however, notwithstanding the promises of every consideration, that he would have to interview the Exhibition authorities before sufficient space in the various buildings would be allotted to New South Wales, for we had now given up the contention for the concentration of the whole of our products under one roof, and so large and so important would our exhibits be in the agricultural, forestry, mines, wool, and other departments, that we would not appear to such disadvantage as originally appeared likely to be the case should the contributions of this Colony be subdivided.

At the close of the meeting Dr. Renwick referred to his approaching departure from the Colony, and said that Mr. Robert Hudson who, as a Commissioner, had taken a leading part in the work of the various committees, had agreed to go to Chicago as Superintendent. A vote of thanks at the close of the proceedings was awarded to Dr. Renwick for his most valuable, untiring, and indefatigable exertions on behalf of the representation of the Colony.

A special meeting of the Commission was called for the 28th of June, 1892, the day of Dr. Renwick's departure from Sydney. In the remarks made at this meeting the Executive Commissioner said that he was sure that our representation at Chicago would bear very great fruit in the future welfare of this country, and that it would tend to make us much better known than we were at present. It was his intention when he reached Chicago to endeavour as far as possible to impress the American mind with a proper sense of the importance of the oldest of the Australian Colonies.

The appointment of J. F. Burns, Esq., as Vice-President, was officially notified to meeting of Commission held on the 8th July, 1892, and at this same meeting that gentleman, in answer to a question from A. W. Meeks, Esq., said that the work of selecting exhibits in each section of classification would be left to the committee in charge of that section. (At a subsequent period the duty of approving of exhibits after their receipt into store, with a view to rejecting such as might prove to be unfit, was left in the hands of the chairman of each committee.)

Return of President.—Fifty thousand feet of space accepted.— Anthropometrical data.—Exhibit of Chartography by Department of Lands.

Among the correspondence submitted to the Commission at meeting held on the 22nd July, 1892, was a letter dated Paris, 3rd June, 1892, from the President of the Commission to the Secretary, stating the time at which he would probably return to the Colony, and also a letter dated 13th July, 1892, from the Principal Under Secretary with reference to the acceptance of 50,000 feet of space in the main buildings of the Exhibition. The Liberal Arts Committee reported that steps were being taken to procure a series of anthropometrical data of physical measurements of the remaining aborigines of the Colony for incorporation with work now in course of publication upon the indigenous races of New South Wales, and that a communication had been received from the Department of Lands showing that it was the intention to exhibit from the Survey Branch a very comprehensive and well-finished display of chartography.

Shipment

Shipment of Typical Plants.

The Horticultural Committee reported to meeting of Commission held on the 12th August, 1892, that they had shipped by the "Monowai," which sailed on Monday, 8th August, the following selected plants, typical of the peculiar vegetation of Australia:—Twelve specimens of *Macrozamia spiralis*; four specimens of *Macrozamia Denisonii*; twelve specimens of *Asplenium nidus*, or "bird's nest" fern; eight specimens of *Platynerium alcicornis*, or small "elk's horn" fern; thirty-one specimens of *Dicksonia antarctica*; six specimens of *Alsophila Cooperii*; two specimens of *Alsophila Australia*; two specimens of *Todea barbara*; and specimens of the *Dendrobium speciosum*. These plants were sent in the care of Mr. Bowles, of the Botanic Gardens, who, after delivering the plants in San Francisco, and seeing them aboard the freight cars, was to return forthwith to Sydney.

Appointments to Staff of Executive Commissioner.—Exercise of economy.

The matter of appointments on the staff of the Executive Commissioner in Chicago came under the notice of this meeting of Commission, and a number of questions were put upon the subject, and J. F. Burns, Esq., Vice-President, from the chair, said that the only appointments that had so far been made were those of Dr. Renwick, Mr. Hudson as General Superintendent, Dr. Renwick's private secretary (Mr. E. J. Welch, F.G.S.), and a gentleman whom the Executive Commissioner had engaged in Melbourne—Mr. Thomas Pugh—to act as Assistant General Superintendent of the Court. It was certainly the case that Dr. Renwick had left a list of gentlemen whom he considered were well adapted to perform certain work in connection with the Courts apportioned to this Colony in Chicago, and whom he would like to have on his staff there, because he knew them and had confidence in their capacity, but this list would have to go before the Administrative Committee for its consideration. It was, however, premature to deal with this matter, as there was no occasion to send these gentlemen away until the exhibits were in readiness for transmission to their destination. Every effort, in accordance with the promise made by the Commission to the Honorable the Chief Secretary, had been made to keep down expenditure, and he assured the Commission that there had been no extravagance whatever in the working so far; in fact great economy had been practised throughout.

Tobacco in leaf.—Typical Bark hut.—Pictures of edible Fishes.—Return of expenditure.

Committee I on Agriculture reported to meeting of Commission held on the 26th August, 1892, that steps had been taken with a view to obtaining suitable exhibits of tobacco in leaf. The same Committee reported as to the construction of a bark hut to illustrate the dwellings of new settlers in the more sparsely-peopled districts of the Colony. Committee VI on Fish and Fisheries informed the Commission that the members had taken steps to have pictorial representations prepared of some of the principal edible fishes, and also specimens of the seals generally to be found on the coast of New South Wales, especially about Seal Rocks. The chairman submitted a return showing the amount expended in each department of classification, the liabilities incurred, and the probable cost of the Commission in New South Wales.

Adjustment of accounts.—Payment of Railway charges.—Reduced Passenger fares to Chicago.

The meeting of Administrative and Finance Committee, held on the 31st August, 1892, decided that they would only keep the accounts of the local Commission, adjusting with the Audit Department all advances made for its purposes in Sydney, leaving it to the Executive Commissioner to adjust all advances made to him for the purposes of the representation in Chicago. The Secretary reported to the meeting that the Chief Secretary had decided that the Commission should pay from month to month accounts preferred by the Commissioners for Railways for carriage of goods to Sydney by rail, and this course was approved. (The arrangements now made by the Commissioners for

Railways

Railways were that half ordinary freights should be paid on all exhibits by rail to Sydney, with free returns of all goods sent back to this Colony.) The Secretary was authorised to inquire from the various steamship companies in Sydney whether any steps were being taken to reduce ordinary rates for passengers to Chicago, as the Commissioners, although frequently asked for information on this matter, had no knowledge of any concessions having been made.

Exhibitors to be interviewed by Mr. Hudson.—Freights and space.— Appointment of Storekeeper.

At subsequent meeting of the same committee, held on the 14th September, 1892, Robert Hudson, Esq., designated as General Superintendent in Chicago, was requested to interview parties who had promised exhibits, and to press for their being forwarded without delay. W. A. Hutchinson, Esq., J.P., a member of the Commission, who had just returned from Chicago, attended the meeting, and gave information respecting freights between this Colony and Chicago. He had been able to arrange for space for New South Wales in the various buildings of the Exhibition, the allotment in each instance being in a similar position in each building, and contiguous to Great Britain and Canada. The committee took into consideration the list of applicants for the position of storekeeper and receiver of exhibits, but a definite appointment was deferred until the goods came in more freely. It was, however, decided that in the meantime, should it be found necessary, Mr. Von Rantzow might be appointed to receive and label goods. This temporary appointment was afterwards confirmed, and Mr. Von Rantzow became storekeeper to the Commission.

Estimates of Space and valuations for Insurance.—Departure of Mr. Hudson.

At the next ensuing meeting of the Administrative Committee, held on the 30th September, the Secretary submitted estimates of space, both for floor and wall, which it was calculated would be taken up by the exhibits in the various departments of classification, together with valuations for purposes of insurance, and also extracts, including, under their respective headings, the exhibits about to be forwarded, classified according to the official classification, No. 10, for freights on the United States railways, which came into operation on the 1st April, 1892. The meeting approved of Mr. Hudson's departure at the beginning of October for Chicago by way of San Francisco, and agreed that he should be accompanied by a member of the staff, who had been nominated by the Executive Commissioner for a clerical appointment in the office at Chicago.

Insurance of Exhibits at Chicago.—Question of Expenditure.

The same meeting decided that a cable message be sent to the Executive Commissioner, asking him to insure the exhibits for £25,000, from February of 1893 until the same month in the year ensuing. At the Commission meeting held on the same date the action of the Administrative Committee was approved, and after reports of Committees had been read and adopted, the Chairman (J. F. Burns, Esq.), took exception to a number of exaggerated statements, not confined solely to the public press but repeated by members of the Commission, as to the sum likely to be expended by the New South Wales Commissioners. The greatest economy was being exercised, and the Commission had not for a moment lost sight of their promise to the Government to keep, if possible, within the estimate of £30,000 for all purposes furnished to the Chief Secretary nearly twelve months before.

Reports of Committees.

At the last-named meeting of the Commission, as at all meetings held for months past, as well as those held for months after this date, nearly every committee of the Commission furnished reports for the information of the members, detailing work transacted in the interval between meetings of the general body of members, and at several of these meetings some of the principal Committees of Classification furnished as many as three reports, giving full details as to the progress of the work with which they had been entrusted.

Return

Return of the President.—Organising Work of J. F. Burns, Esq.,
Executive Vice-President, &c.—Selection of Exhibits.

The President of the Commission was present on his return from Europe at general meeting held on the 21st October, and expressed his pleasure at being back once more in Sydney, and he was gratified to know that during his absence Mr. Burns, Vice-President, and the other members, had carried out the work of organisation most successfully. The question arose as to the steps that had been taken, now that applications for space for exhibits and the goods themselves were coming forward, to see that proper care was being exercised in checking the quality of the proposed contributions, and it was announced that for months past the committees at their frequent meetings had exercised their power of selection of the fittest exhibits in a most careful manner, and besides, the goods in store would be inspected by the chairmen of committees before they were allowed to be finally labelled for transmission to Chicago.

Appointments to Dr. Renwick's Staff.

The Administrative Committee, at meeting held on the 20th October, 1892, decided to communicate forthwith with Dr. Renwick in Chicago, and bring under his notice the whole of the nominations for his local staff, with a view to his deciding as to a reduction in the list of names, in accordance with the lessened space at the disposal of the New South Wales representation, and at the next ensuing meeting of Commission, on the 2nd November, 1892, it was decided to inform Dr. Renwick of seven appointments only which the Commissioners in Sydney had deemed it desirable to approve, and these included the appointments of Mr. Robert Hudson, as General Superintendent, Mr. Thomas Pugh, as Assistant General Superintendent, Mr. Alexander Bruce, Chief Inspector of Stock, and Mr. J. E. Carne, F.G.S., Superintendent of Mining Section, the whole number of appointments so approved being seven.

Estimated Expenditure in Chicago.—Minerals Ready for Shipment.—
Appointments to Dr. Renwick's Staff.

At meeting of the Commission, held on the 11th November, 1892, there was adopted a report from the Administrative Committee, stating that it had been decided to write and ask the Executive Commissioner to so minimise his expenditure that the total outlay, within Sydney and Chicago, shall not, if possible, exceed the estimate for all purposes of £30,000, and to enclose at the same time a statement of the past and probable expenditure in Sydney, to show Dr. Renwick the margin that would be left for his own special purposes. The Mining Committee reported that the total number of packages of minerals then packed and labelled, weighed and measured, ready for shipment, was 1,650, weighing approximately 250 tons. The matter of the appointments on the staff of the Executive Commissioner again formed a subject of discussion, and the President repeated that the Commission and the Administrative Committee had selected from a list of nominations a limited number of gentlemen of special qualifications, and these appointments, which had been duly ratified, were deemed sufficient, it being left to the Executive Commissioner to add to his staff from persons whose services might be offered in Chicago. They were aware of the force of the argument that, at all events, principal members of the staff should be gentlemen in whom the Executive Commissioner should have every confidence, and they had, therefore, made appointments in accordance with this view, of residents of Sydney, known to the Executive Commissioner, and nominated by him, and possessing qualifications suitable for the supervision of the principal departments of classification; and the appointments (seven in number) already notified and approved at previous meeting of Commission, were duly confirmed. The President also gave for the information of the meeting a summary of the expenditure to date, pointing out the balance that would be left for the use of the Executive Commissioner.

Freight of Exhibits to Chicago.

A special meeting of the Administrative and Finance Committee was held on the 14th November, to take into consideration a letter received from Mr. Robert Hudson, in which he said that he had concluded a contract with Messrs. Spreckels Brothers, agents for the Union Steamship Company (Limited), for the through freight of exhibits
from ;

from Sydney to Chicago at 16 dollars per ton. Mr. Hudson, on leaving Sydney, had been requested to make inquiries at San Francisco, and also at Chicago, if necessary, which would enable the local Commission to come to a decision upon the matter of freights, but that gentleman, the President said, had never been authorised to take independent action, and to settle personally a matter of so much importance. A resolution was passed, stating that the Commission could not recognise the freight arrangements without further information, and asking the Executive Commissioner to cable at once respective rates for the New York and San Francisco routes. To this cable the Executive Commissioner replied, and as he deemed that the arrangement, though an unauthorised one, was satisfactory, the contract was confirmed, and the goods shipped in accordance therewith. The attention of the Administrative Committee at several meetings about this time, and up to the date of the meeting just referred to, was largely taken up with this same question of freights, and the consideration of the tenders for carriage of New South Wales' exhibits by steamer and sailing vessel, both by way of the Pacific and Atlantic coast.

Departure of Mr. Pugh.

At a meeting of the Administrative Committee, held on the 25th November, it was resolved to approve of the departure of Mr. Thomas Pugh, Assistant General Superintendent, with the first shipment of exhibits by the "Alameda," on Monday, the 28th November, 1892.

Photographs prepared by the Government Printer.

A report was presented from Committee X on Fine Arts to meeting of Commission held on the 25th November, stating that the photographs prepared by the Government Printer at the instance of the Commission, who chose the subjects, included panoramas and other views of Sydney and its harbour, views of public buildings, of the principal churches and colleges, of the Garden Palace, the principal banks and arcades, the Sydney Botanic Gardens, Sydney water supply, illustrations of the limestone cave scenery of the Colony, and of the principal points of interest on the Blue Mountains, also representations of the Volunteer and Permanent forces, Police forces, and principal public works, the aboriginal natives of the Colony, and of old Sydney, together with views of New Guinea, Samoa, Tonga, Fiji, and New Britain.

Proposed appointment of a Deputy Commissioner.

The Administrative and Finance Committee, on the 30th November, dealt with the necessary reduction of the staff at the end of the year, in view of the fact that by that time the majority of the exhibits would be shipped to their destination, and at the next ensuing meeting of the same committee a letter was read from the Under Secretary for Mines and Agriculture to the President of the Commission, stating that Mr. Carne, F.G.S., would be the officer to receive a commission to take charge of the New South Wales court in the event of the absence of the Executive Commissioner from Chicago, this course having been recommended by the Commission, and steps were taken at the same meeting to arrange for the departure by the "Mariposa," of Mr. Carne as Superintendent of the Mineral court, and of Mr. Thomas Ford as Assistant Superintendent of the same Court.

The Commissioners at meeting, held on the 16th December, 1892, adopted a report from the Administrative Committee, approving of the appointments of Mr. Carne and Mr. Thomas Ford, and of the former gentleman, subject to the approval of the Government, to act as Deputy Commissioner should the Executive Commissioner require to leave Chicago at any time.

Selected Wines for Luncheons.

The Wine Committee reported that they had agreed, subject to the approval of the Commission, to obtain selected wines from New South Wales vigneron of a value not exceeding £60, to be forwarded to Dr. Renwick for use in connection with luncheons in the New South Wales court. These were not intended as exhibits, but to be supplementary to the competitive samples forwarded by exhibitors.

Authority to Deputy Commissioner.

At the Administrative and Finance Committee meeting on the 4th January, 1893, there was read a letter from the Principal Under Secretary to the President, stating that dormant authority, empowering Mr. Carne to act on behalf of the Executive Commissioner in the event of his absence from Chicago, given by the President of the Commission, would be sufficient for all purposes, and it was reported by the Secretary that the President had given such letter of authority to Mr. Carne. The Executive Commissioner having been advised of the action that had been taken in Sydney in the matter, replied from Chicago, that he did not anticipate that it would be necessary that this authority should be exercised, as it was his (Dr. Renwick's) intention to give his own personal supervision to all matters connected with the representation of the Colony in Chicago; and in all sections Dr. Renwick's intention was fully carried out, and he did not leave Chicago until several weeks after the close of the World's Fair.

Shipment of Exhibits.

The Chairman of the Finance Sub-committee reported that the "Mariposa," which left Sydney on the 26th December, 1892, carried 452½ tons of exhibits, valued at £15,362, this being the second bulk shipment of exhibits, and, further, he estimated that 250 tons additional would be shipped by the "Monowai" at the end of January, making a total in all of about 1,000 tons. The following details as to shipments to date were furnished by the Chairman of the Finance Sub-committee to the Commission at their meeting held on the 3rd February, 1893. "On the 23rd of January there were shipped per the 'Monowai' 321 packages, measuring 104½ tons, with a valuation of £4,073 8s. 2d., the previous shipments having been per 'Monowai' on the 8th August, 1892, 78 packages of plants measuring 63 tons, with a valuation of £300; per 'Alameda' on the 28th November, 1892, 1,053 packages, measuring 245 tons, with a valuation of £6,901; per 'Mariposa,' on the 26th December, 1892, 2,364 packages measuring 452½ tons, with a valuation of £15,361 5s., giving total of packages shipped to date 3,816, with a measurement of 865 tons, and a valuation of £26,635 13s. 2d." A tabulated statement of all shipments of exhibits from Sydney to Chicago, *via* San Francisco, will be found at Appendix D; while in Appendix E are furnished detailed particulars of all exhibits comprised in the shipments made from Sydney from time to time during 1892 and 1893.

Secretary's Staff.—Display of wool.—Nominations for appointments in the New South Wales Court.

On the 3rd February, 1893, the Administrative Committee reported to the Commission that great reductions in the strength of the Secretary's staff had been effected, and it would be still further lessened after the publication of the catalogue so as to consist only of the Secretary, clerical assistant, and messenger. To the same meeting there were submitted reports from Committee II on Wool, detailing the efforts which were being made by the Sydney Wool-Selling Brokers' Association to provide a suitable representation of our staple product; but the number of bales furnished for display fell short of the total number promised by the Association, *viz.*, 400, but it fortunately happened that the bales forwarded were of exceptionally good quality, and sufficiently numerous to form an imposing display. The Secretary, by instruction of previous meeting of Commissioners, placed on the table a list of the nominations for offices in the New South Wales Court in Chicago, which had been made by the Executive Commissioner, these nominations being of persons whom he desired should receive appointments, and the list so tabled specified the seven gentlemen whose nominations had been approved of by the local Commission.

Shipments of fresh Fruits.—Exhibits shipped to Chicago.

The Administrative Committee on the 22nd February, 1893, placed at the disposal of Committee IV on Horticulture a sum of £100 to enable that committee to forward to the New South Wales court in Chicago periodical supplies of fresh fruits in season, it being left to the judgment of the committee whether to send such fruits by way of San Francisco or by way of London. The greater part of the fruits was ultimately shipped as ordinary cargo by the Californian mail steamers. The Secretary at this meeting reported that the total number of packages shipped to date had been 3,886,
measuring

measuring 877½ tons, and valued at £29,529 8s. 2d. It was proposed to ship by the "Ophir" to London *en route* to America, gold specimens and precious stones, &c., to the value of about £7,000, which would bring the total estimates of shipments for insurance purposes up to between £36,000 and £37,000.

Expenditure.

There was submitted to meeting of Administrative Committee, held on the 1st March, 1893, the following documents prepared for the information of the Commission:—
1. Statement of accounts paid to date. 2. Estimated probable expenditure in Sydney until the close of the work of the Commission. 3. Statement showing the sums that had been paid in Sydney on account of the Executive Commissioner. The Secretary submitted for purposes of comparison previous estimates of local expenditure, and the President of the Commission, for purposes of comparison, submitted to the meeting a statement which he had made regarding expenditure on the 11th of November of the previous year (1892). The meeting arranged on behalf of the Executive Commissioner for the passage by the "Mariposa" of Mr. Alexander Bruce, J.P., Chief Inspector of Stock, who would take charge under Dr. Renwick of the wool section of the New South Wales representation.

Catalogues of New South Wales Exhibits.

At the next ensuing meeting of the same Committee, held on the 29th March, 1893, the Secretary reported that the Liberal Arts Committee had agreed to limit the circulation of the catalogue of exhibits as follows:—5,000 copies of each of the four principal sections—Agriculture, Minerals, Liberal Arts, and Forestry; and to divide a total further issue of 20,000 copies among all the other sections of classification, nearly a dozen in number. The Secretary pointed out that the Liberal Arts Committee had approved of a suggestion which he had made, that in order to avoid expense the catalogue should be published in sections, so as to provide for an issue for each building assigned for Departments of Classification.

Preparation of Special Literature upon important Colonial subjects.

A most important feature of the work done by the Liberal Arts Committee chiefly, but aided by other Committees of the Commission, was the preparation by specialists of pamphlets upon some leading subjects connected with the resources of New South Wales and their development. These works were eagerly sought for at the World's Fair, and no participating country was so well represented by a literature specially prepared. The following tabulated list gives full particulars as to the various publications prepared and issued under the auspices of the New South Wales Commissioners:—

Subject.	Author.	Pages.
Agriculture in New South Wales ...	W. Wilkins, formerly Under Secretary of Public Instruction.	50
Sheep and Wool in New South Wales (with diagrams).	T. A. Coghlan, A.M. Inst. C.E., Government Statistician.	24
History of the Fisheries of New South Wales (with maps and illustrations). Compiled from official and other authentic sources.	Lindsay G. Thompson, Chief Inspector of New South Wales Fisheries.	128
Edible Fishes and Crustaceans of New South Wales (with illustrations).	J. Douglas Ogilby	214
The Marine Fish and Fisheries of New South Wales, past and present, in their commercial aspect. (One map).	Philip Cohen	30
Physical Geography and Climate of New South Wales (with map and diagrams).	H. C. Russell, B.A., C.M.G., F.R.S., F.R.M.S., Government Astronomer of New South Wales.	36
Sketch of Progress and Resources of New South Wales (with coloured diagrams).	Greville Tregarthen, Chief Clerk, Government Statistician's Department.	48
Rise, Progress, and Present Position of Trade and Commerce in New South Wales.	Edward Pulsford	52
Australia and America in 1892. A contrast.	A. Edward Dowling, Hon. Sec. of the Australian Natives Association, and Secretary to the late Board of Technical Education.	VIII and 172 Coins,

Subject.	Author.	Pages.
Coins, Coinages, and Currency of Australasia (with illustrations).	Coleman P. Hyman	160
Catalogue of Coins, Coinages, and Currency of Australasia (with specimens of medals).	Exhibited by Coleman P. Hyman.	18
Social, Industrial, Political, and Co-operative Associations, &c., in New South Wales.	E. W. O'Sullivan, M.P.	IV and 24
Drama and Music in New South Wales	F. C. Brewer	96
Prison System of New South Wales	George Miller, Comptroller-General of Prisons.	6
Aborigines of New South Wales (with illustrations).	John Fraser, B.A., LL.D.	102
Notes on the Aborigines of New South Wales.	Hon. Richard Hill, M.L.C., and Hon. Geo. Thornton, M.L.C.	8
South Pacific and New Guinea: Past and Present.	Rev. William Wyatt Gill, B.A. (Lon.), LL.D. (St. Andrew's).	38
Australian Timbers (with map showing distribution of timbers and numerous diagrams of tests).	W. H. Warren, Wh. Sc., M. Inst. C.E., M.A.M. Soc. C.E., Challis Professor of Civil and Mechanical Engineering, University of Sydney.	68

Success of the New South Wales representation.—New South Wales exhibits first to reach Chicago, and first to be arranged.—Further shipments.—Wool.

At meeting of the Administrative Committee, held on the 3rd May, 1893, there was read a cablegram to the President of the Commission from the Executive Commissioner in Chicago. This cablegram was dated the 2nd May, 1893, and was as follows:—"At opening to-day our country all ready. Press allow in natural products and liberal arts we equal any nation. Congratulate Commission." It was decided to send a reply to the Executive Commissioner, complimenting him on the success of the Colony's representation. The letters subsequently received from the Executive Commissioners showed that, owing to the energetic efforts of the local Commission, the New South Wales contributions to the World's Fair were the first to reach Chicago, and by the diligence of the Executive Commissioner and his officers, were the first completely arranged for display in the leading sections of classification. The Secretary reported that since last statement of shipments packages had been forwarded by the "Ophir" on the 25th February, the "Oroya" on the 25th March, the "Orient" on the 8th April, and the "Monowai" on the 17th April, bringing up the total of packages shipped to 3,947, representing a tonnage of 882½, and a valuation of £36,509 12s. 4d. These shipments had consisted of fresh fruits, duplicate wines, wines for the use of the Executive Commissioner, and printed matter.

The Wool Committee reported to meeting of Commission, held on the 12th May, 1893, that at meeting on the 16th March the views of the committee on the subject of the representation of the wool section at Chicago were explained to Mr. Bruce on the eve of his departure for America. These views were, that our wool should be shown in Chicago in the manner best calculated to set forth the capacity of the Colony for wool production. With respect to a modification of the tariff it was not anticipated that the whole of the duties would be abolished, but it was deemed likely that there would be some considerable modification of existing duties. The committee considered that such modification would be all the better if it were to take the form of *ad valorem* duties upon the various descriptions of wool, as this would be the means of admitting all grades of our product into the American market. This plan was regarded as preferable to specific duties, and likely to prove of very great assistance to our woolgrowers.

Exhibits from Australian Museum.

The Liberal Arts Committee reported that supplementary exhibits from the trustees of the Australian Museum would shortly be shipped, consisting of casts of the bones of the following extinct mammalia of the continent of Australia:—*Diprotodon*, or gigantic native bear, partaking of some of the characteristics of the American sloths, and the skull of the *Thylacoleo*, or marsupial lion.

Congratulations

Congratulations to Executive Commissioner.

The following resolution was passed, on the motion of The Honorable John Davies, C.M.G., M.L.C., seconded by F. E. Winchcombe, Esq.:—"That a letter be forwarded to Dr. Renwick by the outgoing American mail, stating that the Commission are highly gratified with the reports received with respect to the New South Wales Courts, and trust that everything will be equally satisfactory up to the close of the work."

Further shipment.

It was reported by R. D. Adams, Esq., that by the "Alameda," which sailed on the 15th May, there were shipped eighty-four packages for the New South Wales Court, chiefly consisting of fresh fruits, and publications, the total value being £990 19s. 6d.

Disposal of Exhibits purchased by Commission.

The Administrative Committee, on the 5th July, 1893, took into consideration the manner of disposal of exhibits purchased out of Commission funds, and dealt with a complete list of all such exhibits, noting in each instance for the instruction of the Executive Commissioner how each exhibit is to be dealt with. Instructions were given for the sale of some exhibits; others, in accordance with the direction of the Chief Secretary, were noted to be handed over to the Imperial Institute, while a small number were to be returned to the Colony. In a number of instances the disposal was left to the discretion of the Executive Commissioner.

Death in Chicago of a Member of Commission.—Sale of private Exhibits in Chicago.

A letter from Dr. Renwick, dated the 14th July, 1893, was read to meeting of Administrative Committee held on the 16th August, 1893, intimating the death in Chicago of Dr. Carl Fischer, one of the members of the Commission. At the same meeting there was taken into consideration a request from the Executive Commissioner that exhibitors be asked to leave the sale prices of their goods to his discretion, as in many instances the prices affixed were so large that, with customs duties under the McKinley tariff added, a sale would be almost a matter of impossibility. In accordance with this view of Dr. Renwick, a circular was issued to exhibitors, and it was resolved that all replies of exhibitors to such circular should be tabulated and forwarded to Dr. Renwick at the earliest possible moment for his guidance. At the next ensuing meeting, on the 30th August, the Secretary reported that most of the replies of exhibitors had come to hand, and that the greater majority had expressed their willingness to leave the selling prices of their goods absolutely to the discretion of the Executive Commissioner.

Meetings of Administrative and Finance Committee.

The next ensuing monthly meetings of the Administrative Committee dealt with accounts, which were small in number and amount, and included the monthly salaries of the now greatly reduced head-office staff. At these meetings there were submitted for the information of the members the progress reports received by mail from Dr. Renwick, the gist of which reports had been supplied to the Press for the information of the members of Commission and of the public generally.

Exhibits donated to Imperial Institute.

It was decided at meeting of the Administrative Committee, held on the 12th January, 1894, that credit should be taken by the New South Wales Commission in their statement of accounts for the exhibits which have been purchased out of Commission funds and forwarded at the close of the Exhibition to the Imperial Institute by direction of the Chief Secretary.

Arrangements

Arrangements for dealing with returned Exhibits.

At a meeting of the Administrative Committee, held on the 2nd February, 1894, the late storekeeper to the Commission was reappointed, and further arrangements were made for the reception of the exhibits on their arrival in Sydney, and their distribution to their owners.

Return of Exhibits purchased out of Commission Funds.

At meeting of the Administrative Committee, held on the 2nd March, the Secretary reported that the returned exhibits had been expected by the s.s. "Mariposa" during the month of February, because the manifest for these goods bore the "Mariposa's" name. This steamer, however, arrived without them, and a cablegram was sent to Messrs. Spreckels Brothers, San Francisco, asking whether they might be expected by the "Monowai," due early in March, and a reply in the affirmative was received. The Secretary reported that, according to the manifest received so much in advance, it appeared that, owing to the restrictions in the way of sale offered by the excessive duties which would be levied by the United States Customs under the M'Kinlay Tariff, many exhibits purchased out of Commission funds were being returned to the Colony, including, for instance, the suites of furniture made to the order of the Commissioners by Messrs. Bartholomew & Co. and Messrs. Verdich & Co., and comprising library, dining-room, and bedroom suites, constructed of selected colonial timbers from specially prepared designs.

Expenditure till close of the work of the local Commission.

At this same meeting (the 2nd March) it was decided to ask for a further advance from the Treasury of £1,000, which it was estimated would be sufficient to meet all claims until the final closing of the work and offices of the Commission.

Return of the Executive Commissioner to New South Wales.

A meeting of the New South Wales Commission was held on the 9th March, 1894, when, after a number of reports had been read from the Administrative Committee, a conversation ensued among the members, during which the President spoke in the highest terms of the manner in which the Executive Commissioner had carried out the duties of his responsible position in connection with the representation of the Colony at Chicago. An opinion was expressed that steps might be taken to recognise these services, but that while the Commissioners could not, in such capacity, take any action in this direction, they would assist in their private capacity in every possible way to ensure the success of a public recognition.

Address by Dr. Renwick on the subject of the Representation at Chicago.

A well attended meeting of the New South Wales Commission was held on the 6th April, 1894, at the Colonial Secretary's office, the President in the chair, to hear from the Executive Commissioner a verbal report on the display made by the Colony at the Chicago World's Fair, and at the close a unanimous vote of thanks was presented to the Executive Commissioner, on the motion of W. S. Dowel, Esq., M.P., seconded by the Hon. P. G. King, M.L.C.

Resolution of Congress, recognising the participation of Foreign Countries.

There was read to meeting of the Administrative Committee, held on the 4th May, 1894, letter dated 9th April, 1894, from the Principal Under Secretary to the President of the New South Wales Commission, transmitting for his information copy of correspondence that had been received from the Secretary of State for the Colonies by His Excellency the Governor, relative to a joint resolution of the Senate and the House of Representatives, expressing the sense of the Government and people of the United States of the co-operation of the various foreign countries in the Exhibition lately held in Chicago.

Disposal

Disposal of Returned Furniture and Woman's Work Exhibits.

The Secretary, at meeting of the Administrative Committee, held on the 18th May, was instructed to communicate with the Government, asking whether it would take over, for use at Government House, the suites of furniture constructed from Colonial timbers to the order and at the expense of the Commissioners. The furniture was afterwards inspected at the stores of the Commission and taken over by the Chief Secretary for use at Government House.

Woman's Work.

The Secretary was instructed to have the returned exhibits of Woman's Work, purchased at the cost of the Commission, sold by public auction, and this was done, and the proceeds paid into the Treasury.

The Work of Commission and Committees.

The following figures will tell their own story of the extent of the work done by the New South Wales Commission and its committees; during the more busy period of organisation arrangements, no less than 426 meetings having been held, the greater number of which took place between the end of 1891 and the close of the next ensuing twelve months. The following table gives the particulars of the whole of the meetings held, until the close of the local work in Sydney :—

	Meetings.
New South Wales Commission	39
Administrative and Finance Committee	67
Finance Sub-Committee of Administrative Committee	34
Committee I on Agriculture	29
Committee II on Wool and Silk, &c.	22
Committee III on Viticulture, Wines, &c.	7
Committee IV on Horticulture	15
Committee V on Live Stock	14
Committee VI on Fish and Fisheries	28
Committee VII on Mines, &c.	27
Committee VIII on Machinery, Implements, &c.	10
Committee IX on Manufactures	42
Sub-Committee of Committee IX on Manufactures—Furniture	6
Committee X on Fine Arts... ..	31
Committee XI on Liberal Arts	48
Special Sub-Committee, Office accommodation	4
Special Sub-Committee for Classification	3
Total number of meetings	426

In several instances three and even four meetings were held in a single day. The correspondence incidental to the operations of the Commission as a whole, and of the various Committees in particular, was necessarily a heavy one, about 10,000 typewritten letters, many of them extending over eight foolscap pages closely written, besides appendices, were dictated, while circulars to exhibitors in the various departments of classification and for the convening of meetings were issued to the number of nearly 17,000. The President understands from the Secretary that for many months the extent of the work of the Commission demanded that he and his staff should work long after the ordinary office-hours, and until after 10 p.m., and on one occasion, at least, the staff were kept busily engaged with the first bulk shipment of exhibits for some three days and three nights in succession with but slight intermission. The Secretary of the Commission also informs the President that the members of the clerical staff of the Sydney office have discharged their duties in a most exemplary manner. The various officers proved themselves not only most attentive to their duties, but also painstaking and competent in their discharge.

For the greater part of the time over which the work of the local Commission extended, Mr. John R. Martin was clerk to the Secretary, and Accountant, and discharged the duties of his office in a highly satisfactory manner. Mr. W. A. Baird was chosen to succeed Mr. Martin on his resignation, and that gentleman proved himself in every respect fully qualified to perform the important functions of the position for which he had

had been selected. Mr. Patrick Lyons, the only other permanent officer of the Commission, who was appointed at the very beginning of its operations, discharged the duties entrusted to him in a most conscientious and careful manner. Mr. L. Von Rantzow is elsewhere mentioned as having been appointed storekeeper to the Commissioners, and that gentlemen, in carrying out the work connected with the reception into store and packing and shipment of exhibits, and returning them to their owners after the close of the Chicago Exposition, displayed great energy and capacity.

Private Exhibits sold in Chicago and adjustment of claims for damages.

The Executive Commissioner, on his return to Sydney, handed over to the Commission the moneys necessary to enable it to pay the sums due to exhibitors on account of their goods sold in Chicago. The total sum so disbursed was £2,519 5s., of which £1,924 9s. 11d. was on account of wool exhibits; the balance represented general private exhibits. Of course the majority of the private contributions from New South Wales were returned to Sydney. In connection with the return of these exhibits to Sydney, owing no doubt, in large measure, to the risk of the very long journey they had to undergo, a few articles arrived in Sydney in a somewhat damaged condition, and although the Commission, under its regulations, held themselves free from all liability on account of damage or loss of any kind which might not be covered by the insurances effected, it decided to adjust these claims, and, on this account, a sum only slightly in excess of £50 was disbursed, a very small amount indeed, when the gross valuation of the exhibits is taken into consideration.

Importance and success of New South Wales representation.

It is gratifying to know that on all hands, it has been admitted that in several of the principal sections of classification, New South Wales, in her contributions, equalled some of the leading nations of the world represented in Chicago, and, in three departments at least, this Colony undoubtedly took first place, namely, in the representation of mineral wealth in the Mines Building; secondly, in the display of wool and cereal products in the Agricultural Building; and in the third place, by the magnificent display of hardwood timbers exhibited in the Forestry Section. It has been universally admitted that at this great exhibition, but for the very valuable and extensive contribution of New South Wales and Canada, the representation of the products of the British Empire would have been altogether inadequate. Testimony to this fact has been borne among others by Sir Henry Trueman Wood, Secretary to the British Royal Commission and of the Society of Arts, in his official report to the British Royal Commission, and also by Mr. James Dredge, one of the British Commissioners, who, on the occasion of a lecture at the Imperial Institute on the display made by Great Britain and her colonies, said that New South Wales had shone most luminously, her exhibits being of the highest order.

Journal of the Final Session of the New South Wales Commission.

The final meeting of the Commission was held at the Board Room, Colonial Secretary's Office, at 4 p.m., on Thursday, the 2nd August, 1894. There were present: William McMillan, Esq., M.P. (President), in the chair, the Hon. Sir Arthur Renwick, Kt., M.D., M.L.C. (Executive Commissioner), Hon. J. F. Burns (Vice-President), R. D. Adams, Esq., J. Ednie Brown, Esq., J.P., J. J. Calvert, Esq., J.P., C. Collins, Esq., M.P., M. C. Cowlishaw, Esq., J.P., J. Carl Fischer, Esq., Hon. Charles Goodchap, M.L.C., W. A. Hutchinson, Esq., J.P., Alderman Thos. Jessop, J.P., Joseph Marks, Esq., J.P., Alfred W. Meeks, Esq., J.P., Charles Moore, Esq., J.P., Louis Phillips, Esq., J.P., Hon. R. Burdett-Smith, C.M.G., M.L.C., Francis Wright, Esq., J.P., M.P.

Apologies were received from the Hon. W. H. Suttor, M.L.C., and Alderman John Hardie, J.P.

The minutes of the previous meeting having been read and confirmed, R. D. Adams, Esq. (chairman of the Finance Sub-Committee of the Administrative Committee), submitted, for the information of the Commission, the following balance-sheet and statements of account, and information regarding disposal of exhibits purchased out of Commission funds.

Balance

N. S. W. Commission, World's Columbian Exposition, 1893.

STATEMENT SHOWING NET EXPENDITURE.

	£	s.	d.
Expenditure per statement	18,514	0	0
<i>Less Credits as follows:—</i>			
By Sales of Commission purchases... ..	1,000	15	10
„ Payments made on behalf of Executive Commissioner	1,062	6	6
„ Return Freights and Insurance	288	4	3
„ Furniture presented to Government House	767	0	11
„ Payments to Treasury	128	3	10
		3,246	11 4
Net Expenditure	£15,267	8	8

Purchases to the value of £1,662 17s. 7d. were also donated by the Commission to various institutions.

STATEMENT SHOWING TOTAL NET EXPENDITURE.

	£	s.	d.
Expenditure of Executive Commissioner, as per his Statement	16,105	14	11
<i>Less proceeds Sales of Private Exhibits paid to Exhibitors</i>	<i>2,352</i>	<i>3</i>	<i>1</i>
		£13,753	11 10
<i>Add Payments made by N.S.W. Commission</i>	<i>619</i>	<i>2</i>	<i>6</i>
Return Freight and Insurance	288	4	3
Net expenditure of Executive Commissioner	£14,660	18	7
„ „ N.S.W. Commission	15,267	8	8
Total net Expenditure	£29,928	7	3

R. D. ADAMS,
Chairman, Finance Committee.

The Services of the Secretary.

The President submitted the following memo., which was unanimously adopted and endorsed by the meeting :—“That the manner in which the Secretary, Mr. Alex. Cumming, has discharged his duties is beyond all praise. His energy, industry, and intelligence have been felt in all departments ; and to his careful management and close study of details is largely due the very moderate expenditure in the collection and despatch of exhibits.”

It was also agreed that a bonus of £100 be paid to the Secretary.

Mr. Cumming acknowledged the kindness and consideration of the Commissioners, and said that he had had the good fortune to have associated with him a very competent and conscientious staff.

Mr. Adams referred to the able manner in which Mr. W. A. Baird, and his predecessor, Mr. J. Roxburgh Martin, had performed the duties of accountant.

The following resolutions were unanimously agreed to :—

Thanks to Government Departments and other Exhibitors.

Moved by Alderman Thomas Jessep, Esq., seconded by J. Ednie Brown, Esq., J.P. :—

“That the cordial acknowledgments of this Commission are hereby tendered to the various Government Departments and private firms and individuals who contributed to the success of the New South Wales representation at the Chicago World's Fair, to the Commissioners for New South Wales Railways for concession in freights, and to the Postmaster-General for free telegrams throughout the Colony.”

Resolution for Woman's Work Committee.

Moved by J. J. Calvert, Esq., J.P., seconded by Joseph Marks, Esq., J.P. :—

“That this Commission cannot close its proceedings without recording its high sense of the invaluable services rendered by Lady Windeyer, President of Committee 12 on Woman's Work, and the members of that Committee in organising the very effective representation in Chicago of the important section confided to their care.”

Thanks to the Administrative and Finance Committee.

Moved by J. Carl Fischer, Esq., seconded by the Hon. Chas. Goodchap, M.L.C. :—

“That the thanks of this Committee are especially due, and are hereby tendered, to the Administrative Committee of the Commission and also to its Finance Subcommittee, of which R. D. Adams, Esq., is the Chairman ; the functions of this particular Committee and its Sub-committee having been exceptionally important and arduous.”

Thanks to the Executive Commissioner.

Moved by F. A. Wright, Esq., J.P., M.P., seconded by Joseph Marks, Esq., J.P. :—

“That this Commission desires to cordially reaffirm its resolution of special meeting, held on the 6th April last, bearing testimony to the exceptional zeal and ability displayed by Sir Arthur Renwick, in the discharge of his functions as Executive Commissioner for New South Wales, at the World's Columbian Exposition.”

Thanks to the Executive Vice-President.

Moved by R. D. Adams, Esq., seconded by F. A. Wright, Esq., M.P. :—

“That this Commission desires to record its especial thanks to the Hon. J. F. Burns, Executive Vice-President of the Commission, for his most valuable services in attending to the official work of the Commission in Sydney, during the temporary absence in Europe of the President and on other occasions.”

Thanks

Thanks to the President.

Moved by the Hon. R. Burdett Smith, C.M.G., M.L.C., and cordially supported:—

“That this Commission desires to place upon record its hearty appreciation of the great interest taken by the President in the success of the Commission’s operations, and to record its sense of the high value of his most efficient Presidency.”

The President, in reply, thanked them very much for their kind vote of thanks. That day they closed their long labours, and one of the most satisfactory parts of their procedure was the report of the Finance Sub-committee showing the manner in which they had kept down expenditure. For this the thanks of the Commission were due to the Administrative and Finance Committee, and of course to the Executive Commissioner’s management on the other side of the water. (Hear, hear.) After all their trials and difficulties they had to hand back to the Government a report of the most successful Exhibition ever known in the history of this Colony. Everyone agreed that as an object lesson the natural productions in the New South Wales Court were not equalled by any other at this great gathering of the nations. It was most important that they had decided not to fritter away their energies on useless exhibits, but had confined their attention to large block-views of the Colony’s productions, and this was in large measure the cause of the Colony’s success. Owing to the impending financial crisis there were not many visitors from the Colonies to the Columbian Exposition, and thus we had not the enthusiasm which would have been brought about had colonial visitors been numbered in thousands. He predicted that, with the reduced tariff in the United States, and with closer relations with America, the fruits of this Exhibition would be seen in the next few years, and even those who had been most disparaging in their remarks about the Exhibition would have to admit the good that would be done. That the New South Wales portion was carried out successfully, and with so little expense, must be a matter of congratulation to all of them. (Cheers.)

[The Commissioners having thus completed the various duties which devolved on them by virtue of the Commission which His Excellency the Governor was pleased in Her Majesty’s name, and under the Great Seal of the Colony, to issue, adjourned *sine die*.]

I have the honour to be,

Your Excellency’s most obedient servant,

W. McMILLAN,

President.

APPENDIX A.

NEW SOUTH WALES COMMISSION.

*(Gazetted, 29 September, 1891.)**President :*

William McMillan, Esq., M.P.

Vice-Presidents :

The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly.
 The Right Worshipful William Patrick Manning, M.P., Mayor of Sydney.
 John Fitzgerald Burns, Esq., J.P. (*Gazetted, 17 June, 1892.*)

Executive Commissioner :

The Honorable Arthur Renwick, M.D., F.R.C.S., Edin., M.L.C. (*Gazetted, 20 October, 1891.*)

Members :

Joseph Abbott, Esq., M.P.
 Robert Dudley Adams, Esq.
 John Ednie Brown, Esq., J.P.
 John Spencer Brunton, Esq.
 Alexander Cameron, Esq.
 Joseph Hector Carruthers, Esq., M.P.
 Meville David Cohen, Esq.
 The Hon. Edward Combes, C.M.G., M.L.C.
 The Hon. George Henry Cox, M.L.C.
 James Charles Cox, Esq., M.D., F.R.C.S., E.
 Joseph Creer, Esq., J.P.
 The Honorable John Davies, C.M.G., M.L.C.
 Henry Dawson, Esq., M.P.
 William Springthorpe Dowel, Esq., M.P.
 John Daniel Fitzgerald, Esq., M.P.
 Henry Chrichard Fraser, Esq.
 Charles Launcelot Garland, Esq.
 Jacob Garrard, Esq., M.P.
 George Henry Greene, Esq., J.P.
 John Hindle, Esq., M.P.
 Robert Hudson, Esq., J.P.
 James Inglis, Esq., M.P.
 Francis Edward Joseph, Esq.
 Alexander Kethel, Esq., J.P.
 The Honorable William John Lyne, M.P.
 George Maiden, Esq., J.P.
 Donald Manson, Esq., J.P.
 James Martin, Esq., M.P.
 William McCourt, Esq., M.P.
 Alfred William Meeks, Esq., J.P.
 Charles Moore, Esq., F.L.S., J.P.
 Henry William Newman, Esq., M.P.
 Edward William O'Sullivan, Esq., M.P.
 William Henry Paling, Esq., J.P.
 James Paterson, Esq.
 Louis Phillips, Esq., J.P.
 The Honorable Charles Roberts, C.M.G., M.L.C.
 The Honorable John See, M.P.
 Bruce Smith, Esq., M.P.
 The Honorable Robert Burdett Smith, C.M.G., M.L.C.
 Sydney Smith, Esq., M.P.
 Joseph Henry Storey, Esq., J.P.
 The Honorable William Henry Suttor, M.L.C.
 The Honorable George Thornton, M.L.C.
 James Torpy, Esq., M.P.
 John Young, Esq., J.P.

(Gazetted, 23 November, 1891.)

Frederick Earl Winchcombe, Esq.
 Andrew Howard Moore, Esq.
 William Frederick Buchanan, Esq., J.P.
 James Ley Row, Esq.
 Mahlon Clarke Cowlshaw, Esq.

(Gazetted, 11 February, 1892.)

Octavius Charles Beale, Esq.
 Alexander Brown, Esq., J.P.
 Charles Collins, Esq., M.P.
 Wilhelm Carl Fischer, Esq.
 William Henderson, Esq., J.P.

The

The Honorable Solomon Herbert Hyam, M.L.C.
 Stewart Keightley, Esq.
 Lloyd Alonza Kimball, Esq.
 Joseph Marks, Esq., J.P.
 William Bethel Sharp, Esq.
 Francis A. Wright, Esq., M.P.

(Gazetted, 26 February, 1892.)

Carl F. Fischer, Esq., M.D., M.R.C.S., &c.
 The Honorable Charles Augustus Goodchap, M.L.C.
 Ninian Melville, Esq., M.P.
 Bruce Baird Nicoll, Esq., M.P.
 Joseph Benjamin Olliffe, Esq., J.P.
 George Russell, Esq.

(Gazetted, 21 March, 1892.)

George Cass, Esq., M.P.
 W. A. Hutchinson, Esq., J.P.
 Frederick William Jackson, Esq., J.P.

(Gazetted, 26 April, 1892.)

John Jackson Calvert, Esq., J.P.
 Frank Farnell, Esq., M.P.
 Frederick Augustus Franklin, Esq., C.E., J.P.
 The Honorable Philip Gidley King, M.L.C.
 James Alfred Roberts, Esq., J.P.
 James Rutherford, Esq., J.P.
 Thomas Saywell, Esq.
 C. Carleton Skarratt, Esq., J.P.
 Richard Threlfall, Esq., M.A., Professor of Physics at the University of Sydney.

(Gazetted, 28 June, 1892.)

Thomas Robert Allt, Esq., J.P.
 Austin Chapman, Esq., M.P.
 Frederick George Crouch, Esq., J.P.
 Charles D'Arcy, Esq.
 John Bloyd Donkin, Esq., J.P.
 John Hardie, Esq., J.P.
 William Henry Hinton, Esq., J.P.
 Louis H. Hyman, Esq., J.P.
 Thomas Jessep, Esq., J.P.
 John Nobbs, Esq., M.P.
 Walter Hussey Vivian, Esq., J.P.
 Benjamin Francis Marks, Esq., J.P.
 Alexander Martin, Esq., J.P.

(Gazetted, 21 March, 1893.)

Miss Margaret Windeyer.

Commissioners in America :

Sir Roderick W. Cameron, Knt., New York. (Gazetted, 29 September, 1891.)
 Henry W. Peabody, Esq., Boston. (Gazetted, 1 March, 1892.)

Secretary of New South Wales Commission :

Alexander Cumming.

Text of Commission.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and
 Ireland, Queen, Defender of the Faith, and so forth,—

To our trusty and well-beloved—

WILLIAM McMILLAN, Esquire, a Member of the Legislative Assembly of Our Colony of New South
 Wales, President ;
 The Honorable JOSEPH PALMER ABBOTT, Speaker of Our said Legislative Assembly ; and
 The Right Worshipful WILLIAM PATRICK MANNING, a Justice of the Peace of Our said Colony, and
 The Mayor of the City of Sydney, in Our said Colony, Vice-Presidents ;
 JOSEPH ABBOTT, Esquire, a Member of Our said Legislative Assembly ;
 FRANCIS ABIGAIL, Esquire, a Justice of the Peace of Our said Colony ;
 ROBERT DUDLEY ADAMS, Esquire ;
 JOHN EDNIE BROWN, Esquire, a Justice of the Peace of Our said Colony, and Director-General of
 Forests ;
 JOHN SPENCER BRUNTON, Esquire ;
 JOHN FITZGERALD BURNS, Esquire, a Justice of the Peace of Our said Colony ;
 ALEXANDER CAMERON, Esquire, Vice-Consul for the United States of America, at Sydney aforesaid ;
 The Honorable JOSEPH HECTOR CARRUTHERS, a Member of Our said Legislative Assembly, and
 Minister of Public Instruction of Our said Colony ;
 NEVILLE DAVID COHEN, Esquire ;
 The Honorable EDWARD COMBES, C.M.G., a Member of the Legislative Council of Our said Colony ;
 The Honorable GEORGE HENRY COX, a Member of Our said Legislative Council ;
 JAMES CHARLES COX, Esquire, M.D., F.R.C.S., E. ;
 JOSEPH CREER, Esquire, a Justice of the Peace of Our said Colony ;
 The Honorable JOHN DAVIES, C.M.G., a Member of Our said Legislative Council ;
 HENRY DAWSON, Esquire, a Member of Our said Legislative Assembly ;
 WILLIAM SPRINGTHORPE DOWEL, Esquire, a Member of Our said Legislative Assembly ;
 JOHN DANIEL FITZGERALD, Esquire, a Member of Our said Legislative Assembly ;

HENRY

HENRY CHRICHARD FRASER, Esquire, President of the Chamber of Commerce ;
 CHARLES LAUNCELOT GARLAND, Esquire ;
 JACOB GARRARD, Esquire, a Member of Our said Legislative Assembly ;
 GEORGE HENRY GREENE, Esquire, a Justice of the Peace of Our said Colony ;
 JOHN HINDLE, Esquire, a Member of Our said Legislative Assembly ;
 ROBERT HUDSON, Esquire, a Justice of the Peace of Our said Colony ;
 JAMES INGLIS, Esquire, a Member of Our said Legislative Assembly ;
 FRANCIS EDWARD JOSEPH, Esquire ;
 ALEXANDER KETHEL, Esquire, a Justice of the Peace of Our said Colony ;
 WILLIAM JOHN LYNE, Esquire, a Member of Our said Legislative Assembly ;
 GEORGE MAIDEN, Esquire, a Justice of the Peace of Our said Colony ;
 DONALD MANSON, Esquire ;
 JAMES MARTIN, Esquire, a Member of Our said Legislative Assembly ;
 WILLIAM McCOURT, Esquire, a Member of Our said Legislative Assembly ;
 ALFRED WILLIAM MEEKS, Esquire ;
 CHARLES MOORE, Esquire, F.L.S., a Justice of the Peace of Our said Colony, and Director of the Botanic Gardens ;
 HENRY WILLIAM NEWMAN, Esquire, a Member of Our said Legislative Assembly ;
 EDWARD WILLIAM O'SULLIVAN, Esquire, a Member of Our said Legislative Assembly ;
 WILLIAM HENRY PALING, Esquire, a Justice of the Peace of Our said Colony ;
 JAMES PATERSON, Esquire ;
 LOUIS PHILLIPS, Esquire, a Justice of the Peace of Our said Colony ;
 The Honorable ARTHUR RENWICK, M.D., F.R.C.S., Edin., and a Member of Our said Legislative Council ;
 The Honorable CHARLES JAMES ROBERTS, C.M.G., a Member of Our said Legislative Council ;
 JOHN SEE, Esquire, a Member of Our said Legislative Assembly ;
 The Honorable BRUCE SMITH, a Member of Our said Legislative Assembly, and Colonial Treasurer of Our said Colony ;
 The Honorable ROBERT BURDETT SMITH, C.M.G., a Member of Our said Legislative Council ;
 The Honorable SYDNEY SMITH, a Member of Our said Legislative Assembly, and Secretary for Mines and Agriculture of Our said Colony ;
 JOSEPH HENRY STOREY, Esquire, a Justice of the Peace of Our said Colony ;
 The Honorable WILLIAM HENRY SUTTOR, a Member of Our said Legislative Council, and Vice-President of Our Executive Council of Our said Colony ;
 The Honorable GEORGE THORNTON, a Member of Our said Legislative Council ;
 JAMES TORPY, Esquire, a Member of Our said Legislative Assembly ; and
 JOHN YOUNG, Esquire, a Justice of the Peace of Our said Colony.

Greeting :—

WHEREAS an International Exhibition of Arts, Industries, Manufactures, and the Products of the Soil, Mine, and Sea styled the World's Columbian Exposition, is to be held in the City of Chicago, in the United States of America, in the year one thousand eight hundred and ninety-three, for the purpose of celebrating the Four Hundredth Anniversary of the Discovery of America : And whereas it has been represented to Us that it is desirable that Commissioners should be appointed on behalf of Our Colony of New South Wales to collect, classify, arrange and provide for the safety and preservation of Exhibits ; and to make all arrangements in Our said Colony for the effective representation of New South Wales at the said Exposition, giving special prominence to the Wools, Minerals, Timbers, and other natural products : Now know ye, that We, reposing especial trust and confidence in your knowledge, integrity, and ability, do by these presents authorise and appoint you to be such Commissioners accordingly, of whom any ten shall form a quorum, with full power to act in these premises : And We do hereby authorise and appoint you, the said WILLIAM McMILLAN, to be President of this Commission ; and the said JOSEPH PALMER ABBOTT and WILLIAM PATRICK MANNING to be Vice-Presidents of this Commission ; And We do authorise you, the said President, Vice-Presidents, and Commissioners above described, to duly report your proceedings from time to time to Our Governor of Our said Colony of New South Wales, until the business of this Commission shall have been brought to a conclusion.

In testimony whereof, We have caused these our Letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness Our Right Trusty and Right Well-beloved Cousin and Councillor VICTOR ALBERT GEORGE, EARL OF JERSEY, Knight Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our said Colony of New South Wales and its Dependencies, at Government House Sydney, in New South Wales aforesaid, this twenty-eighth day of September, in the year of Our Lord One thousand eight hundred and ninety-one, and in the fifty-fifth year of Our Reign.

JERSEY.

By His Excellency's Command,
 HENRY PARKES.

Entered on Record by me, in REGISTER OF PATENTS, No. 14, page 192/3, this twenty-ninth day of September, one thousand eight hundred and ninety-one.

For the Colonial Secretary and Registrar of Records,
 CRITCHETT WALKER,
 Principal Under Secretary.

APPENDIX B.

ADMINISTRATIVE AND FINANCE COMMITTEE.

Ex-officio Members :

- William McMillan, Esq., M.P. (President).
 The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly (Vice-President).
 The Right Worshipful William Patrick Manning, M.P., Mayor of Sydney (Vice-President).
 John Fitzgerald Burns, Esq., J.P. (Vice-President).
 The Honorable Arthur Renwick, M.D., F.R.C.S., Edin., M.L.C. (Executive Commissioner).

Members :

- Joseph Abbott, Esq., M.P.
 Robert Dudley Adams, Esq.
 Robert Hudson, Esq., J.P.
 James Martin, Esq., M.P.
 Alfred William Meeks, Esq., J.P.
 The Honorable Robert Burdett Smith, C.M.G., M.L.C.
 The Honorable William Henry Suttor, M.L.C.

SUB-COMMITTEE ON FINANCE.

- Robert Dudley Adams, Esq. (Chairman).
 John Fitzgerald Burns, Esq., J.P.
 Alfred William Meeks, Esq., J.P.
 The Honorable William Henry Suttor, M.L.C.

COMMITTEE I ON AGRICULTURE.

Ex-officio Members :

- William McMillan, Esq., M.P. (President).
 The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly (Vice-President).
 The Right Worshipful William Patrick Manning, M.P., Mayor of Sydney (Vice-President).
 John Fitzgerald Burns, Esq., J.P. (Vice-President).
 The Honorable Arthur Renwick, M.D., F.R.C.S., Edin., M.L.C. (Executive Commissioner).

Members :

- John Young, Esq., J.P. (Chairman).
 John Edmie Brown, Esq., J.P.
 John Spencer Brunton, Esq.
 Austin Chapman, Esq., M.P.
 Joseph Creer, Esq., J.P.
 Henry Dawson, Esq., M.P.
 Frederick Augustus Franklin, Esq., C.E., J.P.
 Jacob Garrard, Esq., M.P.
 George Henry Greene, Esq., J.P.
 John Hindle, Esq., M.P.
 Robert Hudson, Esq., J.P.
 Louis H. Hyman, Esq., J.P.
 The Honorable Solomon Herbert Hyam, M.L.C.
 James Inglis, Esq., M.P.
 Frederick William Jackson, Esq., J.P.
 Thomas Jessep, Esq., J.P.
 Alexander Kethel, Esq., J.P.
 William McCourt, Esq., M.P.
 Henry William Newman, Esq., M.P.
 Bruce Baird Nicoll, Esq., M.P.
 John Nobbs, Esq., M.P.
 James Paterson, Esq.
 The Honorable John See, M.P., Colonial Treasurer.
 Sydney Smith, Esq., M.P.
 Francis A. Wright, Esq., M.P.

Alex. Cumming, *Secretary.*

COMMITTEE II ON WOOL.

Ex-officio Members :

- William McMillan, Esq., M.P. (President).
 The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly (Vice-President).
 The Right Worshipful William Patrick Manning, M.P., Mayor of Sydney (Vice-President).
 John Fitzgerald Burns, Esq., J.P. (Vice-President).
 The Honorable Arthur Renwick, M.D., F.R.C.S., Edin., M.L.C. (Executive Commissioner).

Members :

Members :

The Honorable George Henry Cox, M.L.C. (Chairman).
 Joseph Abbott, Esq., M.P.
 William Frederick Buchanan, Esq., J.P.
 Alexander Cameron, Esq.
 George Henry Greene, Esq., J.P.
 The Honorable Philip Gidley King, M.L.C.
 The Honorable William John Lyne, M.P., Minister for Public Works.
 Joseph Marks, Esq., J.P.
 Andrew Howard Moore, Esq.
 James Paterson, Esq.
 James Ley Row, Esq.
 James Rutherford, Esq., J.P.
 William Bethel Sharp, Esq.
 The Honorable William Henry Suttor, M.L.C.
 Walter Hussey Vivian, Esq., J.P.
 Frederick Earl Winchcombe, Esq.

Alex. Cumming, *Secretary*.

COMMITTEE III ON VITICULTURE, WINES, &c.

Ex-officio Members :

William McMillan, Esq., M.P. (President).
 The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly
 (Vice-President).
 The Right Worshipful William Patrick Manning, M.P., Mayor of Sydney (Vice-
 President).
 John Fitzgerald Burns, Esq., J.P. (Vice-President and Chairman of Committee).
 The Honorable Arthur Renwick, M.D., F.R.C.S., Edin., M.L.C. (Executive Commissioner).

Members :

Thomas Robert Allt, Esq., J.P.
 Neville David Cohen, Esq.
 Mahlon Clarke Cowlshaw, Esq., J.P.
 Frederick George Crouch, Esq., J.P.
 Charles D'Arcy, Esq., J.P.
 Wilhelm Carl Fischer, Esq.
 William Henry Hinton, Esq., J.P.
 James Inglis, Esq., M.P.
 Francis Edward Joseph, Esq.
 Stewart Keightley, Esq., J.P.
 William McCourt, Esq., M.P.
 Charles Moore, Esq., F.L.S., J.P.
 Joseph Benjamin Olliffe, Esq., J.P.
 The Honorable Charles James Roberts, C.M.G., M.L.C.
 Thomas Saywell, Esq., J.P.
 The Honorable John See, M.P., Colonial Treasurer.
 C. Carleton Skarratt, Esq., J.P.

Alex. Cumming, *Secretary*.

COMMITTEE IV ON HORTICULTURE.

Ex-officio Members :

William McMillan, Esq., M.P. (President).
 The Honorable Sir Joseph Abbott, Knt., M.P., Speaker of the Legislative Assembly
 (Vice-President).
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 APPENDIX C.

COMMITTEE XII ON WOMAN'S WORK.

Lady Windeyer (President).	Miss M'Carthy.
Mrs. Henry Austin.	Mrs. A. W. Meeks.
Mrs. Alex. Cameron.	Mrs. J. S. Mitchell.
Miss M. Clarke.	Mrs. O'Kelly.
Mrs. H. E. Cohen.	Mrs. Onslow.
Mrs. Dadley.	Mrs. Louis Phillips.
Miss Edwards.	Mrs. Pottie.
Mrs. Carl Fischer.	Mrs. John See.
Mrs. Matthew Harris.	Mrs. T. M. Slattery.
Mrs. S. H. Levy.	Mrs. W. H. Suttor.
Mrs. W. P. Manning.	Miss E. M. Woolley.

Mrs. Carl Fischer, *Secretary*.

 REPORT from Lady Windeyer, as President of Woman's Work Com-
 mittee, to The President of the New South Wales Commission.

N.S.W. Commission World's Columbian Exposition, Chicago,
 Sydney, 19 February, 1894.

To W. McMillan, Esq., M.P., President,—
 Sir,

The duties of Committee XII, appointed on the 4th of December, 1891, to
 "secure a representation of Woman's Work," having now terminated, it remains for
 me to report finally upon the result of the performance of those duties by your
 Committee.

Before

Before dealing with the business of their special department your Committee desire to convey to yourself, to the Executive Commissioner, to your honorable Commission, and to Australia, their earnest congratulation upon the position taken by our Colony upon the platform of art, industry, invention, and wealth. It has been a proclamation to the world of the boundless resources of the nation which is slowly gathering strength for the supremacy to which Federated Australia must ultimately rise, a demonstration to the mother of nations our loyal and filial fealty to whom we proudly assert, of the public spirit and enterprise of the mother Colony of the Australian group.

The Legislature having, in a spirit of enlightened patriotism and of national generosity, determined that the representation of this Colony at the Great World's Fair should be as complete as possibility would allow, it appeared to your honorable Commission imperative that, in the schedule of the different sections, Woman's Work, so largely to be recognised in this great celebration, should not be omitted. Your Committee was therefore appointed. They accepted the trust reposed in them with the modest hope of gathering a collection of exhibits, the utmost merit of which might be that it should not be discreditable to the women of this portion of Her Majesty's dominions.

For the purposes of the Committee the sum of £500 was voted by the Administrative and Finance Committee, and was disbursed as follows:—

	£	s.	d.
Purchases of exhibits	245	18	0
Salary to Secretary	228	0	0
Packing exhibits... ..	28	6	11
	<hr/>		
	£502	4	11

The value of the goods for insurance was £815 15s.; the estimated commercial value was £1,232 5s., irrespective of certain inventions.

This statement demonstrates that the number of voluntary exhibitors has not been small, and also that the money expended in purchasing has been profitably applied. The official list of awards contains 96 awards allotted to the Department of Woman's Work. Reference to our catalogue shows that several hundreds of exhibits were sent from over a hundred individual exhibitors. These consisted of thirty specimens of furs, a number of the most remarkable birds and animals, specimens of woods, various exhibits in photography, lace-making, knitting, illuminating, modelling, painting, and printing. In the many branches of plain and fancy needlework the awards gained by our competitors testify that in New South Wales the skill in these arts brought to this far-off land by our mothers and foremothers has not degenerated. Especially Australian were the cabbage-tree hats and the gloves made from yarn spun from opossum fur.*

In conclusion, I may state with much satisfaction that your Committee are able to congratulate themselves that the modest hope with which they began their work has been so far realised.

I have the honor to be, Sir,

Your obedient servant,

MARY E. WINDEYER.

* In an official sketch of "the Woman's Building and what is to be seen in it," written by Mary S. Lockwood, it is stated that "New South Wales, snugly tucked in between Russia and Great Britain, brings her gift from the taxidermist, her wares from the ceramic artist, her products of the forest in rugs, and mats of skins and fur. There are also laces and embroideries, sculpture and paintings deserving notice."

APPENDIX D.

TABULATED List of Shipments of Exhibits in Sydney for Chicago.

Ship.	Date of manifest.	No. of packages.	Measurement.		Weight.			Value.			
			ft.	in.	t.	c.	q.	lb.	£	s.	d.
Alameda	28 Nov., 1892	999	9,426	11	149	18	3	3	6,901	0	0
Mariposa	26 Dec., 1892	2,364 & 8,000*	16,760	1	287	12	3	1	15,361	5	0
Monowai	23 Jan., 1893	321	4,142	11	42	7	3	10	4,073	8	2
Alameda	20 Feb., 1893	50	482	3	4	7	3	12	2,893	15	0
Ophir	25 ,, 1893	7	25	0	0	6	2	8	6,872	0	0
Mariposa	20 Mar., 1893	51	156	6	1	16	2	19	342	13	0
Oroya	25 ,, 1893	17	29	3	0	7	0	3	7	12	10
Orient	5 April, 1893	22	46	10	0	10	1	27	14	15	10
Monowai	17 ,, 1893	25	109	3	1	15	2	6	85	15	6
Alameda	15 May, 1893	84	458	6	6	12	1	14	990	19	6
Mariposa	12 June, 1893	8	85	5	1	7	3	4	251	0	0
Monowai	10 July, 1893	7	103	7	1	0	0	17	183	0	0
Miowera	18 ,, 1893	1	7	11	0	2	0	10	11	0	0
Alameda	7 Aug., 1893	3	29	1	9	3	0	26	134	10	0
Mariposa	4 Sept., 1893	1	10	4	0	3	2	3	50	0	0
		11,960	31,873	10†	507	12	2	23	38,172	14	10

* Wooden blocks for paving. † Equal to 796 tons, 33 ft. 10 in.

* APPENDIX E.

DETAILED Particulars of all Exhibits shipped from Sydney to San Francisco, &c., en route to Chicago.

Name of Exhibitor.	Address	Steamer.	Left Sydney	No of package	Department	Group	Class	Nature of Exhibit.
Abbott, Lady	North Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	19	101	Timber specimens.
Abbott, William	Wagga Wagga	Alameda	28 Nov., 1892	803	Agriculture	8	48	Tobacco leaf.
Abram Coal-mining Co.	Sydney	"	"	.....	Mining	43	292	Coal.
Ah Chung	Tumut	Mariposa	26 Dec., 1892	1491	Agriculture	8	48	Tobacco leaf.
Albury Brewing & Malting Co	Albury	Alameda	28 Nov., 1892	1100-2	"	12	72-3	Ale, stout, and malt.
Aldcorn, Miss Jane	Marrickville	Monowai	23 Jan., 1893	.....	Woman's Work	10	630	Knitting in silk.
Alderton, Miss A. L.	Paddington	"	23 " 1893	.....	"	104	653	Sewing.
Alford, Mrs. A. B.	Sydney	"	23 " 1893	.....	"	141	..	Paintings.
Allen, E. J.	Stoney Creek, Young	Mariposa	26 Dec., 1892	741	Agriculture	9	60	Wool.
Allison, J. M.	Coolah	"	26 " 1892	1714	"	9	60	"
Allsopp, Thomas	Murrumburrah	Alameda	20 Feb., 1893	731	"	1	11	Flour.
Allwood, Miss Fanny	Guildford	Monowai	23 Jan., 1893	.....	Woman's Work	106	669	Embroidery.
Alston, J. R.	Suffolk Vale Burrows	Mariposa	26 Dec., 1892	1717	Agriculture	9	60	Wool.
Alumina Emery Tin-mining Co	Tenterfield	"	26 " 1892	901-3	Mining	45	297	Emery powder.
Amor, J.	Sydney	Monowai	23 Jan., 1893	1797	Manufactures	93	585	Dies.
Anderson, William	Altcar	Alameda	20 Feb., 1893	1795	Agriculture	1	1	Wheat.
Angus & Robertson	Sydney	"	28 Nov., 1892	471	Liberal Arts	150	854	Photograph.
Armidale P. A. and H. Assn.	Armidale	Monowai	17 April, 1893	2410-2	Horticulture	21	133	Fruits.
Armastrong & Brother, W. H.	Callabn, Dandaloo	Mariposa	26 Dec., 1892	2042	Agriculture	9	60	Wool.
Armstrong & Co., A.	Mihoy, Brewarrina	"	26 " 1892	2058	"	9	60	"
Armstrong, F. W.	Nocoleche, Paroo R	Alameda	28 Nov., 1892	522	"	9	60	"
Austin, Robert	Sydney	"	20 Feb., 1893	1198	Machinery	77	484	Patent washer.
Australasian Mortgage and Agency Co.	"	"	20 " 1893	2244	Agriculture	9	60	Photograph.
Australasian Wesleyan Missionary Society	"	Monowai	23 Jan., 1893	1794	Liberal Arts	157	921	Reports.
Australian Agricultural Co.	Newcastle	Mariposa	26 Dec., 1892	554-5	Mining	43	292	Coal.
Australian Alum Co. (Ltd.)	Sydney	Alameda	28 Nov., 1892	46-9	"	48	316	Alunite.
"	"	Mariposa	26 Dec., 1892	45	"	48	316	"
Australian Brewer's Journal	"	Monowai	23 Jan., 1893	1794	Liberal Arts	150	854	Brewers' Journal.
Australian Brewery and Wine and Spirit Co. (Ltd.)	"	Alameda	28 Nov., 1892	1136-40	Agriculture	12	73	Ale and stout.
"	"	Monowai	17 Apl., 1893	2417-20	"	12	73	"
Australian Jockey Club	"	Mariposa	26 Dec., 1892	1772	"	14	82	Photographs.
Australian Kerosene Oil and Mineral Co. (Ltd.)	"	Alameda	28 Nov., 1892	392-5	Mining	43	292	Kerosene shale.
"	"	Mariposa	26 Dec., 1892	1-26	"	43	292	"
"	"	"	26 " 1892	396-405	"	43	292	"
Aust. Joint Stock Bank	"	Alameda	28 Nov., 1892	472	Liberal Arts	154	903	Photograph.
Aust. Meat Co.	Ramorne	"	28 " 1892	1176-82	Agriculture	6	36	Preserved meats.
A.M.P. Society	Sydney	"	28 " 1892	969	Liberal Arts	154	902	Photographs.
Australian Shearing Co. (Ltd.)	"	"	20 Feb., 1893	2276	Agriculture	9	60	Sheep-shearing machine.
"	"	"	20 " 1893	2279	"	9	60	Sheep-shearing machine.
Australian Widows Fund L.A. Society (Ltd.)	"	Monowai	23 Jan., 1893	1796	Liberal Arts	154	902	Photograph.
Bard & Co., S. and M. H.	Quantambone, Brewarrina	Alameda	28 Nov., 1892	709	Agriculture	9	60	Wool.
Baker, F. R. H.	Fernmount	.....	.....	.....	Forestry	19	101	Timbers.
Bakewell Bros.	Macdonaldtown	Alameda	28 Nov., 1892	344	Mining	46	304	Bricks and clay.
Banks, W. J.	Mariposa	"	20 Mar., 1893	2324	Liberal Arts	149	842	Map
Barnett, Joel	Inverell	Alameda	28 Nov., 1892	1205	Horticulture	20	126	Wines.
"	"	Monowai	17 Apl., 1893	2405	"	20	126	"
Beattie, James	Wagga Wagga	Mariposa	26 Dec., 1892	1278-86	"	20	126	"
Belisario, Miss Julia	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	106	667	Hand-painted fan.
Bell, Miss Ada	Art Society	Alameda	20 Feb., 1893	2247	Fine Arts	140	..	Oil paintings.
Benjamin, Marcus	Sydney	Ophir	25 Feb., 1893	2288	Manufactures	97	617	Patent watches.
Bennett, Mrs.	Tamworth	Mariposa	26 Dec., 1892	.....	Agriculture	3	26	Honey.
Benusan, S. L.	Sydney	Alameda	28 Nov., 1892	322-31	Mining	42	290-1	Tin ore.
Berriman, Albert	Marrickville	Mariposa	26 Dec., 1892	1405	Forestry	19	105	Grass rope.
Bertram, J.	Glen Elgin, via Glen Innes	.....	.....	.....	Mining	42	290-1	Auriferous pyritous quartz.
Bettington, J. B.	Merrima	Mariposa	26 Dec., 1892	1570-1	Agriculture	9	60	Wool.
Betts, H. S. M.	Valehead, Molong	Monowai	23 Jan., 1893	2156	"	9	60	"
Binghi Silver & Lead-mining Co.	Sydney	"	"	.....	Mining	42	290-1	Silver ore.
Bishop, L.	Raymond Terrace	Alameda	28 Nov., 1892	689	"	44	296	Building stone.
Black & Sons, J.	Molong	"	20 Feb., 1893	1795	Agriculture	1	1	Wheat.
Blomfield, F. B.	Canonbar	Mariposa	26 Dec., 1892	2050	"	9	60	Wool.
Board for Protection of Aborigines	Sydney	"	26 " 1892	1702-3	Ethnology	110	..	Aborigines' weapons.
Bolton, C. F.	Moorong, Wagga Wagga	"	26 " 1892	1542	Agriculture	9	60	Wool.
Bond Eucalyptus Oil Co.	Sydney	"	26 " 1892	1269-70	Manufactures	87	547	Eucalyptus oil.
Bouffier Bros.	"	Alameda	28 Nov., 1892	488-9	Horticulture	20	126	Wine.
Boulton, E. B.	Walcha	Mariposa	26 Dec., 1892	1572	Agriculture	9	60	Wool.
Bourke, John	Cooba, via Junee Junction	Alameda	28 Nov., 1892	827	"	9	60	"
Bowman, E. M.	Wargundy	"	28 " 1892	752-5	"	..	60	"
Braddock, C. H.	Manly	Mariposa	20 Feb., 1893	2312	Manufactures	87	547	Eucalyptus oil.
Bray, Thomas	Corowa	Alameda	28 Nov., 1892	487, 790-1	Horticulture	20	126-31	Wine and spirits.
"	"	Monowai	17 Apl., 1893	2407	"	20	126	Wine.
Brazenall, W., junior	Mittagong	Alameda	28 Nov., 1892	247	Mining	42	290-1	Iron castings.
"	"	Mariposa	26 Dec., 1892	900	"	42	290-1	Iron ore.
Brecht Bros.	Denman	"	26 " 1892	1276-7	Horticulture	20	126	Wines and brandy.
Breckenridge & Watson	Newcastle	"	26 " 1892	36-7	Mining	42	290-1	Limestone & iron ore.
Breckenridge, J.	Fallford	"	26 " 1892	1406-21	Forestry	19	99-101	Timbers.
Breckenridge, James	Wyrallah	Alameda	28 Nov., 1892	415-6	Mining	45	297	Tripylyte.

* NOTE.—In the following list two general entries in the name of the Department of Public Instruction cover 594 Public School exhibits and 434 exhibit from the Sydney Technical College; therefore, under these circumstances, this very large number of exhibitors has not been specified in detail.

APPENDIX E—continued.

Name of Exhibitor.	Address	Steamcr.	Left Sydney	No of package	Department	Group	Class	Nature of Exhibit
British Broken Hill Prop. S.M. Co. (Ltd.)	Melbourne	Alameda	28 Nov., 1892	268-306	Mining	42	290-1	Silver ore.
Broken Hill, Block 14, S.M. Co. (Ltd.)	"	"	"	"	"	42	290-1	"
Broken Hill Junction S.M. Co. (Ltd.)	"	"	"	"	"	42	290-1	"
Broken Hill Prop., Block 10, S.M. Co. (Ltd.)	"	Mariposa	26 Dec., 1892	1631-9	"	42	290-1	"
Broken Hill Prop. S.M. Co. (Ltd.)	"	"	26 " 1892	917-8	"	42	290-1	"
Brown, J. & A.	Newcastle	"	26 " 1892	2004-29	"	42	290-1	"
Brown, T. H.	Sydney	Alameda	15 May, 1893	558 9	"	43	292	Coal.
Browne, T.	Ravensfield	Mariposa	26 Dec., 1892	2505	Liberal Arts	155	969	Picture.
"	"	Alameda	26 Nov., 1892	184-5	Mining	44	296	Sandstone.
"	"	"	"	406	"	44	296	"
Bruce, Alex.	Sydney	"	"	"	Agriculture	9	60	Sheep brands.
Bruce, George	Loombah	Alameda	26 Nov., 1892	818	"	9	60	Wool.
Bruck, L.	Granville	Mariposa	26 Dec., 1892	1267-8	Agriculture	1	1-2	Wheat and flour.
Brunton & Co.	Sydney	Alameda	4 Sept., 1893	2526	Liberal Arts	148	834	Medical works.
Bruton, Miss M. A.	Granville	Monowai	23 Jan., 1893	"	Woman's Work	106	669	Embroidered stole.
Bucknell, A. W. & F. N.	Yarrawa, via Moree	"	"	"	Agriculture	9	60	Wool.
Bundock, Miss M.	Casino	Mariposa	26 Dec., 1892	980	Liberal Arts	110		Aboriginal weapons.
Burge, William	Grenfell	"	26 " 1892	2031	Agriculture	9	60	Wool.
Burns, J.	Bathurst	"	26 " 1892	919-20	Mining	44	296	Marble monument.
Burns, Mrs. J. F.	Paddington	Monowai	23 Jan., 1893	"	Woman's Work	106	665	Lace handkerchiefs.
Burrow Brothers	Bunna Bunna, via Millie	"	23 " 1893	2133	Agriculture	9	60	Wool.
Burwood Coal-mining Co. (Ltd.)	Newcastle	Mariposa	26 Dec., 1892	1678-80	Mining	43	292	Coal.
Busby, Alexander	Cassilis	"	26 " 1892	1541	Agriculture	9	60	Wool.
Busch, William	Young	"	26 " 1892	1599-1600	Horticulture	20	126	Wines.
Butler, Miss L. C. V.	Surry Hills	"	26 " 1892	1000	Woman's Work	109	692	Flowers in gutta percha
Buttsworth, E. E.	Cessnock	"	26 " 1892	"	Agriculture	3	26	Honey.
Cadell, F. A.	Hamilton	Monowai	23 Jan., 1893	1781	Liberal Arts	150	864	Map
Cadell, W. T.	Glen Innes	"	23 " 1893	2141, 314	Agriculture	9	60	Wool.
Caldwell & Co.	Wagga Wagga	Alameda	23 Nov., 1892	1190-2	Horticulture	20	126	Wines.
"	"	"	15 May, 1893	2421	"	20	126	"
Caldwell, John T.	Sydney	"	"	"	Mining	42	290-1	Auriferous quartz.
Cameron, E.	Ulmarra	"	"	"	Ethnology	110		Aboriginal weapons.
Campbell, Fred.	Yarralumla, Queanbeyan	Mariposa	26 Dec., 1892	1492-3	Agriculture	9	60	Wool.
Campbell, J. A.	Dungalea, Walgett	"	26 " 1892	519	"	9	60	"
Campbell, Mrs. J. B.	Jerula, Carcoar	"	26 " 1892	1532	"	9	60	"
Campbell, R.	Cambalong, Bombala	Monowai	23 Jan., 1893	2142	"	9	60	"
Campbell, W. D.	Paddington	Alameda	23 Nov., 1892	993	Liberal Arts	147	829	Ventilating cowls.
Cape Hawke Fish Preserving Co	Forster	Monowai	23 Jan., 1893	2199-2218	Fisheries	40	272	Tinned fish.
Carcoar Cobalt Co.	Carcoar	Alameda	28 Nov., 1892	687-8	Mining	42	290	Cobalt ore.
Carmichael, G. T. & J. B.	Seaham	"	28 " 1892	430	Horticulture	20	126	Wines.
"	"	Mariposa	26 Dec., 1892	2325-7	"	20	126	"
"	"	Monowai	17 April, 1893	2406	"	20	126	"
Castle Wellington Tin and Silver Mining Co.	Sydney	"	"	"	Mining	42	290	Tin ore.
Central Broken Hill Silver-mining Co.	"	"	"	"	"	42	290	Silver ore.
Charbonnet-Kellerman, Mme.	"	Monowai	23 Jan., 1893	"	Woman's Work	158	926	Musical compositions.
Chevreux, A. F.	"	Mariposa	26 Dec., 1892	1110	Fine Arts	139	820	Carvings in marble.
Chew, H.	Stoneridge, Mounteagle	Monowai	23 Jan., 1893	2151	Agriculture	9	60	Wool.
Chief Secretary for N.S.W.	Sydney	"	23 " 1893	1707	"	9	61	Silk.
Clabby, John	Belgravia	Alameda	28 Nov., 1892	1109	Mining	48	319	Paint ochres.
Clarence River Fresh Fish and Canning Co.	Iluka	"	28 " 1892	719-22	Fisheries	40	272	Tinned fish.
Clark, J. K.	Gullendaddy, via Boggabri	"	"	"	Agriculture	9	60	Wool.
Clark, Mabel	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	104	653	Sewing.
Clarke, Miss Marian	Parramatta	"	23 " 1893	"	"	141		Picture.
Cleghorn, W.	Urala	Alameda	15 May, 1893	2423	Horticulture	21	136	Fruits.
Close, R.	Walgett	Mariposa	26 Dec., 1892	520	Agriculture	9	60	Wool.
Clout, George	Brungle, via Tumut	"	"	"	"	1	1	Cereals.
Cohen and Levy	Tamworth	Alameda	28 Nov., 1892	485	"	1	1	Wheat and flour.
Cohen, Mrs. Victor	Elizabeth Bay	Monowai	23 Jan., 1893	"	Woman's Work	27-33		Models of animals.
Coleman Brothers	Canterbury	Alameda	28 Nov., 1892	1187-8	Horticulture	21	141	Jams
Coleman, E.	Lismore	"	"	"	Ethnology	110		Aboriginal weapons.
Coleman and Sons (Limited)	Cootamundra	Mariposa	26 Dec., 1892	531-2	Manufactures	87	547	Eucalypti preparations
Collaroy Co. (Limited)	Merrima	Alameda	28 Nov., 1892	822	Agriculture	9	60	Wool.
Collingridge, A.	Art Society	Mariposa	26 Dec., 1892	"	Fine Arts	140		Paintings.
Collins, Mrs. Jane	Milson's Point	Monowai	23 Jan., 1893	"	Woman's Work	116	665	Lace
Colonial Mutual Life Insurance Society.	Sydney	Alameda	28 Nov., 1892	994	Liberal Arts	114	902	Photograph.
Combes, Hon. E. C. M. G., M.L.C	"	Mariposa	26 Dec., 1892	"	Fine Arts	140		Painting.
Commercial Banking Co. of Sydney	"	Monowai	23 Jan., 1893	1781	Liberal Arts	114	903	Photograph.
Commissioners for N.S.W.	"	Alameda	28 Nov., 1892	431-64	Forestry	19	99-101	Timbers, &c.
"	"	"	28 " 1892	465-70	Ethnology	171	954	Bark put.
"	"	"	28 " 1892	476	"	160		Photographs.
"	"	"	28 " 1892	478	Liberal Arts	150	854	Year-books.
"	"	"	28 " 1892	486	Agriculture	8	48	Tobacco leaf.
"	"	"	28 " 1892	490-1	Ethnology	160		Aboriginal weapons.
"	"	"	28 " 1892	493-6	"	160		"
"	"	"	28 " 1892	503, 541-3	Forestry	19	99	Timbers.
"	"	"	28 " 1892	534-5	Fisheries	37	247	Paintings of fish.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package.	Department.	Group.	Class.	Nature of Exhibit.
Commissioners for N.S.W.	Sydney	Alameda	28 Nov., 1892	546	Manufactures	90	570	Doorway.
"	"	"	28 " 1892	547	"	90	566	Tables.
"	"	"	28 " 1892	548	Mining	42	290	Broken Hill Directory
"	"	"	28 " 1892	500-679	"	43	292	Coal.
"	"	"	28 " 1892	850-90	"	42	290	Copper.
"	"	"	28 " 1892	1141-74	"	42	290	Asphaltum tiles.
"	"	"	28 " 1892	1225-36	Liberal Arts	150	854	Literature.
"	"	Mariposa	26 Dec., 1892	504	"	...	...	Badges.
"	"	"	26 " 1892	725-35.	Agriculture	1	1	Grain.
"	"	"	26 " 1892	1111	"	1	1	"
"	"	"	26 " 1892	909-16	Mining	44	296	Sandstone.
"	"	"	26 " 1892	1375-91	"	42	290	Tin.
"	"	"	26 " 1892	1393-1400	"	42	290	"
"	"	"	26 " 1892	1601-14	"	42	290	"
"	"	"	26 " 1892	1461-77	Liberal Arts	151	871	Photographs.
"	"	"	26 " 1892	1491, 1565	Agriculture	8	48	Tobacco leaf.
"	"	"	26 " 1892	1494-1514	Mining	42	290	Kerb-stone.
"	"	"	26 " 1892	1556-65	Agriculture	1	2	Maize.
"	"	"	26 " 1892	1592-7	Liberal Arts	150	854	Year Books.
"	"	"	26 " 1892	1681	Mining	44	296	Marble.
"	"	"	26 " 1892	1706	Ethnology	160	...	Aboriginal weapons.
"	"	"	26 " 1892	1710	Horticulture	21	137	Scrub nuts.
"	"	"	26 " 1892	1712	Fisheries	38	262	Model boat.
"	"	"	26 " 1892	1721	Horticulture	21	139	Dried fruits.
"	"	"	26 " 1892	1730-3	"	...	...	Plaster casts.
"	"	"	26 " 1892	1748-52	Liberal Arts	150	854	Literature.
"	"	"	26 " 1892	1773-4	"	151	871	Photographs.
"	"	"	26 " 1892	1775-9	"	150	854	Literature.
"	"	"	26 " 1892	1900-1942	Forestry	19	99	Timbers.
"	"	"	26 " 1892	2000-2000A	Liberal Arts	150	854	Year Books.
"	"	"	26 " 1892	2002B-2003D	Forestry	19	99	Timbers.
"	"	"	26 " 1892	2063-5	Liberal Arts	150	854	Literature.
"	"	"	26 " 1892	2066-72	"	155	909	Natural History specimens.
"	"	"	26 " 1892	.....	Forestry	19	99	8,000 wooden blocks.
"	"	Monowai	23 Jan., 1893	1784-90	Agriculture	1	2	Maize.
"	"	"	23 " 1893	1793	Liberal Arts	155	909	Gould's birds.
"	"	"	23 " 1893	1794-8	"	150	854	Literature.
"	"	"	23 " 1893	1796, 2103-5	"	151	871	Photographs.
"	"	"	23 " 1893	1943-75	Forestry	19	99	Timber.
"	"	"	23 " 1893	2081-94	Fisheries	40	272	Fish exhibits.
"	"	"	23 " 1893	2106-9	"	40	272	"
"	"	"	23 " 1893	2112-6	Manufactures	90	567	Furniture.
"	"	"	23 " 1893	2117-20	Transportation	85	530	Model of dock.
"	"	"	23 " 1893	2125	Liberal Arts	149	842	Photos. of schools.
"	"	"	23 " 1893	2175-6	Transportation	82	508	Model of Zig Zig.
"	"	"	23 " 1893	2185-98	Manufactures	90	567	Furniture.
"	"	"	23 " 1893	2219, 2243	Liberal Arts	150	854	Literature.
"	"	"	23 " 1893	2228,	Woman's Work	...	...	Woman's work.
"	"	"	23 " 1893	2235-8	"	...	...	"
"	"	Alameda	20 Feb., 1893	1795	Agriculture	1	1	Wheat.
"	"	"	20 " 1893	2249,	Liberal Arts	150	854	Literature.
"	"	"	20 " 1893	2256-8	"	150	854	"
"	"	"	20 " 1893	2260-2	"	150	854	"
"	"	"	20 " 1893	2264, 2278	"	150	854	"
"	"	"	20 " 1893	2290-4	Fisheries	40	272	Fish exhibits.
"	"	Ophir	25 " 1893	2275	Woman's Work	...	...	Floral paintings.
"	"	Mariposa	20 Mar., 1893	2309	Liberal Arts	150	854	Literature.
"	"	"	20 " 1893	2321	Ethnology	160	...	Photos. of aborigines.
"	"	"	20 " 1893	2328-36	Horticulture	21	133	Apples.
"	"	"	20 " 1893	2342-3	"	21	133	"
"	"	"	20 " 1893	2337-9	"	21	133	Grapes.
"	"	"	20 " 1893	2340, 45-6	"	21	133	Pears.
"	"	"	20 " 1893	2344	"	21	133	Passion fruit.
"	"	Oroya	25 " 1893	2354-7	"	21	133	Grapes.
"	"	"	25 " 1893	2358-60	"	21	133	Pears.
"	"	"	25 " 1893	2361-70	"	21	133	Apples.
"	"	"	25 " 1893	2379-98	"	21	133	"
"	"	Orient	8 April, 1893	2399	"	21	133	Persimmons.
"	"	"	8 " 1893	2400	"	21	133	Oranges.
"	"	"	8 " 1893	2400	"	20	126	Wines.
"	"	Monowai	17 " 1893	2348-78	"	20	126	"
"	"	"	17 " 1893	2413	Liberal Arts	150	854	Literature.
"	"	Alameda	15 May, 1893	2427	"	150	854	"
"	"	"	15 " 1893	2443-57	Horticulture	21	133	Lemons.
"	"	"	15 " 1893	2458-73	"	21	133	Oranges.
"	"	"	15 " 1893	2473-80,	Liberal Arts	150	854	Literature.
"	"	"	15 " 1893	82-4	"	150	854	"
"	"	"	15 " 1893	2485-6	"	160	909	Australian Muscum exhibits.
"	"	"	15 " 1893	2489-903	"	150	854	Literature.
"	"	"	15 " 1893	2504	Horticulture	21	133	Passion fruit.
"	"	Mariposa	12 June, 1893	2506-13	Liberal Arts	150	854	Literature.
"	"	Monowai	10 July, 1893	2515	"	150	854	"
"	"	Miowera	18 " 1893	2522	"	150	854	"
"	"	Alameda	7 Aug., 1893	2523-4	"	150	854	"

APPENDIX E—continued.

Name of Exhibitor	Address	Steamer	Left Sydney	No of package	Department	Group	Class	Nature of Exhibit.
Commissioners for Railways	Sydney ..	Alameda	28 Nov, 1892	536-8	Transportation	80	503	Railway sleepers.
" "	" "	" "	28 " 1892	539	" "	80	499	Bolts and nuts.
" "	" "	" "	28 " 1892	540	" "	80	499	Rails.
" "	" ..	Mariposa	26 Dec, 1892	1742	" "	80	499	Photographs.
" "	" ..	Monowai	23 Jan, 1893	2110	" "	80	499	" "
Committee of Infants' Home	Ashfield	" "	23 " 1893	.....	Woman's Work	151	871	" "
Cook, R	Marrickville ..	Alameda	28 Nov, 1892	262	Mining	46	304	Clay and shale.
Cooper, R. C.	Willeroo, Tatago	" "	28 " 1892	814	Agriculture ...	9	60	Wool.
" "	" "	Monowai	23 Jan, 1893	2162	" "	9	60	" "
Cootamundra Farmers' Roller Milling Co	Cootamundra ...	Mariposa	26 Dec, 1892	1567	" "	1	11	Flour.
Corbett, H P	Esbank	" "	26 " 1892	898	Mining	42	290	Kerosene shale.
Corbett and Lawson	Bingara	Monowai	23 Jan, 1893	2229	"	42	290	Kaolin diamond wash.
Corollera Hill Silver-mining Co	Peelwood	Mariposa	26 Dec, 1892	28	"	42	290	Silver ore.
Cousins, W Y	Bebcrah, Singleton	Alameda	28 Nov, 1892	1118-23	Horticulture	20	126	Wines, &c.
" "	"	Monowai	17 April, 1893	2408	" "	20	126	Wines.
Coventry, W	Lundhurst, Armidale	" "	23 Jan, 1893	2132	Agriculture	9	60	Wool.
Cowan, D. W	Tomki	" "	23 " 1893	2231	" "	3	17	Sugar-cane.
Cox Bros	Rawden, Rylstone	Mariposa	26 Dec, 1892	2039	" "	9	60	Wool.
Cox, G H	Burrundulla, Mudgee	" "	26 " 1892	757-8	" "	9	60	" "
Cox, J. D.	Cullenbone, Mudgee	Alameda	28 Nov., 1892	822-3	" "	9	60	" "
Crace, Estate of E. K	Gimndaira .....	" "	" .....	.....	" "	9	60	" "
Cram, A W.	Mt Horeb, Adelong	Monowai	23 Jan, 1893	2149	" "	9	60	" "
Cranfield, G. A.	Young	Mariposa	26 Dec, 1892	1769	" "	9	60	" "
Creed, Miss	Art Society	" "	26 " 1892	.....	Fine Arts ..	140	.....	Paintings.
Crossley, S.	Moree	" "	26 " 1892	1546	Agriculture ..	9	60	Wool.
Crown of the Peak Gold-mining Co.	Sydney	" "	26 " 1892	897	Mining	42	290	Auriferous lodestuff.
Crozier, Wilham	Moorna, Wentworth	" "	26 " 1892	1547-8	Agriculture	9	60	Wool.
Crozier, W D.	Horse-shoe, "	" "	26 " 1892	1549	"	9	60	" "
Cullen Bul'on Lime and Cement Co	Sydney	" "	26 " 1892	1615-23	Mining	44	296	Cement.
Cunningar Tribute Gold-mining Co.	" .....	" .....	" .....	.....	" .....	42	290	Auriferous pyritous quartz.
Cunningham, A. J. and J.....	Lanyon, Qucanbeyan	Mariposa	26 Dec, 1892	1538, 1543	Agriculture ...	9	60	Wool
Curry, Richard	Marulan	" "	26 " 1892	978-9	Manufactures	87	547	Eucalyptus oil
Dadley, Mrs	Balmam	Monowai	23 Jan, 1893	..	Woman's Work	104	853	Clothing, &c.
Daily Telegraph Newspaper Co	Sydney	Alameda	28 Nov, 1892	473 4	Liberal Arts...	110	858	Files and sketches.
" "	"	" "	20 Feb, 1893	2281	" "	110	858	Files.
" "	"	" "	15 May, 1893	2488	" "	110	858	" "
" "	"	" "	7 Aug., 1893	2525	" "	110	858	" "
Dalgety & Co. (Limited) ..	"	" "	28 Nov, 1892	525	Agriculture ...	9	60	Photograph.
" "	"	" "	26 Dec, 1892	2043	"	9	60	Wool.
Dalton Brothers ..	Orange ..	Monowai	23 Jan, 1893	2137	"	9	60	" "
Dangar and Macdonald Bros	Wagga Wagga	Mariposa	26 Dec, 1892	1569	"	9	60	" "
Dangar Brothers ..	Gostwyck, Uralla	" "	26 " 1892	1422-31	"	9	60	" "
Daunt, Mrs. Margaret ..	Mount Vincent	Monowai	23 Jan., 1893	..	Woman's Work	106	665	Knitting.
Davenport, Miss Juha ..	Richmond	" "	23 " 1893	..	" "	104	658	Sewing and darning.
Davidson Robert	Elong Elong, via Dubbo.	" "	23 " 1893	2150	Agriculture	9	60	Wool.
Deane, Miss M. E.	Greenwich ..	" "	23 " 1893	....	Woman's Work	140	.....	Paintings.
Deans, T M.	Coonabarabran.	Mariposa	26 Dec, 1892	1533, 1544	Agriculture ..	9	60	Wool.
Deep Creek Gold-mining Co. .	Nambucca .....	" .....	" .....	.....	Mining ..	42	290	Auriferous arsenical lodestuff.
D'Elboux, Louis W. ..	Hillme, Koorawatha	Mariposa	26 Dec, 1892	847	Agriculture .	9	60	Wool.
Department of Agriculture.....	Sydney	Alameda	20 Feb, 1893	2274	" "	1	8	Grasses.
" "	"	" "	20 " 1893	2274	" "	1	9	Forage plants.
" "	"	" "	20 " 1893	2274	" "	15	83	Publications
Department of Public Instruction.	"	" "	28 Nov, 1892	1124-30	Liberal Arts ...	149	842	School exhibits.
" "	"	Mariposa	26 Dec, 1892	1237-65	" "	149	847	Technical College exhibit
" "	"	" "	26 " 1892	1475-89	" "	149	847	Technical Museum exhibits.
Deverell, E. J.....	Glen Innes ...	Alameda	28 Nov., 1892	507-9	Forestry	19	99	Timbers.
Devlin & Co. ..	Ganman ..	" "	28 " 1892	779-80	Agriculture ...	9	60	Wool.
Denman, Miss	Sydney	Monowai	23 Jan, 1893	1783	Woman's Work	104	653	Needlework.
Dickson, T. H.	Bondi	" "	23 " 1893	2121-2	Manufactures .	87	549	Soap.
Dight and Mackay ..	Bulgandramine, Parkes.	Mariposa	26 Dec, 1892	1716	Agriculture	9	60	Wool
Dickson and Sons	Sydney	Monowai	23 Jan, 1893	1781	"	8	49	Photograph.
Donnelly, D C J., M.P.	Cowra ..	Mariposa	26 Dec, 1892	50	Mining	42	290	Iron ore, &c.
Dornelly, Mrs.	Darlinghurst	Monowai	23 Jan, 1893	..	Woman's Work	106	685	Crotchet lace.
Dowling, V. J.	Luc, Rylstone	Alameda	28 Nov, 1892	710-5	Agriculture	9	60	Wool.
" "	"	Mariposa	26 Dec, 1892	2053, 2059	" "	9	60	" "
Doyle, E F.....	Werris Creek	" "	26 " 1892	.....	" "	3	26	Honey.
Doyle, J. F.	Kaludah, Lochmva	" "	26 " 1892	1401-4	Horticulture	20	126	Wines.
Doyle, Miss J. M.	Goulburn	Monowai	23 Jan, 1893	..	Woman's Work	140	.....	Painting
Drewe, Miss A.	Sydney	" "	23 " 1893	1794	Liberal Arts	158	926	Musical compositions.
Drewe, A. J.	"	" "	23 " 1893	1794	"	158	926	" "
Drunkwater, Charles	Newcastle	Alameda	28 Nov. 1892	1105	Fine Arts ...	140	.....	Painting.
Dunlunty and Deakin ..	Killoola, Peel	Mariposa	26 Dec., 1892	1554	Agriculture .	9	60	Wool.
Duntroon Estate, Trustees of	Queanbeyan ..	Alameda	28 Nov, 1892	833-6	"	9	60	" "
Durham, J. B.	Sydney	Monowai	23 Jan, 1893	1797	Liberal Arts ...	145	909	Old Exhibition documents.
Dymock, W	"	"	23 " 1893	1781	"	150	854	Photograph.
Eaton and Grant	Albury	Alameda	28 Nov, 1892	974-7	Horticulture..	20	126	Wines
Eaton, E. W. F.	Wagga Wagga	" "	28 " 1892	785	Agriculture ...	12	73	Ale and stout.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package.	Department.	Group.	Class.	Nature of Exhibit.
Eckford, J. W.	Mallaraway, Narrabri.	Mariposa	26 Dec., 1892	1534	Agriculture	9	60	Wool.
Egan, C.	Deep Creek	Alameda	28 Nov., 1892	750	"	9	60	"
Eleanora Gold & Antimony Mining Co.	Hillgrove	Mariposa	26 Dec., 1892	921	Mining	42	290	Auriferous quartz.
Ellis, Mrs. E. J.	Darlinghurst	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Clothing.
Ellis, T. E.	Newcastle	Mariposa	26 Dec., 1892	1286	Manufactures	99	656	Boots and shoes.
Elton, J. C.	Kempsey	"	26 " 1892	1701	Ethnology	160	...	Aboriginal weapons.
Elwin & Co., W. H.	Orange	"	26 " 1892	1294-6	Agriculture	12	73	Ale.
Engelen, J. B.	Gundagai	Alameda	28 Nov., 1892	351	Mining	42	290	Asbestos.
"	"	"	28 " 1892	409	"	42	290	Copper ore.
"	"	"	28 " 1892	410	"	42	290	Chromite.
Equitable Life Assurance Society of U.S.	Sydney	Monowai	23 Jan., 1893	2111	Liberal Arts	154	902	Photographs.
Everill, Capt. H. C.	"	"	"	"	Ethnology	160	...	Aboriginal weapons.
Eyles, William	Orange	Alameda	15 May, 1893	2428-42	Horticulture	21	133	Apples.
Faint, A. and J.	Armidale	Monowai	17 Apr., 1893	.....	"	21	133	Fruits.
Fairfax and Sons, John	Sydney	"	23 Jan., 1893	2074-80	Liberal Arts	150	858	Newspaper exhibit.
"	"	"	17 Apr., 1893	2414	"	150	858	Files.
Faithfull, W. P.	Springfield, Goulburn.	"	23 Jan., 1893	2158-9	Agriculture	9	60	Wool.
Fallon (Executors of J. T.)	Albury	Alameda	28 Nov., 1892	1023-7	Horticulture	20	126	Wines.
"	"	Mariposa	20 Mar., 1893	2302-7	"	20	126	"
Fanner, R. E.	North Sydney	"	26 Dec., 1892	1741	Transportation	85	528	Yacht's gig.
Farleigh, Nettheim, & Co.	Sydney	"	26 " 1892	520	Manufactures	111	697	Sole leather.
Felton, Miss Myra	"	Monowai	23 Jan., 1893	.....	Woman's Work	150	854	Australian story.
Fetherstonhaugh, C.	Goorianawa, Gilgandra.	Mariposa	26 Dec., 1892	1550-3	Agriculture	9	60	Wool.
Fiaschi, Thomas, M.D.	Sydney	Monowai	23 Jan., 1893	2163-72	Horticulture	20	126	Wines, &c.
"	"	"	23 " 1893	1781, 2240	"	20	126	Photographs.
Fischer, A. J.	Art Society	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Paintings.
Fischer, Miss G. F. C.	Woollahra	Monowai	23 Jan., 1893	.....	Woman's Work	21	140	Jams and fruits.
Fischer, Mrs. Carl	"	"	23 " 1893	.....	"	22	169	Jardiniere.
"	"	"	23 " 1893	.....	"	105	662	Furs.
"	"	"	23 " 1893	.....	"	106	664	Laces.
"	"	"	23 " 1893	.....	"	172	...	Memorial of Exhibition of Woman's Ind.
Fisher and Fraser	Grenfell	Alameda	28 Nov., 1892	1135	Agriculture	12	73	Ale.
"	"	"	15 May, 1893	2422	"	12	73	"
Fitzgerald, Miss M. A.	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	150	854	Australian stories.
Flemming, Mrs. M. P.	Coogee	Mariposa	26 Dec., 1892	1131	Fine Arts	140	...	Painting.
Fletcher Brothers	Kentucky	"	26 " 1892	2037-8, 2046	Agriculture	9	60	Wool.
Folbigg, James	Chataworth	"	26 " 1892	784	Ethnology	160	...	Aboriginal weapons.
Forsyth and Sons	Sydney	Alameda	28 Nov., 1892	341-2	Mining	46	304	Bricks and clay.
Forsyth and Sons, Jas.	"	"	28 " 1892	1021-2	Manufactures	111	697	Sole leather.
Fosbery, E.	"	"	"	.....	Ethnology	160	...	Stone Axe head.
Frankland G. J.	Paterson	Monowai	23 Jan., 1893	2246	Horticulture	20	126	Wines.
Franks, W. J.	Sydney	"	"	.....	Mining	42	290	Auriferous lodestuff.
Fraser, Mrs. J. G.	Glebe	Monowai	23 Jan., 1893	.....	Woman's work	110	695	Dressed dolls.
Freeman, Miss Annie	Randwick	"	23 " 1893	.....	"	106	664	Point lace.
Frew & Co., W.	Albury	Alameda	28 Nov., 1892	549	Forestry	19	99	Timbers.
Friend Brothers	Binalong	Monowai	23 Jan., 1893	2,134	Agriculture	9	60	Wool.
Frost, D. J.	Grafton	"	23 " 1893	1781	Liberal Arts	150	564	Map.
Fullwood, A. H.	Art Society	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Paintings.
Gant, J.	"	"	26 " 1892	.....	"	140	...	"
Gardiner, Edwin	Temora	Alameda	28 Nov., 1892	788	Agriculture	1	11	Flour.
Gardiner, W. J.	Rouchel, Murrurundi.	Mariposa	26 Dec., 1892	1535	"	9	60	Wool.
Garibaldi Gold-mining Co.	Sydney	"	26 " 1892	307	Mining	42	290	Aur. antimonial quartz
Garnock Brothers	Bukalong, Bombala	Monowai	23 Jan., 1893	2233	Agriculture	9	60	Wool.
Garrard, Henry	Grafton	"	"	.....	Horticulture	21	136	Photograph.
Garrett, Mrs. E.	Carrington	Monowai	23 Jan., 1893	.....	Woman's Work	100	630	Knitting in silk.
Genowlan Shale Co.	Sydney	Mariposa	26 Dec., 1892	74	Mining	42	290	Kerosene shale.
Genty, L. T.	Minto	Alameda	28 Nov., 1892	1199-1203	Horticulture	20	126	Wines, &c.
"	"	Monowai	17 Apr., 1892	2416	"	20	126	Wines.
Geographical Society of Australasia	Sydney	Mariposa	20 Mar., 1893	2312	Liberal Arts	155	908	Transactions.
Gibb and Son, James	Berthong, Wallandbeen.	Alameda	28 Nov., 1892	717-8	Agriculture	9	60	Wool.
"	"	Mariposa	26 Dec., 1892	2045	"	9	60	"
Gibraltar Hill Gold-mining Co.	Adelong	Alameda	28 Nov., 1892	228	Mining	42	290	Aur. pyr. quartz.
Gilmour, Miss Ruby	Stanmore	Monowai	23 Jan., 1893	.....	Woman's Work	106	665	Doll's outfit.
Glencross, C.	Macdonaldtown	Mariposa	26 Dec., 1892	1743-4	Transportation	83	513	Cabs.
Golden Cloud Gold-mining Co.	Sydney	"	"	.....	Mining	42	290	Aur. pyr. quartz.
Goodwin, Henry	"	Mariposa	26 Dec., 1892	1711	Transportation	83	511	Photographs.
"	"	"	26 " 1892	2060-2	"	83	511	Wool waggon.
Gordon Emery and Colour Co.	"	"	26 " 1892	1624-6	Mining	48	319	Paint ochres.
Gordon, G. H. and H. E. H.	Gragin	Alameda	28 Nov., 1892	756	Agriculture	9	60	Wool.
"	"	Mariposa	26 Dec., 1892	1526	"	9	60	"
Government Astronomer	Sydney	Alameda	28 Nov., 1892	2245	Liberal Arts	155	908	Publications.
"	"	Mariposa	20 Mar., 1893	2312	"	155	908	Photographs.
Government Printer	"	"	26 Dec., 1892	1745-7	Machinery	74	458	Bookbinding and printing, electrotyping and stereotyping.
Grafton Home for the Aborigines	Grafton	"	"	.....	Ethnology	160	...	Photographs.
Grafton Municipal Council	"	"	"	.....	Liberal Arts	151	871	"
Grant, L. McB.	Butherswah, Urana	Alameda	28 Nov., 1892	524	Agriculture	9	60	Wool.
Grant, W.	Bathurst	Mariposa	26 Dec., 1892	530	Manufactures	105	660	Furs and leather.
Gray, J.	Wagga Wagga	Alameda	28 Nov., 1892	505	Forestry	19	99	Timbers.
Gray, J. G.	Corowa	"	30 Feb., 1893	2250	Horticulture	20	126	Wines.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package.	Department.	Group.	Class.	Nature of Exhibit.
Great Cobar Copper-mining Co.	Sydney	Mariposa	26 Dec., 1892	1392	Mining	42	290	Copper ore.
Great Jingera Proprietary Silver-mining Co.	.....	.....	.....	.....	" .....	42	290	Argentiferous and auriferous bismuth.
Great Nuntherungie Proprietary Silver-mining Co.	Nuntherungie...	.....	.....	.....	" .....	42	290	Silver lead ores.
Green, C. K.	Tumut.....	Mariposa	26 Dec., 1892	1770	Agriculture ...	1	2	Maize.
"	"	"	26 " 1892	1771	Horticulture ...	21	139	Dried fruits.
Green, W. C.	Allandale	Alameda	28 Nov., 1892	1116-7	"	20	126	Wines.
Greene, G. H.	Iandra, Young	Mariposa	26 Dec., 1892	1758	Agriculture ...	9	60	Wool.
Greta Collieries Co. (Ltd.) ..	Sydney	"	26 " 1892	1682	Mining	43	292	Coal.
Grice, B. J.	"	"	26 " 1892	1197	Fine Arts	144	...	Ceiling decoration
Griffiths, Thomas.....	Ashfield	"	26 " 1892	1212	Machinery ...	77	486	Patent grease interceptor
Grigor, R.	Sydney	Alameda	28 Nov., 1892	1224	Manufactures ..	96	598	Wood-carving.
Grigor, W. G.	North Sydney...	"	28 " 1892	1223	"	87	547	Eucalyptus oil.
Grogan, W. J.	Tamangaroo, Yass..	Monowai	23 Jan., 1893	2161	Agriculture ...	9	60	Wool.
Gross, A.	Sydney	Alameda	28 Nov., 1892	1211	Machinery	119	747	Nut lock bolt.
Grover, E.	Glen Innes	"	28 " 1892	1186	Agriculture ...	1	11	Flour.
Guille, Mrs. H. E.	Goulburn	"	28 " 1892	991	Woman's Work	147	832	Bamber bed.
"	"	Monowai	23 Jan., 1893	.....	" .....	106	664	Lace.
Guy, Francis	Pymont	Alameda	28 Nov., 1892	967-8	Forestry	19	99	Wooden blocks.
Hall, C. C.	Yeumburra, Yass..	"	28 Nov., 1892	748 9	Agriculture ...	9	60	Wool.
Hall, Mrs. John	Balmain	Monowai	23 Jan., 1893	.....	Women's Work	106	665	Darning.
Halliday, F.	Bathurst .....	" .....	.....	.....	Forestry	19	99	Wattle bark.
Halligan, Mrs. G.	Art Society.....	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Paintings.
"	Hunter's Hill ..	Monowai	23 Jan., 1893	.....	Woman's Work	141	...	"
Hanlon, John	Booroorban via Hay	" .....	.....	.....	Agriculture ...	9	60	Wool.
Hannay, J. B.	Sydney	Mariposa	26 Dec., 1892	1704	Ethnology	160	...	Aboriginal weapons.
Hanson, William	North Sydney...	" .....	.....	.....	Agricultural ...	9	60	" Pastoral Possessions."
Harber, A.	St. Peters	"	28 Nov., 1892	350	Mining	46	304	Brickmaking clay.
Harbours & Rivers Department	Sydney	Alameda	23 Jan., 1893	1731	Liberal Arts...	150	864	Maps.
Harding, Miss Fox	"	Monowai	23 Nov., 1892	1216	Woman's Work	147	832	Invalid mattress.
Harkness, W.	Lincluden, Cooma..	Alameda	26 Dec., 1892	1432	Agriculture ...	9	60	Wool.
Harris, Mrs. M.	Ultimo	Mariposa	23 Jan., 1893	.....	Woman's Work	27	...	Models of live stocks.
"	"	Monowai	23 " 1893	.....	" .....	100	630	Knitting in silk.
"	"	"	23 " 1893	.....	" .....	106	665	Netting.
Harrison and Corscaden.....	Riverside, Forbes..	"	28 Nov., 1892	521	Agriculture ...	9	60	Wool.
Hawkesbury Agricultural and Pastoral Association.	Windsor	Alameda	.....	.....	" .....	14	82	Photograph.
Haydon, B.	Bloomfield, Blandford.	Alameda	28 Nov., 1892	810	"	9	60	Wool.
Hayes, Miss Kate.....	Goulburn	Monowai	23 Jan., 1893	.....	Woman's Work	142	...	Painting on porcelain.
Hayes, W. G.	Pictou	Mariposa	26 Dec., 1892	684	Mining	42	290	Hematite.
Hayley, Mrs. A. W.	Lithgow	Monowai	23 Jan., 1893	.....	Woman's Work	116	665	Darning.
Haylock, A.	Hay	Mariposa	26 Dec., 1892	1536	Agriculture ...	9	60	Wool.
Haytor, G.	Newbridge	"	26 " 1892	685	Mining	42	290	Brown Hematite.
Head, Georgina	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Lady's garment.
Heiron and Smith	"	"	23 " 1893	2096-2102	Manufactures..	90	566	Billiard-table.
Henderson, G.	Grafton .....	" .....	.....	.....	Forestry	19	99	Timbers.
Heron, W.	Art Society	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Painting.
Hetherington-Carruthers, Mrs.	Sydney	Monowai	23 Jan., 1893	1794	Woman's Work	135	809	Electric belts.
Hetton Coal-mining Co.	"	Mariposa	26 Dec., 1892	1674-6	Mining	43	292	Coal.
Hickson, J. C.	Burwood	Alameda	28 Nov., 1892	506	Forestry	19	99	Tallow-wood.
Higginbotham and Robinson ..	Sydney	Mariposa	26 Dec., 1892	1281	Liberal Arts...	150	864	Maps.
Hill, Frank .....	" .....	" .....	.....	.....	Ethnology	160	...	Nardoo stones.
Hill, J. D.	Bogalara, Bookham	Mariposa	26 Dec., 1892	2054	Agriculture ...	9	60	Wool.
Hobartville Stud Company ..	Richmond .....	" .....	.....	.....	" .....	14	82	Photograph.
Hodgson Bros.	Goulburn	Alameda	28 Nov., 1892	1034	Transportation	93	523	Whips.
Hoffnung & Co.	Sydney	Monowai	23 Jan., 1893	1781	Liberal Arts...	150	871	Photograph.
Holden, R. H.	Kiama	Mariposa	26 Dec., 1892	987	Fine Arts	140	...	Paintings.
"	"	Monowai	23 Jan., 1893	1781	Liberal Arts...	151	871	Photographs.
Holdsworth, M'Pherson, & Co.	Sydney	Alameda	28 Nov., 1892	1001-2	"	147	829	Filters.
Holmes, Cecil	Glebe	Mariposa	26 Dec., 1892	1028	Fine Arts	140	...	Painting.
Holschier, John	Altcar, nr. Moama.	" .....	.....	.....	Agriculture ...	1	1	Wheat.
Holt, H. W. L.	Waratah	Monowai	23 Jan., 1893	996-8	Fisheries	37	248	Snakes and reptiles.
Hood, P.	Bathurst	Mariposa	26 Dec., 1892	1266	Agriculture ...	2	12	Baking-powder.
Hooworth, G.	Sydney	"	26 " 1892	1213-5	Fine Arts	139	820	Sculpture.
Horsfall & Co., J. S.	Kerarbury via Narrandera.	Alameda	28 Nov., 1892	523, 740, 725-6	Agriculture ...	9	60	Wool.
Horsfall, John Sutcliffe	Widgiewa via Narrandera.	"	28 " 1892	.....	" .....	9	60	"
Horsley, R. F.	Yabtree	"	28 " 1892	782	"	9	60	"
Horton T., junior.....	Fairfield	"	28 " 1892	308-9	Mining	42	290	Minerals.
Hospital for Sick Children.....	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	147	832	Model cot.
Hotel Metropole Co.	"	Mariposa	26 Dec., 1892	1288	Liberal Arts...	151	871	Photographs.
Hudson, R.	Balala, Uralla	Monowai	23 Jan., 1893	2160	Agriculture ...	9	60	Wool.
Hulks, Mrs. F. A.	Bathurst	Mariposa	26 Dec., 1892	736-7	Horticulture ...	21	140	Preserved fruits.
Hullock, Mrs. Agnes	Peel	Alameda	28 Nov., 1892	951	Agriculture ...	9	60	Silk.
"	"	Mariposa	26 Dec., 1892	952	Manufactures ..	96	...	Emu eggs.
Hudson and party	Woodstock	"	26 " 1892	103	Mining	42	290	Manganese.
Hume, C. L.	Castlesteads, Burrowa.	Monowai	23 Jan., 1893	2152	Agriculture ...	9	60	Wool
Hume, E. B.	Frankfield, Gunning	"	23 " 1893	2148	"	9	60	"
Hume, F. W.	Tarengo, Burrowa..	Alameda	28 Nov., 1892	843-4	"	9	60	"
Hume, H. R. F.	Everton, Rye Park	Monowai	23 Jan., 1893	2136	"	9	60	"
Hunt, C. H.	Art Society.....	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Paintings.
Hunt, J. H.	Sydney	Monowai	23 Jan., 1893	1794	Liberal Arts...	152	889	Architectural designs.
Hunter River Bee-keeper's Association	West Maitland	Mariposa	26 Dec., 1892	1481-6	Agriculture ...	3	26	Honey.
Hyman, C. P.	Sydney	Monowai	23 Jan., 1893	2242	Liberal Arts...	154	897	Collection of coin and currency.

APPENDIX E—continued.

Name of Exhibitor	Address	Steamer	Left Sydney	No of package	Department	Group	Class	Nature of Exhibit.
Ilett, George	Milton	Alameda	28 Nov, 1892	479	Ethnology	160	..	Aboriginal drawing.
Irving, J. C.	Grafton	"	"	"	"	160	..	Stone axe head.
Isaacsohn, Martin	Nundle	Alameda	20 Feb., 1893	2266-9	Mining	42	290	Minerals.
"	"	Ophir	25 " 1893	1695, 2270	"	42	290	Gold specimens.
Jackson A.	Derwent Park, Gunnedah.	Monowai	23 Jan., 1893	2154	Agriculture	9	60	Wool.
James and Gray	Corowa	Alameda	28 Nov, 1892	703-4	"	9	60	"
Jameson, Neil	Albury	Mariposa	26 Dec, 1892	1707	"	16	84	Plough.
Jaques, W. F.	Therabri, Boggabri	"	26 " 1892	815-6	"	9	60	Wool.
Jenkins, G. H.	Armidale	Monowai	23 Jan, 1893	2139	"	9	60	"
Jenkins, Lieut. R. L. H. B.	Woolahra	Alameda	28 Nov., 1892	492	Ethnology	160	..	Aboriginal weapons.
Johnson, B.	Tumut	"	"	"	Agriculture	1	2	Maize.
Johnson, J. W.	Glenbrook, Cooma	Mariposa	26 Dec, 1892	2034, 2052	"	9	60	Wool.
Jones, F. Oliver	Sydney	Monowai	23 Jan, 1893	1780	Liberal Arts	147	833	Fire plan of Sydney.
Jones, F. R.	Bathurst	Mariposa	26 Dec, 1892	1289	"	..	..	Model staircase.
Jones, E.	Cadow, Forbes	Alameda	28 Nov, 1892	1540	Agriculture	9	60	Wool.
Kalsomine Metallic Paint Co	Sydney	"	28 " 1892	1690-2	Mining	..	..	Kalsomines.
Katoomba Municipal Council	Katoomba	"	28 " 1892	1106	Liberal Arts	151	871	Photograph.
Kearney, Mrs.	Orange	Monowai	17 April, 1893	2349	Woman's Work	150	854	Australian stories.
Kelly, J.	Cambusdoon, Yerong Creek	Mariposa	26 Dec., 1892	1545	Agriculture	9	60	Wool.
Kelly, Mrs. T. H.	Sydney	Monowai	23 Jan, 1893	.....	Woman's Work	19	99	Timbers.
Kelman, James	Braxton	Mariposa	26 Dec, 1892	1433-56	Horticulture	26	120	Wines
Kemp, A. P.	West Kempsey	"	26 " 1892	1591	Liberal Arts	155	909	Birds' nests and eggs.
Kendall, Mrs. T. M.	Sydney	Monowai	23 Jan, 1893	..	Woman's Work	106	664	Lace handkerchief.
Kennedy and Bateman	Tenterfield	Mariposa	26 Dec, 1892	1457	Mining	45	297	Polishing substance.
Kerry, C. H.	Sydney	"	26 " 1892	1772	Liberal Arts	147	825	Photograph.
Kingsbury & Co, H. H.	"	Alameda	20 Feb, 1893	2277	Transportation	80	499	Lock-nut washer.
Kirk, J. and W.	Chatsworth	Monowai	23 Jan, 1893	2230	Agriculture	2	12	Sugar-cane.
Kitch & Co, G.	Katoomba	Alameda	23 Nov, 1892	1189	Liberal Arts	151*	871	Photographs.
Kurtz, F.	Dubbo	Mariposa	26 Dec, 1892	1487-8	Horticulture	26	120	Wines.
Lambton, S. H.	Sydney	Alameda	28 Nov., 1892	723-4	Liberal Arts	153	893	Postal exhibit.
Lang, John	Corowa	"	28 " 1892	1015-9	Horticulture	26	120	Wines.
"	"	Monowai	17 April, 1893	2404	"	26	120	"
Lankester, A. E.	Albury	Alameda	28 Nov., 1892	1222	"	26	120	"
Lardner, Mrs. A.	Grafton	"	"	..	Ethnology	160	..	Dilly bag.
Lark and Sons	Sydney	Alameda	28 Nov., 1892	922-50, 1300-71	Mining	42	290	Star antimony.
"	"	"	28 " 1892	1372-3	"	42	290	Crude antimony.
"	"	"	28 " 1892	1374	"	42	290	Antimony oxide.
"	"	Monowai	23 Jan, 1893	1799	"	42	290	Photograph.
Lands Department	"	Mariposa	26 Dec, 1892	1598	Liberal Arts	150	864	Maps.
Laurie, A. T.	Rawdon Vale	Alameda	28 Nov., 1892	789	Agriculture	1	7	Arrowroot.
Lawson, Mrs Louisa	Sydney	Monowai	23 Jan, 1893	..	Woman's Work	106	664	Journal.
Laycock Brothers	Coonamble	Mariposa	26 Dec., 1892	1715	Agriculture	9	60	Wool
Leoni, Keating, and party	Bimbmbi Ck, Mogo	"	26 " 1892	332	Mining	42	290	Auriferous quartz.
Leslie, James C.	Corowa	Alameda	20 Feb, 1893	2252	Horticulture	26	120	Wines.
Leslie, William	Dubbo	Mariposa	26 Dec., 1892	1103	Agriculture	2	12	Baking powder.
Levy, Miss Rosa	Sydney	Alameda	28 Nov, 1892	961	"	11	69	Liqueurs.
Lewis, M. W.	East Matland.	"	28 " 1892	407	Mining	44	296	Building stone.
"	"	"	28 " 1892	475	"	44	296	Marble & limestone.
"	"	"	28 " 1892	408	Forestry	19	99	Timbers.
Lichtner and Solomon	Sydney	"	23 " 1892	962-3	Fisheries	40	277	Pearl-shell.
"	"	"	28 " 1892	497-8	Ethnology	160	..	Abor. weapons, &c.
Lindeman, H. J.	"	"	28 " 1892	954-60	Horticulture	26	120	Wines.
Lindsay's Brewery Co.	Orange	"	28 " 1892	1206-9	Agriculture	12	73	Beer.
Litchfield, A. J.	Cooma	Monowai	23 Jan, 1893	2147	"	9	60	Wool.
Little, John	Young	"	23 " 1893	1781	Liberal Arts	151	871	Photograph.
Inversidge, Professor	Sydney	Alameda	28 Nov, 1892	2282-7	Mining	42	290	Minerals.
"	"	Ophir	25 Feb., 1893	2286	"	42	290	Gold and gems.
"	"	Mariposa	20 Mar., 1893	2308	Ethnology	160	..	Abor. weapons.
Loder, Andrew	Colley Creek, Willow Tree.	Alameda	28 Nov, 1892	515-8	Agriculture	9	60	Wool.
Lowe, E J.	Burra, Gulgong	"	28 " 1892	751	"	9	60	"
Lucas, William	Emu Plains	"	28 " 1892	2424-6	Horticulture	21	133	Fresh fruits.
Ludowici and Son, J. C.	Sydney	Mariposa	26 Dec, 1892	1218	Manufactures	111	697	Leather belting.
Lumsdaine, H. S.	Casino	"	"	..	Ethnology	160	..	Abor drawing.
Mabee, Mrs A. L.	Balmain	Mariposa	20 Mar., 1893	2312	Woman's Work	121	..	Patent washer.
Macgregor and Tully	Warraweenah via Bourke.	Alameda	28 Nov., 1892	514	Agriculture	9	60	Wool.
Mackenzie Brothers	Wilcannia	"	"	..	Mining	42	290	Opals.
Macleay Museum	Sydney	"	"	..	Liberal Arts	149	851	Insects.
M'Arthur & Co, A.	"	Monowai	23 Jan, 1893	2240	"	151	871	Photographs.
M'Callum, Argyle	Yass	Mariposa	26 Dec, 1892	1555	Agriculture	9	60	Wool.
M'Carthy, Dr. C. W.	Sydney	"	26 " 1892	1282-5, 1489	Fine Arts	140	..	Plaster busts and oil paintings.
M'Clintock, J.	Cootamundra	Alameda	28 Nov, 1892	819	Agriculture	9	60	Wool.
M'Credie, A. L.	Sydney	"	28 " 1892	1029	Machinery	77	486	Patent rail switch.
M'Donald, J. A.	"	"	28 " 1892	953	Liberal Arts	152	880	Expansion rollers.
M'Eachern, A. L.	Albury	Mariposa	26 Dec, 1892	1298-9	Manufactures	48	746	Horseshoes and farmers' tools.
M'Fadyen, John	Murrurundi	Alameda	20 Feb, 1893	2289	Liberal Arts	151	871	Photographs.
M'Farland, Young, & Co.	Myall Ck, Inverell	"	23 Dec, 1892	826, 838	Agriculture	9	60	Wool.
M'Garry, James	Goulburn	"	28 " 1892	1435	Manufactures	118	746	Horseshoes.
M'Gee and Quinn	Parkes	"	"	..	Agriculture	1	1	Wheat and flour.
M'Grath J. J.	Wagga Wagga	Mariposa	26 Dec, 1892	1196	Transportation	83	523	Riding saddle.
M'Grath, P.	Lang's Ck, Burrowa	Alameda	28 Nov, 1892	809	Agriculture	9	60	Wool.
M'Gregor, A. S.	Art Society	"	20 Feb., 1893	2280	Fine Arts	140	..	Pictures.
M'Ilwaine, Mrs.	"	Mariposa	26 Dec., 1892	..	"	140	..	Paintings.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package	Department.	Group.	Class.	Nature of Exhibit.
M'Ilwaine, Mrs.	Paddington	Monowai	23 Jan., 1893	.....	Woman's Work	140	...	Paintings.
M'Innes, Mrs.	Middle Arm, Sydney	"	23 " 1893	.....	"	104	657	Gloves and socks.
M'Kay, W.	Bombala	"	3 " 1893	2131	Agriculture	9	60	Wool.
M'Keahnie, C. H.	Queanbeyan	Mariposa	26 Dec., 1892	1525	"	9	60	"
M'Keown, Miss Rosa	Milburn Creek	Monowai	23 Jan., 1893	1782	Woman's Work	110	729	Seed cushion.
M'Lean, L.	Condobolin	Mariposa	26 Dec., 1892	2035	Agriculture	9	60	Wool.
M'Master, Duncan	Sydney	"	26 " 1892	1768	"	9	60	"
M'Myles, Mrs. W. C.	Bathurst	Monowai	23 Jan., 1893	.....	Woman's Work	106	666	Feather flowers.
M'Nab, R.	Sydney	Mariposa	26 Dec., 1892	1755-7	Manufactures	118	746	Bellows and forge.
M'Shane, Patrick	Goulburn	"	.....	.....	Agriculture	1	1	Cereals.
Magennis and Julian Bros.	Bogolong, Bookham	Mariposa	26 Dec., 1892	1527	"	9	60	Wool.
Maher, Mrs.	Collaroy	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Child's garment.
Maiden, J. H., F.L.S.	Sydney	Mariposa	26 Dec., 1892	1590	Liberal Arts	155	909	Herbarium.
Major's Creek G.M. Co.	"	"	.....	.....	Mining	42	240	Auriferous quartz.
Mallaby, G. J.	Armidale	Alameda	28 Nov., 1892	1204	Agriculture	18	76	Soap.
Manchee, J. C.	Willow Tree	"	28 " 1892	760-6	"	9	60	Wool.
Mankin, R.	Morongla Creek	"	.....	.....	"	3	26	Honey.
Mansfield, C.	Largs	"	.....	.....	"	3	26	"
Marion & Co.	Sydney	Alameda	20 Feb., 1893	2254	Liberal Arts	151	871	Photographs.
Marine Board of N.S.W.	"	"	.....	.....	Transportation	85	534	Coast chart.
Marr, Miss Florence	Lewisham	Monowai	23 Jan., 1893	.....	Woman's Work	140	.....	Painting.
Marsh, C. M'Leod	Tallisker, Uralla	Mariposa	26 Dec., 1892	820	Agriculture	9	60	Wool.
Marsh, Miss Sybil	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	110	695	Dressed doll.
Martin, R.	Bathurst	Mariposa	26 Dec., 1892	1290	Manufactures	118	743	Horse-shoes.
Masonic Hall Co. (Ltd.)	Sydney	"	.....	.....	Liberal Arts	151	871	Photograph.
Massey & Co.	Young	Mariposa	26 Dec., 1892	1183-4	Manufactures	87	547	Eucalyptus extract.
Mather, Thomas	Inverell	Alameda	28 Nov., 1892	1185	Horticulture	20	126	Wines.
"	"	Mariposa	26 Dec., 1892	1566	"	20	131	Brandy.
Matthews, H. C.	Bathurst	"	.....	.....	Agriculture	1	1	Wheat and flour.
Maund, Miss Lucy	Waverley	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Sewing, &c.
Mazoudier & Co., A.	Parkes	Alameda	28 Nov., 1892	970-1	Forestry	19	99	Timbers.
Mercantile Rowing Club	Sydney	Monowai	23 Jan., 1893	1799	Transportation	85	536	Photographs.
Merriman, George	Yass	Alameda	28 Nov., 1892	705-6, 783	Agriculture	9	60	Wool.
Middleton, A. D.	Kalangara, Cunningham.	Mariposa	26 Dec., 1892	1764	"	9	60	"
Midwood, C.	Willoh via Brewarrina.	Alameda	28 Nov., 1892	708	"	9	60	"
Millard, W., J.P.	Ulladulla	"	.....	.....	Forestry	19	99	Hickory bark.
Miller, D. S. K.	Paddington	"	.....	.....	Mining	42	290	Silver ores.
Minister for Mines	Sydney	Alameda	28 Nov., 1892	30, 123-33	"	42	290	"
"	"	"	28 " 1892	265-7, 212-22	"	42	290	"
"	"	"	28 " 1892	226-7,	"	42	290	"
"	"	"	28 " 1892	236-8	"	42	290	"
"	"	"	28 " 1892	346, 155-68	"	42	290	"
"	"	"	28 " 1892	175-9,	"	42	290	"
"	"	"	28 " 1892	190-1	"	42	290	"
"	"	"	28 " 1892	195-7,	"	42	290	"
"	"	"	28 " 1892	199 206	"	42	290	"
"	"	"	28 " 1892	61	"	42	290	Cobalt ores.
"	"	"	28 " 1892	63	"	42	290	Metallic lead.
"	"	"	28 " 1892	75-88	"	42	290	Graphite.
"	"	"	28 " 1892	90-102, 239	"	42	290	Auriferous quartz.
"	"	"	28 " 1892	245-6,	"	42	290	"
"	"	"	28 " 1892	347-9	"	42	290	"
"	"	"	28 " 1892	112-3	"	42	290	Stibnite.
"	"	"	28 " 1892	114-21,	"	42	290	Show-cases.
"	"	"	28 " 1892	137-40	"	42	290	"
"	"	"	28 " 1892	181-3,	"	42	290	"
"	"	"	28 " 1892	411-4	"	42	290	"
"	"	"	28 " 1892	891-5	"	42	290	"
"	"	"	28 " 1892	134-5,	"	42	290	Auriferous quartz.
"	"	"	28 " 1892	419-24	"	42	290	"
"	"	"	28 " 1892	141-3,	"	42	290	Stream tin ore.
"	"	"	28 " 1892	188-9	"	42	290	"
"	"	"	28 " 1892	187, 210	"	42	290	Lode tin ore.
"	"	"	28 " 1892	230-1,	"	42	290	"
"	"	"	28 " 1892	144-6	"	42	290	"
"	"	"	28 " 1892	152-4,	"	42	290	"
"	"	"	28 " 1892	169-73	"	42	290	"
"	"	"	28 " 1892	240-4, 261	"	42	290	"
"	"	"	28 " 1892	263	"	42	290	"
"	"	"	28 " 1892	147	"	42	290	Alunite.
"	"	"	28 " 1892	174, 223	"	42	290	Auriferous lodestuff.
"	"	"	28 " 1892	192, 207-8	"	42	290	Copper ore.
"	"	"	28 " 1892	193	"	42	290	Antimony ore.
"	"	"	28 " 1892	194	"	42	290	Marble.
"	"	"	28 " 1892	198	"	42	290	Type metal.
"	"	"	28 " 1892	209	"	42	290	Alum earth.
"	"	"	28 " 1892	211, 225	"	42	290	Bismuth ore.
"	"	"	28 " 1892	224	"	42	290	Iron ore.
"	"	"	28 " 1892	258	"	42	290	Tripolite.
"	"	"	28 " 1892	259-60	"	42	290	Building stones.
"	"	"	28 " 1892	359-84	"	42	290	"
"	"	"	28 " 1892	264	"	42	290	Diamond-bearing gravel.
"	"	"	28 " 1892	333-9	"	42	290	Fossils.
"	"	"	28 " 1892	355, 357-8	"	42	290	Decorations.
"	"	"	28 " 1892	417-8	"	42	290	"
"	"	"	28 " 1892	356	"	42	290	Diamond-drill core.

APPENDIX E—continued.

Name of Exhibitor	Address	Steamer	Left Sydney	No of package	Department	Group	Class	Nature of Exhibit.
Minister for Mines	Sydney	Alameda	28 Nov., 1892	385-7	Mining	42	290	Coal.
"	"	"	28 " 1892	390-1	"	42	290	Trachyte, &c.
"	"	"	28 " 1892	426	"	42	290	Granite.
"	"	"	28 " 1892	680-3	"	42	290	Sandstone.
"	"	"	28 " 1892	690-700	"	42	290	Minerals.
"	"	Mariposa	26 Dec., 1892	27, 31, 53	"	42	290	Limestone.
"	"	"	26 " 1892	29	"	42	290	Lead ore.
"	"	"	26 " 1892	32, 44, 51-3	"	42	290	Auriferous quartz.
"	"	"	26 " 1892	33, 38, 41, 67	"	42	290	Auriferous lodestuff.
"	"	"	26 " 1892	34, 136	"	42	290	Chrome ore.
"	"	"	26 " 1892	35, 39	"	42	290	Copper ore.
"	"	"	26 " 1892	40	"	42	290	Auriferous copper ore.
"	"	"	26 " 1892	42-3, 180	"	42	290	Lode tin ore.
"	"	"	26 " 1892	221	"	42	290	Silver ore.
"	"	"	26 " 1892	54, 899	"	42	290	Manganese.
"	"	"	26 " 1892	55	"	42	290	Auriferous mispickel.
"	"	"	26 " 1892	58	"	42	290	" quartz.
"	"	"	26 " 1892	59-122	"	42	290	Iron ore.
"	"	"	26 " 1892	62-6	"	42	290	Show-case.
"	"	"	26 " 1892	186	"	42	290	Kerosene shale.
"	"	"	26 " 1892	217-8	"	42	290	Minerals.
"	"	"	26 " 1892	693	"	42	290	Rocks.
"	"	"	26 " 1892	1629-30	"	42	290	Marble.
"	"	"	26 " 1892	1651-61	"	42	290	Labels.
"	"	"	26 " 1892	1685	"	42	290	Maps and diagrams.
"	"	"	26 " 1892	1686	"	42	290	Granite.
"	"	"	26 " 1892	1687	"	42	290	Silver ore.
"	"	"	26 " 1892	1689	"	42	290	Show-case stand.
"	"	"	26 " 1892	1693	"	42	290	Mosaic table.
"	"	"	26 " 1892	1697	"	42	290	Carbonate of lead.
"	"	"	26 " 1892	1698	"	42	290	Diamond-drill core.
"	"	"	26 " 1892	1699	"	42	290	Emerald matrix.
"	"	Monowai	23 Jan., 1893	1684, 2234	"	42	290	Geological Survey report.
"	"	Alameda	20 Feb., 1893	2272	"	42	290	Gold and gems.
"	"	"	20 " 1893	1683	"	42	290	Literature and map.
"	"	Monowai	10 July, 1893	2516-21	"	42	290	Botanical specimens and documents.
Minister for Mines and Agriculture	"	Alameda	20 Feb., 1893	2274	Agriculture	15	83	Water colour drawings.
Minns, B. E.	Art Society	Mariposa	26 Dec., 1892	.	Fine Arts	140	.	Jams.
Mitchell & Co., D.	Sydney	Alameda	28 Nov., 1892	988-9	Horticulture	21	141	Fruits.
Mitchell, J. L.	Armidale	"	"	"	"	21	133	Auriferous quartz.
Mitchell's Creek Freehold Gold Estate	Sydney	Mariposa	26 Dec., 1892	56	Mining	42	290	Photographs.
"	"	Alameda	28 Nov., 1892	896	"	42	290	Wool.
Moffatt, Josias	Yarrawyck, Armidale	Mariposa	26 Dec., 1892	1530-1	Agriculture	9	60	Fire escape.
Moir, Dr. H. C.	Sydney	Alameda	28 Nov., 1892	797	Machinery	70	427	Vinegar.
Monk, D. J.	"	"	28 " 1892	481-4	Agriculture	11	71	Drawing in candle-smoke.
Montefiore, E. L.	"	Mariposa	26 Dec., 1892	"	Fine Arts	140	"	Wool.
Moore Brothers	Moorelands, Moree	"	26 " 1892	2057	"	9	60	Tattooing.
Moorehouse, Mrs.	Singleton	Monowai	23 Jan., 1893	"	Woman's Work	106	665	Aboriginal weapons.
Morrison, A.	"	"	"	"	Ethnology	160	"	Wool.
Moses, W. and F. A.	Combaddello, Moree	Alameda	28 Nov., 1892	842	Agriculture	9	60	Painting.
Mosley, Mrs E.	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	140	"	Antimony ore.
Mount Carrangan S.M. Co.	"	"	23 " 1893	1696	Mining	42	290	Silver ores.
Mount Costigan S.M. Co.	Sydney	Alameda	28 Nov., 1892	104-11	"	42	290	Sulphide ores.
"	"	Monowai	23 Jan., 1893	1693	"	42	290	Auriferous lodestuff.
Mount Gahan & M. Co.	Pambula	Mariposa	26 Dec., 1892	686	"	42	290	Coal.
Mount Kembla Coal M. Co.	Sydney	"	"	"	"	42	290	Silver lead ores.
Mount Stewart Lead and S M Co	Sydney	Alameda	28 Nov., 1892	148-51	"	42	290	Lubricating oils
Mowbray & Co.	Goulburn	Mariposa	26 Dec., 1892	527-8	Agriculture	17	98	"
"	"	Monowai	23 Jan., 1893	2241	"	17	98	"
Mudgee Pioneer Shearstone Co	Sydney	"	"	"	Mining	45	297	Oilstones.
Mulholland, G. J.	Oura, Wagga Wagga	Alameda	28 Nov., 1892	746-7, 772-4	Agriculture	9	60	Wool.
Mulholland, T. J.	Rosewood Park, Wagga Wagga	Monowai	23 Jan., 1893	2182	"	9	60	"
Mullen, W. H.	West Maitland	Mariposa	26 Dec., 1892	972-3	Ethnology	160	"	Aboriginal weapons.
Mullins, Mrs.	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	22	167	Album of ferns.
Mundy, James	Maitland	"	"	"	Agriculture	3	26	Honey.
Murray, Andrew	Bannockburn, Inverell	Mariposa	26 Dec., 1892	848, 2032, 2056	"	9	60	Wool.
Murrumbidgee P. and A. Assn	"	"	26 " 1892	1569	"	9	60	"
Mutual Life Assn. of Austr.	Sydney	Alameda	28 Nov., 1892	1217	Liberal Arts	154	902	Photographs.
Myers, Mark	"	Monowai	23 Jan., 1893	1794	"	150	854	"Rienzi" in phonography.
Namoi Pastoral Co. (Ltd)	Narrabri	"	"	"	"	9	60	Wool.
Nash, Porteous, & Co.	Gorah, Coona-barabran.	Monowai	23 Jan., 1893	2135	"	9	60	"
National Art Gallery	Sydney	Mariposa	26 Dec., 1892	1734-40	Fine Arts	140	"	Paintings.
Nesbitt, Miss	Bowral	"	26 " 1892	2312	Women's Work	106	665	Darning.
Newcastle Coal-mining Co	Newcastle	"	26 " 1892	550	Mining	42	290	Coal.
Newcastle Municipal Council	"	"	"	"	Liberal Arts	151	871	Photographs.
Newcastle Wallsend Coal Co	"	Mariposa	26 Dec., 1892	556-7	Mining	43	296	Coal.
Newman, J. H.	Sydney	"	26 " 1892	1573-4	Liberal Arts	151	871	Photographs.
N.S.W. Institution for the Deaf and Dumb.	"	"	26 " 1892	1458-60	"	149	849	Pupil's work.
N.S.W. Shale and Oil Co.	"	Alameda	28 Nov., 1892	340, 428-9	Mining	43	296	Kerosene shale.
"	"	Mariposa	26 Dec., 1892	427	"	43	296	"
New Zealand Insurance Co.	"	Alameda	28 Nov., 1892	1134	Liberal Arts	151	871	Photo
N.Z. Loan and Merc Ag. Co.	"	"	20 Feb., 1893	2271	Agriculture	9	60	"

APPENDIX E—continued.

Name of Exhibitor	Address.	Steamer.	Left Sydney	No of packages	Department.	Group	Class	Nature of Exhibit.
New Emerald Proprietary Co.	Sydney	Mariposa	20 Mar., 1893	2296	Mining ...	42	290	Show-cards.
Nil Desperandum S. M. Co. ...	Nunthcrungie	"	"	"	"	42	290	Silver-lead ores.
Niven and Sons, William	Eugowra	"	"	"	Agriculture .	3	26	Honey.
Oertel, Charles	Sydney	Monowai	23 Jan., 1893	2173	"	11	69	Lemon syrup.
Officer, C. and S.	Kallara, Tilpa..	"	23 " 1893	2138	"	9	60	Wool.
O'Neill, Charles	Sydney	Mariposa	26 Dec., 1892	1287	Mining ...	47	311	Artificial flagging.
On Lee, Miss Olive	"	Monowai	23 Jan., 1893	"	Woman's Work	140	"	Drawing.
Orange Municipal Council	Orange	"	23 " 1893	2240	Liberal Arts	151	871	Photographs.
Orr, Mrs. F. M.	Woollahra	"	23 " 1893	"	Woman's Work	104	653	Lady's garment.
Osborne, George	Foxlow, Bungendore.	Mariposa	26 Dec., 1892	2040, 2043	Agriculture	9	60	Wool.
Osborne, Hamilton	Kangaroo, Canowindra.	"	26 " 1892	2033, 2047	"	9	60	"
Osborne, J. A. ...	Inverell ...	Alameda	28 Nov., 1892	1113-5	Horticulture	20	126	Wines.
"	"	Mariposa	26 Dec., 1892	1112	"	20	126	"
Osborne, P. H.	Currandooley, Bungendore	"	26 " 1892	2051	Agriculture	9	60	Wool.
Osborne Wallsend Coal M. Co.	Sydney	"	"	"	Mining	43	296	Coal.
O'Shanassy, John	Bushfield, Jerilderie	Alameda	28 Nov., 1892	759	Agriculture	9	60	Wool.
"	"	Monowai	23 Jan., 1893	2177, 2183-4	"	9	60	"
Overman, Miss Fanny... ..	Willoughby ...	"	23 " 1893	"	Woman's Work	106	669	Embroidery.
"	"	"	23 " 1893	"	"	140	"	Painting.
Paige, Miss Meinna	Paddington ..	"	23 " 1893	"	"	158	926	Pianoforte composition
Palmer and Green, Mesdames .	"	"	23 " 1893	"	"	106	666	Flowers worked in bullion.
Palmer, Harry	Sydney	"	23 " 1893	1781	Liberal Arts	150	854	Shakespearean sketches.
Parnell, Mrs. E.	"	"	23 " 1893	"	Woman's Work	55	"	Process for extraction of gold.
Pat. Asph. Co. of N.S.W.	"	Alameda	28 Nov., 1892	1175	Mining	47	312	Asph. blocks.
"	"	Monowai	23 Jan., 1893	2240	"	47	312	Show-cards.
Paterson, Mrs. John	Gladsville ...	"	23 " 1893	"	Woman's Work	140	"	Water-colour drawing.
Patten, Robert	West Maitland.	"	"	"	Agriculture ...	3	26	Honey.
Pattison, J. D.	Sydney	Monowai	23 Jan., 1893	2239	"	6	37	Tomato sauce.
Pawley and McIntyre ...	Inverell ...	Alameda	28 Nov., 1892	796	"	1	1	Wheat and flour.
Peak Hill Prop. G. M. Co. .	Peak Hill...	Mariposa	26 Dec., 1892	904-7	Mining ...	42	290	Auriferous lodestuff.
Peate, Lawrence	Bathurst ..	"	26 " 1892	798-802	Agriculture ...	2	12	Baking powder and flo
"	"	"	26 " 1892	798-802	"	6	37	Sauces and condiments.
Pedley, Miss Ethel C. .	Darlinghurst	Monowai	23 Jan., 1893	"	Woman's Work	151	871	Photographs.
Peel River Land & Mineral Co.	London	Alameda	23 Nov., 1892	739	Agriculture	9	60	Wool.
"	"	Mariposa	26 Dec., 1892	738	"	9	60	"
Pender, J. W.	West Maitland	"	"	"	"	3	26	Honey.
Pengelly, J. H.	Murrurundi ..	Mariposa	26 Dec., 1892	1537	"	9	60	Wool.
Peithman & Co	Sydney	Monowai	23 Jan., 1893	2126-9	Manufactures	87	552	Blacking.
Picturesque Atlas Co.	"	Mariposa	26 Dec., 1892	2073	Liberal Arts ...	150	854	Picturesque Atlas and engravings.
Piguent, W. C.	Art Society	"	26 " 1892	"	Fine Arts ...	140	"	Paintings.
Pinhey, Mrs. C.	Sydney	"	26 " 1892	1132	"	140	"	"
Pinnacle Amal. S. M. Co.	Melbourne ...	Alameda	28 Nov., 1892	310-21	Mining ...	42	290	Silver lead ores.
Pirnfield Coal and Coke Co. .	"	"	28 " 1892	229	"	42	290	Coke.
Pitman, W.	Paddington ...	Mariposa	26 Dec., 1892	1292	Manufactures	118	746	Horse shoes.
Pollock, Alex.	Nowra	"	26 " 1892	1271-2	Agriculture ..	10	65	Aerated waters and cordials.
Potter, Charles, J.P.	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	151	871	Photograph.
Praeger, Mmc. Laura .	"	"	23 " 1893	"	"	151	871	Photos.
Pritchard, W.	Pictou ...	Mariposa	26 Dec., 1892	1297	Mining	44	296	Freestone.
Quinn, Peter	Kiama	"	"	"	Agriculture ...	1	1	Wheat and oats
Quirk & Co.	Wellington	"	"	"	"	1	1	Wheat.
Rainsford, John ...	Milton	Alameda	28 Nov., 1892	480	Ethnology ...	160	"	Aboriginal drawing.
Rankin, Angus, Estate of	Bombowlee, Tumut	Mariposa	26 Dec., 1892	2036	Agriculture ..	9	60	Wool
Raymond & Co., H.	Sydney	Alameda	28 Nov., 1892	499-502	Forestry	19	99	Wattle bark.
Reese, Miss Ada M.	Balmain ...	Mariposa	20 Mar., 1893	2322-3	Woman's Work	172	"	Hand painted curtains.
Reid, D. J.	Art Society	"	26 Dec., 1892	"	Fine Arts ...	140	"	Paintings.
Retallick, J.	Ulmarra	"	26 " 1892	1705	Ethnology...	160	"	Aboriginal weapons.
Reuben, A.	Singleton...	"	26 " 1892	1515	Manufactures.	87	549	Prickly pear oil.
Rev. Mother Rectress, St. Vincent's Hospital.	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	106	669	Embroidery and dressed doll.
Reynolds, Frank ...	Paterson River	"	"	"	Agriculture ..	14	82	Photograph.
Richmond and Scott	Gingie, Walgett	Alameda	28 Nov., 1892	742	"	9	60	Wool.
Robb & Co., John	Talawanta, Brewarina.	Mariposa	26 Dec., 1892	2041	"	9	60	"
Roberts, R. H.	Tiverton, Burwang	"	26 " 1892	770-1	"	9	60	"
Roberts, R. W.	Clifton, Young	Alameda	28 Nov., 1892	825	"	9	60	"
Robertson, Duncan	Grafton	Monowai	23 Jan., 1893	2232	"	3	17	Sugar-cane.
Robinson, J.	Kimo, Gundagai	Mariposa	26 Dec., 1892	1539	"	9	60	Wool.
Rodgers, Peter... ..	Tumut ..	Monowai	23 Jan., 1893	1792	"	9	60	"
Rohu, Mrs. A. J.	Sydney	"	23 " 1893	"	Woman's Work	34	230	Stuffed apteryx.
Ronald and Sons, R. B.	Nap Nap, Hay..	Alameda	28 Nov., 1892	743	Agriculture	9	60	Wool.
Rosehill Racecourse Co.	Sydney	"	"	"	"	14	82	Photographs.
Ross, David	"	Monowai	23 Jan., 1893	2240	Liberal Arts .	152	589	Burial reform scheme.
Rothery, W. M.	Lyndhurst	"	"	"	Mining	42	290	Brown iron ore.
Rouse, Richard, junr.	Mudgee	Alameda	28 Nov., 1892	701-2	Agriculture ...	9	60	Wool.
Rowan, Mrs. Ellis	Upper Macedon, Vic	"	20 Feb., 1893	2248	Fine Arts	140	"	Oil paintings.
"	"	Ophir	25 " 1893	2273	"	140	"	Water colour drawings.
Rudder, A.	Kempsey	Alameda	20 " 1893	2255	Mining ...	42	240	Tin ore.
Russell, J. E. M.	Petersham	Monowai	23 Jan., 1893	1036	Manufactures.	110	695	Safety bullion bank.
Rutledge Brothers	Gadley, Bungendore	Mariposa	26 Dec., 1892	2044	Agriculture .	9	60	Wool.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package.	Department.	Group.	Class.	Nature of Exhibit.
Rutledge Brothers	Glenriddle, Barraba	Mariposa	26 Dec., 1892	2055	Agriculture ..	9	60	Wool.
Ryder Brothers	Calga, Coonamble..	Alameda	28 Nov., 1892	744	"	9	60	"
Sachs, Valentine	Glen Innes	Monowai	23 Jan., 1893	2123	"	18	94	Eucalyptus soap.
"	"	"	23 " 1893	*2124	Manufactures..	87	549	toiletsoap
Sanger, J. M.	Corowa	Alameda	20 Feb., 1893	2251	Horticulture...	20	126	"
Saunders, R.	Pymont	Mariposa	26 Dec., 1892	1662-73, 1640-50	Mining	44	296	Building stone.
Savings Bank of N.S.W.	Sydney	Alameda	28 Nov., 1892	1133	Liberal Arts...	154	903	Photographs.
Saywell, T.	"	Mariposa	26 Dec., 1892	1677	Mining	42	290	Coal.
Saxby, Miss L. A.	Leichhardt	Monowai	23 Jan., 1893	.....	Woman's Work	140	...	Painting.
Scobie, M. and R.	West Maitland..	.....	.....	.....	Agriculture ...	3	26	Honey.
Scott & Co., W.	Moree	Monowai	23 Jan., 1893	2140	"	9	60	Wool.
Scott, Mrs. Annie.....	Mandurama ...	.....	23 " 1893	.....	Woman's Work	106	664	Lace work.
Scott, James	Blink Bonnie, Armidale.	"	23 " 1893	2146	Agriculture ...	9	60	Wool.
Scott, Miss Jeannie	Marrickville ...	"	23 " 1893	.....	Woman's Work	104	653	Lady's garments.
Scott, J. W.	Bogamildi, Warialdi.	Mariposa	26 Dec., 1892	1725-9	Agriculture ...	9	60	Wool.
Scott, Miss Pannie	Marrickville ...	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Lady's garments.
School of Arts	Sydney	Alameda	15 May, 1893	2487	Liberal Arts...	150	854	Catalogues.
See, Mrs. John	Randwick	Monowai	23 Jan., 1893	.....	Woman's Work	105	662	Opossum tail rug.
Seton, Miss Therese.....	Sydney	"	23 " 1893	.....	" .....	141	...	Miniature portraits.
Shakespeare, Mrs. Elizabeth ..	Blayney	Alameda	20 Feb., 1893	1020	Manufactures..	96	598	Picture frame.
Sharp, Alfred	Newcastle	Monowai	23 Jan., 1893	1781	Fine Arts	140	...	Paintings.
Shaw, William	Mudgee .....	" .....	.....	.....	Agriculture ...	3	26	Honey.
Sheldon, Mrs.	Petersham	Monowai	23 Jan., 1893	.....	Woman's Work	104	657	Child's clothing.
Sherman, Mrs. L. S.	Sydney	Mariposa	26 Dec., 1892	1478	Fine Arts	140	...	Painting.
Shu Pack	Tumut .....	" .....	.....	.....	Agriculture ...	8	48	Tobacco leaf.
Shuttleworth, H. W.	Cucumgilliga, Cowra.	Alameda	28 Nov., 1892	831	"	9	60	Wool.
Simpson, G. M.	Stonehenge, New England.	Monowai	23 Jan., 1893	2157	"	9	60	"
Sinclair, A. and W. T.	Petersham	Mariposa	26 Dec., 1892	1490	Manufactures..	120	756	Sanitary plumbing work
Sinclair, G. H.	Sydney .....	" .....	.....	.....	Mining	42	240	Silver, lead, & copper ores
Sinclair, W. T.	Petersham	Mariposa	26 Dec., 1892	1568	Manufactures..	120	756	Sanitary plumbing work
Slatyer, C. H.	Sydney	Monowai	23 Jan., 1892	1781	Liberal Arts...	182	880	Architectural drawings
Sloane, Alex.	Mulwala	Alameda	28 Nov., 1892	806-8	Agriculture ...	9	60	Wool.
"	"	Monowai	23 Jan., 1893	2179	"	9	60	"
Smith, Capt. Chas.	Sydney	"	23 " 1893	1781	Transportation	85	530	Photographs.
Smith, C. W.	Kogarah	Alameda	28 Nov., 1892	89	Mining	46	304	Plastic clay.
Smith, E. A.	Wellington	Monowai	23 Jan., 1893	2130	Agriculture ...	9	60	Wool.
Smith, W. E.	Sydney	Mariposa	26 Dec., 1892	1517	Liberal Arts...	151	871	Photograph.
South Bulli Coal-mining Co. ...	"	"	26 " 1892	551-3	Mining	43	292	Coal.
Spence, Percy	Art Society.....	"	26 " 1892	.....	Fine Arts	140	...	Painting.
Spiers and Rigg	Sydney .....	" .....	.....	.....	Mining	42	290	Tin, ore, and gem stone
Spies, Wilton, & Co.	Mudgee	Alameda	20 Feb., 1893	2265	Agriculture ...	7	44	Patent churn.
Spratt, James	Orange	Mariposa	26 Dec., 1892	1719-20	"	1	1	Cereals.
Squires, John	Penrith	"	26 " 1892	1005-14	Horticulture...	21	140	Preserved fruits.
Stack, Miss M. M.	Croydon	Monowai	23 Jan., 1893	.....	Woman's Work	106	669	Embroidery.
Statham, H. W.	Sydney .....	" .....	.....	.....	Mining	42	290	Iron ore.
Steffanoni, Miss Sophie	"	Monowai	23 Jan., 1893	.....	Woman's Work	106	669	Gold bullion embroidery
Stephens, Miss E. A.	Art Society.....	Mariposa	26 Dec., 1892	.....	Fine Arts	140	...	Painting.
Stephen, Miss F. E. C.	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	106	669	Embroidery.
Stephen, Miss L. F.	"	"	23 " 1893	.....	" .....	142	...	Painting on opal.
Stevens, J. S.	Dubbo	Mariposa	26 Dec., 1892	1516	Agriculture ...	12	73	Ale.
Stevenson & Co., T.	Narrallen, Burrowa	"	26 " 1892	1713	"	9	60	Wool.
Stewart, D.	Kangiarra, Tangmangaroo	"	26 " 1892	2080	"	9	60	"
Stinson, A.	North Berry Jerry, Wagga Wagga.	Monowai	23 Jan., 1893	2145	"	9	60	"
Stonier, Miss F. E.	Newtown	"	23 " 1893	.....	Woman's Work	140	...	Painting.
Stubbs, A.	Bathurst	Mariposa	26 Dec., 1892	1104	Manufactures	104	652	Clothing.
Suckling, J. L.	Barsham, Blandford.	"	26 " 1892	846, 1528	Agriculture ...	9	60	Wool.
Sullivan J. L.	Coolac	"	20 Mar., 1893	2301	"	9	60	"
Summerbelle, Miss A. M.	Sydney	Monowai	23 Jan., 1893	.....	Woman's Work	158	926	Musical compositions
Summers, T.	Nevertire	Alameda	28 Nov., 1892	1107-8	Forestry	19	99	Timbers.
Sunderland W.	Yass	Mariposa	26 Dec., 1892	1293	Manufactures	105	660	Furs.
Suttor & Co., W. H.	Warrangong, Koorawatha.	"	26 " 1899	1753	Agriculture ...	9	60	Wool.
Svenson, H. J.	Sydney	"	26 " 1892	533	Manufactures	96	598	Picture frame.
Sydney Chamber of Commerce	"	Monowai	23 Jan., 1893	1781	Liberal Arts...	151	871	Photographs.
Sydney Meat Preserving Co. ...	"	Alameda	28 Nov., 1892	1037-99	Agriculture ...	6	36	Tinned meats.
Sydney Municipal Council	"	Monowai	23 Jan., 1893	2174	Liberal Arts...	151	871	Photographs.
Sydney Tramway and Omnibus Co.	"	Alameda	28 Nov., 1892	964-6	Transportation	83	522	Omnibus wheels.
Tanner, Mrs.	"	Monowai	23 Jan., 1893	.....	Woman's Work	109	692	Oilskin clothing.
Tappin, Dennehy, and Smart...	"	"	23 " 1893	1781	Liberal Arts...	152	889	Architectural drawings
Taylor, F. G.	Terrible Vale, Kentucky.	Alameda	28 Nov., 1892	824	Agriculture ...	9	60	Wool.
Terry, Miss Sarah	Paddington	Monowai	23 Jan., 1893	.....	Woman's Work	104	653	Lady's garments.
Thomas W. J.	Sydney	Mariposa	26 Dec., 1892	1195	Fine Arts	140	...	Painting.
Tobin and Sons, A.	Wingadee, Coonamble.	Alameda	28 Nov., 1892	812-3	Agriculture ..	9	60	Wool.
Toohy, J. T. and J.	Sydney	"	28 " 1892	1030-3	"	12	73	Porter and ale.
"	"	Mariposa	20 Mar., 1893	2310-1	"	12	73	"
Tout & Co., James	Melrose Plains	"	26 Dec., 1892	545	"	9	60	Wool.
Town and Country Journal ...	Sydney	Alameda	28 Nov., 1892	792	Liberal Arts...	150	862	Picture.
Trall Brothers.....	Llangollen, Cassilis	"	28 " 1892	839-41	Agriculture ...	9	60	Wool.

APPENDIX E—continued.

Name of Exhibitor.	Address.	Steamer.	Left Sydney.	No. of package.	Department.	Group.	Class.	Nature of Exhibit.
Tremain, W.	Bathurst	Alameda	28 Nov., 1892	1019	Agriculture	1	1	Wheat and flour.
Trustees of Australian Museum	Sydney	"	20 Feb., 1893	2263	Liberal Arts	155	909	Publications.
Tubbo Estate Co. (Ltd.)	Narrandera	Monowai	23 Jan., 1893	2180	Agriculture	9	60	Wool.
Tucker, John	Paterson	"	"	"	"	3	26	Honey.
Tunny, James	Spring Park, Young	Mariposa	26 Dec., 1892	1762	"	9	60	Wool.
Turner and Henderson	Sydney	"	26 " 1892	995	Liberal Arts	150	858	Chromo lithography.
"	"	Alameda	20 Feb., 1893	"	"	150	"	Books.
Twynam, Mrs.	Darlinghurst	Monowai	23 Jan., 1893	"	Woman's Work	106	665	Knitted counterpane.
University of Sydney	Sydney	Alameda	28 Nov., 1892	477	Liberal Arts	149	851	Photographs.
Utz, F.	Glen Innes	"	"	"	Agriculture	1	1	Wheat and flour.
Vincent, Miss E. B.	Neutral Bay	Monowai	23 Jan., 1893	"	Woman's Work	106	664	Point lace.
Vivers, William, Estate of	Glen Innes	"	"	"	Agriculture	9	60	Wool.
Vogele, A. J. C.	Paterson	"	"	"	"	3	26	Honey.
Waddy, Mrs. E. A.	Morpeth	Monowai	23 Jan., 1893	"	Woman's Work	106	669	Embroidery.
Walker, Henry	Tong Bong, near Rylstone.	Alameda	28 Nov., 1892	937	Agriculture	9	60	Wool.
Wallah Wallah Silver-mining Syndicate.	Yass	"	28 " 1892	68-73, 232-5	Mining	42	290	Silver-lead ores.
"	"	Mariposa	26 Dec., 1892	57	"	42	290	"
Wallarah Coal-mining Co.	Catherine Hill	Alameda	28 Nov., 1892	388	"	42	290	Coal.
Walmsley, Cameron, & Co.	Tareelari, Moree	Mariposa	26 Dec., 1892	1759	Agriculture	9	60	Wool.
Walsh, W. M.	Walcha	Monowai	23 Jan., 1893	1794	Manufactures	87	544	Polishing powder.
Warby, James E.	Billebah, Narrandera.	Alameda	28 Nov., 1892	781	Agriculture	9	60	Wool.
Warner, Miss Nellie	Waverley	Monowai	23 Jan., 1893	"	Woman's Work	144	"	Drawing.
Waters, Michael	Richmond	Alameda	28 Nov., 1892	999	Agriculture	1	2	Maize.
Watkins, Mrs. John	Gladesville	Monowai	23 Jan., 1893	"	Woman's Work	108	665	Netting.
Watson A. E.	Sydney	Mariposa	26 Dec., 1892	804	Fine Arts	140	"	Carses's pictures.
"	"	"	26 " 1892	805	Liberal Arts	155	909	Cayley's pictures.
Watt, D. J.	Ulinda, Coolah	"	26 " 1892	1718	Agriculture	9	60	Wool.
Watt, P. C.	Goonal, Moree	Alameda	28 Nov., 1892	716	"	9	60	"
Webb, executors of the late T. S.	Springfield, Byng	"	28 " 1892	828-9	"	9	60	"
Weeks, Mrs.	"	Monowai	23 Jan., 1893	"	Woman's Work	106	664	Point lace.
Weingott and Sons	Sydney	Alameda	20 Feb., 1893	2275	Manufactures	109	683	Rubber clothing.
West Wallsend Coal-mining Co.	"	Mariposa	26 Dec., 1892	289	Mining	42	290	Coal.
White Brothers	Saumarez, Armidale.	"	26 " 1892	1760	Agriculture	9	60	Wool.
White, F. R.	Harben Vale, Blandford.	"	26 " 1892	1763, 1767	"	9	60	"
White, H. C.	Havilah, near Mudgee.	"	26 " 1892	1761	"	9	60	"
White, H. E. A. and V.	Beltrees, Scone	Alameda	28 Nov., 1892	832	"	9	60	"
"	"	Mariposa	26 Dec., 1892	512-3	"	9	60	"
White Rock Proprietary Silver-mining Co.	Drake	Alameda	28 Nov., 1892	345	Mining	42	290	Silver.
"	"	Mariposa	26 Dec., 1892	60, 908	"	42	290	"
Whyte, Miss Marion	Waverley	Monowai	23 Jan., 1893	"	Woman's Work	105	653	Ladies' garments.
Wickham and Bullock Island Coal-mining Co.	Sydney	"	"	"	Mining	42	290	Coal.
Williams, Edward	Botany	Monowai	23 Jan., 1893	1791	Manufactures	88	552	Gum and ink.
Williams, Mrs. T. R.	Brown's Creek	"	23 " 1893	"	Woman's Work	23	177	Sauces.
Williamson, Mrs.	Art Society	Mariposa	26 Dec., 1892	"	Fine Arts	140	"	Paintings.
"	Summer Hill	Monowai	23 Jan., 1893	"	Woman's Work	140	"	"
"	Manly	"	23 " 1893	"	"	140	"	"
Willis, Miss Helen	"	"	"	"	"	140	"	"
Wilson, Charles	Sydney	Mariposa	26 Dec., 1892	1193	Manufactures	96	"	Carved emu eggs.
Wilson, E. K.	Turrumurra	Alameda	28 Nov., 1892	786-7	Agriculture	11	69	Fruit wines.
"	"	Monowai	17 April, 1893	2415	"	11	69	"
Wilson Miss F. A.	Dubbo	"	23 Jan., 1893	"	Woman's Work	143	"	Writing and illumination.
Wilson, S., Son & Co.	Lake Cowal, Marsden.	Alameda	28 Nov., 1892	510-1	Agriculture	9	60	Wool.
Windeyer, Lady	Sydney	Monowai	23 Jan., 1893	"	Woman's Work	104	653	Ladies' garments.
"	"	"	23 " 1893	"	"	104	657	Knitted shawl.
"	"	"	23 " 1893	"	"	105	661	Rug and fire screen.
"	"	"	23 " 1893	"	"	105	662	Fur clothing.
"	"	"	23 " 1893	"	"	106	665	Appliqué collar.
"	"	"	23 " 1893	"	"	106	669	Embroidery.
"	"	"	23 " 1893	"	"	142	"	Paintings on ivory.
Winter, Irving	Tulcumbah, Carroll.	Mariposa	26 Dec., 1892	2049	Agriculture	9	60	Wool.
Wisby, Mrs. H.	Petersham	Monowai	23 Jan., 1893	"	Woman's Work	106	664	Lace handkerchief.
Winchcombe, Carson, & Co.	Sydney	"	23 " 1893	1781	Agriculture	9	60	Wool.
Wiseman, R. A.	Clerkness, Bundarra.	Alameda	28 Nov., 1892	811	"	9	60	"
Wolfe, James E.	West Maitland	"	28 " 1892	544-5	Ethnology	160	"	Aborigines weapons.
Wrench, J. T.	Sofala	Monowai	23 Jan., 1893	1781	Liberal Arts	149	849	Painting executed with toes.
Wright, Mrs.	Glen Innes	"	23 " 1893	2240	Woman's Work	140	"	Floral paintings.
Wyndham, Egbert	Inverell	Alameda	28 Nov., 1892	793-5	Horticulture	20	126	Wines and brandy.
"	"	Monowai	17 Apl., 1893	2409	"	20	126	Wines.
Wyndham, Hugh	"	Mariposa	26 Dec., 1892	817	Agriculture	9	60	Wool.
Wyndham, Trustees of late John.	Branxton	Alameda	28 Nov., 1892	980-6	Horticulture	20	126	Wines.
Wyndham, William	Inverell	Mariposa	26 Dec., 1892	1708-9	"	20	126	"
Young Co-operative Roller Flour-mill Co.	Young	Alameda	28 Nov., 1892	1210	Agriculture	1	11	Flour and photo.

APPENDIX F.

List of Awards to N. S. Wales Exhibitors.

NOTE.—The Diplomas which will be issued to Exhibitors will contain in a summarised form the Reports of the Juror on Exhibits, giving the reasons why the awards were made. Each Exhibitor will also receive uniform Bronze Medal.

DEPARTMENT A.—AGRICULTURE.

GROUP 1.

Name.	Address.	Description.
Anderson, William...	... Moama ...	Norfolk Red Wheat.
Black and Sons ...	... Molong ...	Purple Straw Wheat.
Brunton & Co. ...	... Granville ...	do do
Clout, George ...	... Brungle, via Gundagai	Steinweidel Wheat.
Cohen and Levy ...	... Tamworth ...	Purple Straw Wheat.
Commissioners for N.S.W....	Sydney ...	Wheats (7 awards).
Holschier, John ...	... Moama ...	Wheat.
Matthews, H. C. ...	... Bathurst ...	Brown Hogan Wheat.
Moore, George ...	... Corowa ...	Purple Straw Wheat.
M'Gee and Quinn ...	... Parkes ...	Wheat.
M'Shane, Patrick ...	... Goulburn ...	do
Pawley and M'Intyre ...	... Inverell ...	White Tuscan Wheat.
Quirk & Co. ...	... Wellington ...	Purple Straw Wheat.
Reirath, C. ...	... Albury ...	White Mexican Wheat.
Spratt, James ...	... Orange ...	Wheat.
Tremain, William ...	... Bathurst ...	Hogan Wheat.
Utz, F. ...	... Glen Innes ...	White Tuscan Wheat.
Commissioners for N.S.W....	Sydney ...	Trophy of Maize in Cob.
M'Shane, Patrick ...	... Goulburn ...	Maize.
Waters, Michael ...	... Richmond ...	Hawkesbury Champion Maize.
Commissioners for N.S.W....	Sydney ...	Oats.
Clout, George ...	... Brungle, via Gundagai	do
Spratt, James ...	... Orange ...	do
Clout, George ...	... Brungle, via Gundagai	Barley.
White, J. ...	... Albury ...	do
Clout, George ...	... Brungle, via Gundagai	Rye.
Laurie, Alexander T.	... Rawden Vale, Glou- cester.	Arrowroot.
Department of Agriculture	Sydney ...	Collection of Grasses.
Spratt, James ...	... Orange ...	Hay.
Department of Agriculture	Sydney ...	Collection of Fodder Plants.
Allsopp, Thomas ...	... Murrumburrah ...	Flour.
Brunton & Co. ...	... Sydney and Granville..	do
Cohen and Levy ...	... Tamworth ...	do
Cootamundra Farmers' Co- operative Association.	Cootamundra ...	do
Gardiner, Edwin ...	... Temora ...	do
Grover, E. ...	... Glen Innes ...	do
Matthews, H. C. ...	... Bathurst ...	do
M'Gee and Quinn ...	... Parkes ...	do
Pawley and M'Intyre ...	... Inverell ...	do
Tremain, William ...	... Bathurst ...	do
Utz, F. ...	... Glen Innes ...	do
Young Co-operative Flour- milling Co.	Young ...	do
Do do ...	do ...	Photo. of Mill.
Cohen and Levy ...	... Tamworth ...	Corn-meal.

GROUP 2.

Hood, Phineas A. ...	... Russell-st., Bathurst...	Baking Powder.
Leslie, William ...	... Dubbo ...	do
Peate, Lawrence ...	... George-st., Bathurst...	do

GROUP 3.

Name.	Address.	Description.
Cowan, David William ...	Tomki, Richmond River.	Sugar-cane.
Kirk, J. and W. ...	Chatsworth ...	do
Robertson, Duncan ...	Grafton ...	do
Hunter River Bee-keepers' Association.	Care of R. Patten, Bolwarra, West Maitland.	General Award, Honey.

GROUP 5.

Commissioners for N.S.W....	Sydney ...	Peas, "Black-eyed Susan."
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GROUP 6.

Australian Meat Co. ...	Ramornie, Clarence River.	Beef Extract.
Do ...	do do	Canned Meats.
Do ...	do do	Canned Soups.
Sydney Meat Preserving Co. ...	Sydney ...	Extract of Beef.
Do do ...	do ...	Canned Soups.
Do do ...	do ...	Canned Meats.
Peate, Lawrence ...	George-st., Bathurst ...	Various Sauces, &c.

GROUP 7.

Spies, Wilton, & Co. ...	Mudgee ...	Patent Churn.
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GROUP 8.

Abbott, William ...	Wagga Wagga ...	Tobacco.
Ah Chung ...	Tumut ...	do
Commissioners for N.S.W....	Sydney ...	do
Shu Pack ...	Tumut ...	do

GROUP 9.

PURE-BRED FINE WOOLS (MERINO).

Allen, Edmund John ...	Stoney Creek, Young...	Two Fleeces.
Bettington, J. B. ...	Brindley Park, Merriwa	One Fleece.
Collaroy Co. ...	Collaroy, Merriwa ...	Two Fleeces.
Cox, Henry George...	Burrundulla, Mudgee..	Three Fleeces.
Dickson, W. and T. C. ...	Yarrawin, Brewarrina.	Two Fleeces.
Dowling, Vincent James ...	Lue, Rylstone ...	Four Fleeces.
Dulhunty and Deakin ...	Killoola, Peel ...	One Fleece.
Duntroon Estate (Executors of).	Queanbeyan ...	Two Fleeces.
Faithfull, W. P. ...	Springfield, Goulburn..	Three Fleeces.
Featherstonhaugh, C. ...	Goorianawa, Gilgandra	One Fleece.
Gibb and Son ...	Berthong, Wallend- been.	Four Fleeces.
Hall, Charles Castle ...	Yeumburra, Yass ...	do
Horsley, R. F. ...	Yabtree, Wagga Wagga	One Fleece.
Hume, Frederick William...	Tarengo, Burrowa ...	Three Fleeces.
Loder, Andrew ...	Colley Creek, Willow Tree.	Six Fleeces.
Manchee, John Charles ...	Glen Moan, Willow Tree.	One Fleece.
Merriman, George ...	Ravensworth, Yass ...	Two Fleeces.
Mulholland, Geo. J. ...	Oura, Wagga Wagga...	Three Fleeces.
Murray, Andrew ...	Bannockburn, Inverell	One Fleece.
M'Callum, Argyle ...	Goodhope, Yass ...	Four Fleeces.
Peel River Land and Mineral Company.	Goonoo Goonoo, Tam- worth.	do
Roberts, Richard Hutchinson	Tiverton, Barwang ...	Three Fleeces.
Scott, James Weir ...	Bogamildi, Warialda...	One Fleece.
Sloane, Alexander ...	Mulwala ...	Three Fleeces.
Suckling, John Lionel ...	Barsham, Blandford...	One Fleece.
Traill Brothers ...	Llangollen, Cassilis ...	Two Fleeces.
Vivers, William (Estate of)..	King's Plains, Glen Innes.	do
Walker, Henry ...	Tong Bong, Rylstone..	Four Fleeces.
Wilson, Son, & Co., S. ...	Lake Cowal, Marsden..	Two Fleeces.

PURE-BRED MIDDLE WOOLS (MERINO).

Name.	Address.	Description.
Allen, Edmund John	... Stoney Creek, Young...	Three Fleeces.
Crozier, Wm. Douglas	... Horseshoe, Wentworth	do
Crozier, William	... Moorna, Wentworth...	One Fleece.
Devlin & Co.	... Ganmain, Wagga Wagga.	Two Fleeces.
Dowling, Vincent James	... Lue, Rylstone	... Five Fleeces.
Dulhunty and Deakin	... Killoola, Peel	... Two Fleeces.
Hall, Charles Castle	... Yeumburra, Yass	... One Fleece.
Horsfall & Co., J. F.	... Kerarbury, Nar- rander.	Two Fleeces.
James and Gray	... Kentucky, Corowa	... One Fleece.
Merriman, George	... Ravensworth, Yass	... do
Mullholland, George J.	... Oura, Wagga Wagga	do
Scott, James Weir	... Bogamildi, Warialda...	Two Fleeces.
Warby, James E.	... Billembah, Narrandera	One Fleece.

PURE-BRED LONG WOOLS.

Executors of Duntroon Estate	Queanbeyan	... Four Fleeces.
Murray, Andrew	... Bannockburn, Inverell	Two Fleeces.

ALL CROSS-BRED WOOLS.

Executors of Duntroon Estate	Queanbeyan	... Three Fleeces.
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FLEECE WOOL (UNCLASSIFIED).

Tubbo Estate Co.	... Wallendbeen	... Two Fleeces.
Vivers, William (Estate of)	Glen Innes	... Four Fleeces.
Commissioners for N.S.W....	Sydney	... Collection of Merino Combing Wool in bales.
Do	do	... Collection of Merino Clothing Wools.
Do	do	... Extensive Practical Display of Wool.
Hawkesworth, Alfred	... Technical College, Sydney.	Collection of Samples of Wool.
Commissioners for N.S.W....	Sydney	... Photos. illustrating Sheep-farming.
Do	do	... Photos. illustrating N.S.W. Sheep.
Dalgety & Co.	... 5, Bent-st., Sydney	... Photo. of Wool Warehouse.
New Zealand Loan and Mer- cantile Agency Co.	Bridge-st., Sydney	... Photo. of Wool Store.
Australian Shearer Co.	... Care of Jas. Martin & Co., 249, Clarence- street, Sydney.	Sheep-shearing Machine.
Department of Agriculture	Sydney	... Vols. 1 and 2, <i>Agricultural Gazette</i> .
Chief Secretary for N.S.W.	do	... Sample of Raw Silk.

GROUP 11.

Levy, Miss Rosa	... 443, Bourke-st., Sydney	Liqueurs.
Oertel, Charles	... 403, Pitt-st., Sydney	Lemon Syrup.
Pollock, Alexander	... Berry-street, Nowra	Cordials.
Monk, D. J.	... Henderson Road, Alex- andria, Sydney.	Wine Vinegar.

GROUP 12.

Australian Brewery and Spirit Co.	Wine Bourke-st., Waterloo, Sydney.	Ale in Wood and Bottle, and Stout in Wood.
Elwin & Co.	... Orange	... India Ale in Bottle; Extra Fine Stout in Bottles.
Fisher and Fraser	... Grenfell	... Ale in Wood.

GROUP 14.

Australian Jockey Club	... 14, Castlereagh-street, Sydney.	Series of Photos.
Reynolds, Frank	... Tocal, Paterson River	Photo. of "Splendor," by "Bathilde," out of "Stockwell."
Patent Asphaltum Co.	... 244, Pitt-st., Sydney	Asphalt Blocks.
O'Neill, Charles	... 200, Cumberland-st., Sydney.	O'Neill's Patent Caithness Flagging.
Commissioners for N.S.W....	Sydney	... Wooden Block Road.
Do	do	... Section of same Road, showing Foundation.

GROUP 16.

Name.	Address.	Description.
Jamieson, Neil ...	Albury ...	Double Furrow Plough and Patent Appliances.

GROUP 18.

Sydney Meat Preserving Co.	Sydney ...	Neatsfoot and Trotter Oil.
Mallaby, George ...	Armidale ...	"Champion Cleanser" Soap.
Sachs, Valentine ...	Glen Innes ...	"Australian Eucalyptus" Soap.
Mowbray & Co., M.	Goulburn ...	Branding Black for Wool.

DEPARTMENT B.—HORTICULTURE.

POMOLOGY.

GROUP 21.

Purcell, J. ...	Parramatta ...	Oranges.
Do ...	do ...	Lemons.
Commissioners for N.S.W....	Sydney ...	Oranges.
Do do ...	do ...	Periodical Shipments of Fruit (4 awards).
Faint, A. and J. ...	Spring Valley, Armidale.	Fruits grown in New England.
Mitchell, J. L. ...	do ...	do do
Green, G. K. ...	Tumut ...	Dried Fruits.
Commissioners for N.S.W....	Sydney ...	do
Coleman Brothers ...	Unwin-st., Canterbury, Sydney.	Collection of Jams and Marmalades.
Mitchell & Co., D. ...	153, Clarence-street, Sydney.	Jams in Variety.
Cousins, W. Y. ...	Bebeah, Singleton ...	Orange Wine.
Pollock, Alexander ...	Berry-st., Nowra ...	Lime Juice Cordial.
Commissioners for N.S.W....	Sydney ...	Apples and Pears.
Do do ...	do ...	Lemons.

FLORICULTURE.

Commissioners for N.S.W....	Sydney ...	Asplenium Nidus.
Do do ...	do ...	Platycerium Alaicorne.
Do do ...	do ...	Dicksonia Antartica.
Do do ...	do ...	Alsophila Australis.
Do do ...	do ...	Todea Barbara.
Do do ...	do ...	Photographs of the Botanical Gardens.

VITICULTURE.

GROUP 20.

Bouffier Brothers ...	Oxford-street, Sydney..	Hock and Chablis.
Brecht Brothers ...	Rosemount, Denman...	Muscatel and Shiraz.
Caldwell & Co. ...	Lake Albert, Wagga Wagga.	Verdeilho and Chablis.
Carmichael, G. T. and J. B.	Porphyry, Seaham ...	Porphyry.
Cousins, Walter Young ...	Bebeah, Singleton ...	Verdeilho and Pineau.
Doyle, James F. ...	Kaludah, Lochinvar ...	White Wines.
Fallon, James T. ...	Kiewa-street, Albury..	Tokay and Reisling.
Fiaschi, Thomas, M.D. ...	39, Phillip-st., Sydney	Shiraz.
Genty, L. T. ...	Eaglemont, Minto ...	Reisling and Chablis.
Gray, John Guthrie ...	Kentucky, Corowa ...	White Wine.
Green, Walter C. ...	Norwood, Allandale ...	do
Kelman, James ...	Kirkton, Branxton ...	Hermitage and Reisling.
Kurtz, F. ...	Mt. Olivet, Dubbo ...	Reisling.
Lankester, Alfred Ernest ...	Emu Park, Albury ...	White Wine.
Lindeman, Henry John ...	Exchange, Sydney ...	Sauterne, Hock, Tokay, Chablis Hermitage, and Muscat.
Mather, Thomas ...	Roslyn, Inverell ...	Shiraz, Pineau, and Tokay.
Sanger, John Mildred ...	Wangamong, Corowa..	Reisling.
Wyndham, Egbert ...	Bukkulla, Inverell ...	Pineau, 1877.
Wyndham, J. (Estate of) ...	Dalwood, Branxton ...	Shiraz, Reisling, Pineau.
Wyndham, William ...	Kulki, Inverell ...	White Wine.
Harbottle, Allsopp, & Co. ...	Ettamogah, Albury ...	do

Red Wines.

Barnett, Joel ...	Beaulieu, Inverell ...	Hermitage.
Bouffier Brothers ...	Oxford-street, Sydney..	Claret.
Bray, Thomas ...	Mossgiel, Corowa ...	Clarets.
Brecht Bros ...	Rosemount, Denman...	Sherry.
Caldwell & Co. ...	Lake Albert, Wagga Wagga.	Shiraz and Claret.

Name.	Address.	Description.
Cousins, Walter Young ...	Bebeah, Singleton ...	Malbec, Claret, Hermitage, Lambruscat, Verdôt, and Muscat.
Doyle, James F. ...	Kaludah, Lochinvar ...	Kaludah.
Eaton and Grant ...	Albury ...	Muscat.
Fiaschi, Thomas, M.D. ...	39, Phillip-st., Sydney	Claret, Hermitage.
Frankland, G. J. ...	Mowbray House, Paterson.	Hermitage.
Genty, L. T. ...	Eaglemont, Minto ...	Claret and Hermitage.
Gray, John Guthrie ...	Kentucky, Corowa ...	Malbec.
Green, Walter Clement ...	Norwood, Allandale ...	Hermitage.
Harbottle, Allsopp, & Co. ...	Ettamogah ...	Muscat.
Kelman, James ...	Kirkton, Branxton ...	Hermitage and Claret.
Kurtz, F. ...	Mount Olivet, Dubbo	Malbec.
Lang, John ...	Midarro, Corowa ...	Shiraz, Muscat.
Lankester, Alfred Ernest ...	Emu Park, Albury ...	Carbinet, Sauvignon, Verdôt.
Lindeman, Henry John ...	Exchange, Sydney ...	Claret, Frontignac, Carbinet, Claret, Muscat.
Mather, Thomas ...	Roslyn, Inverell ...	Malbec.
Wyndham, Egbert ...	Bukkulla, Inverell ...	Burgundy, Hermitage.
Wyndham, William ...	Kulki, Inverell ...	Red Sweet Wines.
Wyndham, J., Estate of ...	Dalwood, Branxton ...	Hermitage, Sherry.
Brecht Bros. ...	Rosemount, Denman	Sherry and Port.
Busch, William ...	Moss Vale, Young ...	Madeira.
Frankland, G. J. ...	Mowbray House, Paterson.	do
Lindeman, Henry John ...	Exchange, Sydney ...	Port, Madeira.
Bray, Thomas ...	Mossgiel, Corowa ...	Brandy (one year old).
Brecht Bros. ...	Rosemount, Denman	do
Cousins, Walter Young ...	Bebeah, Singleton ...	do
Kelman, James ...	Kirkton, Branxton ...	do
Wyndham, Egbert ...	Bukkulla, Inverell ...	do

DEPARTMENT C.—LIVE STOCK.

GROUP 9.

Bruce, Alexander ...	Chief Inspector of System of Registration of Horse and Cattle Brands.
Do ...	do ... System of Sheep Brands and Marks.
Do ...	do ... System of Horse and Cattle Brands.

DEPARTMENT D.—FISHERIES.

GROUP 37.

Commissioners for N.S.W....	Sydney ...	Collection of Fishes in Alcohol.
Do do ...	do ...	Collection of Oysters and other Shells.
Do do ...	do ...	Collection of Crustacea.
Do do ...	do ...	Series of Paintings of Fishes and Crustacea.
Do do ...	do ...	Collection of Reptiles in Alcohol.
Holt, Hugh William Lee ...	Waratah ...	Collection of Snakes and Reptiles.
Commissioners for N.S.W....	Sydney ...	Collection of Mounted Birds Destructive to Fish.
Do do ...	do ...	Mounted Seals.
Do do ...	do ...	Seal Skins and Skeletons.

GROUP 38.

Commissioners for N.S.W....	Sydney ...	Series of Pamphlets on Fish and Fisheries of New South Wales.
Do do ...	do ...	Model, New South Wales Fishing Boat.
Fanner, R. E. ...	Willoughby-st., North Sydney.	Yacht's Gig.

GROUP 40.

Clarence River Fresh Fish Canning Co.	Iluka, Clarence River	Tinned Flat-tail.
Commissioners for N.S.W....	Sydney ...	Collection of Fish Oils.
Do do ...	do ...	Porpoise Skins Fish Manures, Fish Oil, Soap.
Lichtner and Solomon ...	Wynyard Buildings, Wynyard Square, Sydney.	Pearl Shell.

DEPARTMENT E.—MINES, MINING, AND METALLURGY.

GROUP 42.

Name.	Address.	Description.
Minister for Mines ...	Sydney ...	Collection of Tin Ores.
Do ...	do ...	Collection of Iron, Magnagnese, and Cobalt Ores.
Do ...	do ...	Collection of Fossils.
Do ...	do ...	Collection of Gemstones and Associated Gravels.
Do ...	do ...	Samples of Coal.
Do ...	do ...	Antimony, Bismuth &c., Ores.
Do ...	do ...	Copper Ore (Burruga).
Do ...	do ...	Iron Ore, Fitzroy Mine.
Do ...	do ...	Magnetic Iron Ore, Blayney.
Do ...	do ...	Iron Ore, Blayney.
Do ...	do ...	Chrome Iron Ore (Nundle).
Do ...	do ...	Collection Silver Ores.
Do ...	do ...	Samples of Alluvial Gold.
Do ...	do ...	Collection of Auriferous Veinstones.
Do ...	do ...	Collection of Block Specimens, Gold Bearing.
Do ...	do ...	Silver Ores, in bulk.
Do ...	do ...	Collection of Rock Specimens.
Do ...	do ...	Tin Ores, in bulk.
Do ...	do ...	Collection of Copper Ores.
Do ...	do ...	Manganese Oxide (Woodstock).
Liversidge, Archibald, M.A., F.R.S.	University of Sydney.	Crystallised and other Gold Specimens.
Do do ...	do do ...	Gem Sands and Associated Minerals.
Do do ...	do do ...	Metalliferous Minerals.
Do do ...	do do ...	Minerals, New Caledonia.
Isaacsohn, Martin ...	Nundle ...	Collection of Gold and other Metals and Minerals.
Horton, T., junr. ...	Drake ...	Collection of Minerals, New England.
Crown of the Peak G. M. Co.	131, Pitt-street, Sydney	Auriferous Lodestuff.
Eleanora G. and A. M. Co...	Hillgrove, Armidale ...	do and Stibnite.
Garibaldi G. M. Co...	19, Post Office Chambers, Pitt-street, Sydney.	do do
Mitchell's Creek G. M. Co...	Cape's Chambers, Bond- street, Sydney.	do
Mount Gahan G. M. Co. ...	Pambula ...	do
Peak Hill Proprietary G. M. Co.	Dubbo ...	do
British Broken Hill S. M. Co.	39, Queen-street, Mel- bourne.	Argentiferous Lodestuff.
Broken Hill Block 10 S. M. Co.	15, Queen-street, Mel- bourne.	Argentiferous Ores.
Broken Hill Proprietary S. M. Co.	31, Queen-street, Mel- bourne.	do and Trophy.
Carcoar Cobalt Co. ...	Carcoar ...	Cobalt Ore.
White Rock S. M. Co. ...	Drake ...	Silver Ore.
Spiers and Rigg ...	76, Pitt-street, Sydney	Tin Ore and Associated Gemstones.
Great Cobar Copper-mining Co.	131, Pitt-street, Sydney	Copper Ore.
Lark & Sons ...	Wynyard-st., Sydney	Star and Crude Antimony.
Brazenall, W., junior ...	Mittagong ...	Iron Ores, Castings, &c.
Donnelly, D. C. J. ...	Cowra ...	Magnetic Iron Ore.
Hayes, W. G. ...	Picton ...	Iron Ore.
Hayton, G. ...	Newbridge ...	do
Rothery, W. M. ...	Lyndhurst ...	do
Australian Agricultural Co.	Newcastle ...	Coal.
Brown, J. and A. ...	do ...	do
Burwood Coal-mining Co. ...	do ...	do
Greta Collieries Co. ...	63, Pitt-street, Sydney.	do
Hetton Coal-mining Co. ...	Bond-street, Sydney ...	do
Newcastle Coal mining Co. ...	Newcastle ...	do
Newcastle Wallsend Co. ...	12, Bridge-st., Sydney	do
Osborne Wallsend Co. ...	Change Alley, Sydney.	do
Saywell, T. ...	6, Park-street, Sydney.	do
South Bulli Coal-mining Co.	78, Pitt-street, Sydney.	do
Wallarrah Coal Co. ...	Catherine Hill Bay ...	do
West Wallsend Coal-mining Co.	7, Exchange, Sydney ...	do
Wickham and Bullock Island Coal-mining Co.	Pitt-street, Sydney ...	do

Name.	Address.	Description.
Australian Kerosene, Oil, and Mineral Co.	Gresham-street, Sydney	Petroleum Oil, Cannel Coal (Joadja).
Do do ...	do do ...	do do (Katoomba).
Genowian Shale Co.	Victoria Chambers, Castlereagh - street, Sydney.	do do (near Capertee).
N.S.W. Shale and Oil Co. ...	162, Clarence - street, Sydney.	do do (Hartley).

GROUP 44.

Bishop, L. ...	Muree, Raymond Terrace.	Freestone.
Browne, T. ...	West Maitland	do
Burns, J. ...	Bathurst	Marble.
Lewis, Mortimer W.	East Maitland	Building Stones.
Saunders, R. ...	Amy-st., Pyrmont, Sydney.	do
Do ...	do do	Granite (Moruya).
Do ...	do do	Syenite (Bowral).
N.S.W. Commissioners Minister for Mines ...	Sydney ... Phillip-st., Sydney	Marble, Mullion, &c. Collection of Marbles and Serpentine.
Do ...	do do	Collection of Freestone and Granite.
Do ...	do do	Inlaid Table, Marble and Serpentine.

GROUP 46.

Minister for Mines ...	Phillip-st., Sydney	Collection of Brick and Pottery Clays.
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GROUP 47.

Cullen Bullen Lime and Cement Co.	347, 353, Sussex-street, Sydney.	Cement, Cement Materials, and Castings.
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GROUP 48.

Australian Alum Co.	12, O'Connell-street, Sydney.	Alumstone and Alum.
Clabby, John ...	Belgravia ...	Paint Ochres.
Gordon Emery & Colour Co.	P.O. Chambers, Pitt-street, Sydney.	do
Kalsomine and Metallic Paint Co.	Nelson-st., Annandale, Sydney.	Kalsomines.

GROUP 67.

Minister for Mines ...	Phillip-st., Sydney	Geological Map of N.S.W., 1890.
Do ...	do	Maps and Publications.
Commissioners for N.S.W. ...	Sydney	Photos. of Cave Scenery.
Do do ...	do	Photos. of Broken Hill Mines.
Do do ...	do	Catalogue of Mining Exhibits.
Liversidge, Archibald	University of Sydney.	Scientific Publication.
Do	do do	Crystal Models and Laboratory Lamp.
Commissioners for N.S.W. ...	Sydney	Refined Copper in Ingots.
Do do ...	do ...	Refined Tin in Ingot.

DEPARTMENT F.—MACHINERY.

GROUP 71.

Hoskins, C. & S. ...	Hay street, Darling Harbour, Sydney.	Pneumatic Punching and Riveting Machine.
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GROUP 77.

Austin, Robert ...	362, Sussex-st., Sydney	The "Austin Perfect Patent Washer."
M'Credie, Arthur Latimer ...	250, Pitt st., Sydney	Patent Rail Switch.

DEPARTMENT G.—TRANSPORTATION.

GROUP 80.

Commissioners for Railways.	N.S.W. Macquarie-st., Sydney	Two Maps, showing the R.R. System of N.S.W.
Do do ...	do do	Sample of Permanent Way.
Do do ...	do do	Series of Miscellaneous Photographs.
Do do ...	do do	Series of Photos., illustrating R.R. Stations and Bridges.
Do do ...	do do	Series of Photos. of Rolling Stock.
M'Credie, Arthur Latimer ..	250, Pitt-st., Sydney	Patent Rail Switch.
Commissioners for Railways.	N.S.W. Macquarie-st., Sydney	Samples of Old Ties.

GROUP 82.

Name.	Address.	Description.
Commissioners for N.S.W....	Sydney ...	Model of Lithgow Valley Zig Zag.

GROUP 83.

Goodwin, Henry ...	Valentine-lane, Harris-st., Sydney.	Squatter's Wool Waggon.
Glencross, C. ...	M'Donald Town	Patent Hansom Cab.
Sydney Omnibus and Tramway Co.	Macquarie Place	Omnibus Wheels.
M'Grath, John J. ...	Fitzmaurice-st., Wagga Wagga.	Improved Riding Saddle.
Fanner, Robert Edmund ...	Willoughby-st., North Sydney.	Yacht's Gig.
Commissioners for N.S.W....	Sydney ...	Model of the Sutherland Dock.
Orient Steam Navigation Co.	London ...	Model of R.M.S. "Austral," and Photos.
Marine Board of N.S.W. ...	Loftus-st., Sydney	Charts of the Coast of N.S.W.

DEPARTMENT H.—MANUFACTURES.

GROUP 87.

Colemane and Sons...	Cootamundra...	Various Eucalyptus Extracts.
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GROUP 88.

Peithman & Co. ...	28 & 30, Hopewell-st., Paddington.	Blacking.
Williams, Edward ...	Bay-st., Botany, near Sydney.	Writing Ink.

GROUP 90.

Heiron and Smith ...	216, Castlereagh-st., Sydney.	Billiard Table and Fittings.
Commissioners for N.S.W....	Sydney ...	Suite of Dining Room Furniture.
Do do ...	do ...	Suite of Bedroom Furniture.
Do do ...	do ...	Suite of Library Furniture.
Do do ...	do ...	Hall Stands of Colonial Rosewood.
Do do ...	do ...	Doorway of Black Bean.

GROUP 91.

Committee on Women's Work	Sydney ...	Three Specimen Tiles, Imitation Roman Mosaic.
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GROUP 96.

Shakespear, Mrs. Elizabeth	Albion-st., Blayney ...	Picture Frame of Nuts and Seeds.
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GROUP 99.

Benjamin, Marcus ...	Care of Messrs. Hardy Bros., Hunter-st., Sydney.	Patent Watch Movement.
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GROUP 100.

Committee on Women's Work	Sydney ...	White Lace Shawl.
Do do ...	do ...	Doll, Dressed in Knitted Clothing.

GROUP 104.

Clark, Miss Mabel ...	School of Industry, Darlinghurst, Sydney.	Ladies' Underwear.
Committee on Women's Work	Sydney ...	Costume in New South Wales Tweed.
Ellis, Mrs. E. J. ...	Darlinghurst, Sydney	Child's Frock, smocked in old gold.
Head, Miss Georgina	School of Industry, Sydney.	Ladies' Underwear.
Maher, Mrs. ...	Collaroy, Merriwa ...	Child's Frock.
Orr, Mrs. F. M. ...	Edgecliff Road, Woollahra, Sydney.	Cashmere Tea Gown.
Scott, Miss Jeannie	Marrickville, Sydney	Three Garments—Underwear.
Windeyer, Lady ...	Roslyn Gardens, Sydney.	Ladies' Underwear.
Committee on Women's Work	Sydney ...	Infants' Hoods—two silk, one cashmere.
Macdermott, Miss Ellen	William Town	Cabbage-tree Hat.
Keever, Mrs. ...	Jamberoo, Illawarra ...	do
M'Innes, Mrs. ...	Ivy Lodge, Middle Arm	Opossum Fur, Gloves, and Socks.

GROUP 105.

Name.	Address.	Description.
Grant, William ...	Rankin-st., Bathurst...	Collection of Tanned Fur Skins.
Sunderland, William ...	Cooma-st., Yass ...	do do
Lockhart, Miss ...	Sydney ...	Rug of Platypus Fur.
Wintle, Mrs. ...	do ...	Mats of Emu Skins.
Committee on Women's Work	do ...	Rug of Platypus Fur.
Do do	do ...	Rug of Dingo Skins.
Do do	do ...	Rug of Native Bear.
Windeyer, Lady ...	Roslyn Gardens, Sydney.	Rug of Grey Opossum.
Do ...	do ...	Fire Screen.
Committee on Women's Work	Sydney ...	Boa Cuffs of Red Opossum.
Do do	do ...	Collarette of Red Opossum.
Do do	do ...	Collarette and Muffs, Swansdown, Black.
Do do	do ...	Collarette and Muffs, Pelican.
Do do	do ...	Collarette and Muffs, Rock Wallaby.
Do do	do ...	Collar and Muffs, Native Cat.
Do do	do ...	Muff of Plucked Platypus Fur.
Do do	do ...	Collarette and Muffs, Swansdown.
Do do	do ...	Collarette, Mountain Wallaby.
Do do	do ...	Toque, Platypus Fur.
Do do	do ...	Muff, Emu Skin.
Do do	do ...	Muff, Swansdown, unplucked.
Do do	do ...	Swansdown Muff, plucked.
Do do	do ...	Muff, Platypus Fur.
Do do	do ...	Muff and Reticule, Platypus.

GROUP 106.

Fischer, Mrs. W. Carl ...	Sydney ...	Honiton Lace Handkerchief.
Do ...	do ...	Lace Handkerchief, embroidered.
Freeman, Miss Annie ...	Montpelier, Randwick	Collection of Point Lace.
Guille, Mrs. Harriet ...	Goulburn (now of Maryborough, Q.)	Old Honiton Point Bib, and Cravat Ends.
Kendall, Mrs. T. M. ...	28, College-st., Sydney	Honiton Lace Handkerchief.
M'Carthy, Miss ...	Leinster Hall, Darling- ton, Sydney.	Scarf in Limerick Lace.
Punch, Mrs. Mary ...	Forbes-st., Sydney.....	Handkerchief of Modern Point Lace.
Scott, Mrs. Annie ...	Mandurama ...	Point Lace Collarette.
Vincent, Miss E. B. ...	Sand-hill, Neutral Bay.	Point Lace.
Wisby, Mrs. Harriet ...	Union-st., Petersham...	Handkerchief in Brussels Lace.
Collins, Mrs. Jane ...	Milson's Point, Sydney	Crochet in Lace.
Daunt, Mrs. Margaret ...	Mount Vincent ...	Specimens of Knitting.
Gilmour, Miss Ruby ...	Stanmore Road, Stan- more.	Doll's Outfit.
Moorehouse, Mrs. ...	Darlinghurst, Sydney	Collar in Fine Tatting.
Twynam, Mrs. ...	Victoria-street, Dar- linghurst.	Hand Knitted Counterpane.
Watkins, Mrs. John ...	Llanthony, Gladesville	Specimens of Fine Netting.
Windeyer, Lady ...	Roslyn Gardens, Syd- ney.	Embroidery by a lady 75 years old.
Committee on Women's Work	Sydney ...	Flowers made of Fish Scales.
M'Myles, Mrs. W. C. ...	Bathurst ...	Flowers made from Feathers.
Palmer and Green, Mesdames	Sydney ...	Australian Native Flowers in Bullion.
Dobbin, Miss L. ...	Care of Allen and Allen, Phillip-st., Sydney.	Embroidered Book Cover.
Overman, Miss Fanny ...	Willoughby-st., North Sydney.	Embroidered Roumanian Chair Cover.
Rectress, The Rev. Mother...	St. Vincent's Hospital, Sydney.	Pair of Satin Curtains.
Steffanoni, Miss Sophie ...	31, Clarence-street, Sydney.	Australian Arms in Bullion.

GROUP 108.

M'Carthy, Miss ...	Leinster Hall, Darling- ton, Sydney.	Fancy Bracket in Leather Work.
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GROUP 110.

Russell, J. E. M. (Mr.) ...	John-st., off Stanmore Road, Petersham.	Safety Bullion Bank.
Committee on Women's Work	Sydney ...	Doll, Dressed in Knitted Clothing
Marsh, Miss Sybil ...	Care of Mrs. Belisario, Lyons Terrace, Hyde Park, Sydney.	Dressed Doll.

GROUP 111.

Name.	Address.	Description.
Grant, W. ...	Rankin-st., Bathurst...	Leather.
Ludowici & Sons ...	162, Clarence-street, Sydney.	Belting.
Do ...	do ...	Pump Leather.

GROUP 115.

M'Nab, Estate of Robert ...	47, Collins-street, Surry Hills, Sydney.	Sets of Bellows.
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GROUP 118.

M'Eachern, John L. ...	Dean-street, Albury ..	Sets of Horse-shoes.
Do ...	do ...	Draught, Coach, Hunting, and Racing Shoes.
Do ...	do ...	Set of Farrier's Tools.
Do ...	do ...	Horse Sling.
Pitman, William ...	Bayswater Road, Paddington, Sydney.	Specimens of Horse-shoes.

GROUP 119.

Gross, A. ...	263, George-st., Sydney	Universal Patent Nut Lock Bolt.
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GROUP 120.

Sinclair, W. T. ...	Parramatta Rd., Parramatta, Sydney.	Sanitary Plumbing Work.
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DEPARTMENT K.—FINE ARTS.

GROUP 140.

Fullwood, A. H. ...	88, King-street, Sydney	"How sweet the Moonlight."
Do ...	do ...	"The Station Boundary."
Do ...	do ...	"Shoalhaven River."
Do ...	do ...	"Rain and Sunshine."
Rowan, Mrs. Ellis ...	Mt. Macedon, Victoria	Panel of Lilies.
Do ...	do ...	Panel, "Acanthus."
Lister, W. Lister ...	Paling's Buildings, Sydney.	"After the Shower."
Roberts, Tom ...	Riley Bros' Buildings, Bathurst-st., Sydney.	"Eileen."
Do ...	do ...	"Aboriginal Head."
Mosley, Mrs. E. ...	133, Macquarie-street, Sydney.	"He who runs may read."
Saxby, Miss L. A. ...	Norton-street, Leichhardt, Sydney.	"Govett's Leap."
Williamson, Mrs. Weldon ...	Summer Hill, near Sydney.	Group of Australian Flowers for Panel.

DEPARTMENT L.—LIBERAL ARTS.

GROUP 147.

Kerry, Charles H. ...	308, George-st., Sydney	Panorama of Association Cricket Ground, and other Photos.
Holdsworth, Macpherson, & Co. ...	254, George-st., Sydney	Patent Rapid Filters.
Harding, Miss Fox... ..	Surry-street, Darlinghurst, Sydney.	Improved Invalid Mattress.

GROUP 148.

Carruthers, Mrs. Hetherington. ...	Sydney	Electrical Medical Appliances.
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GROUP 149.

Commissioners for N.S.W....	Sydney	Photos. of Public Schools.
Do ...	do ...	Report on School Buildings.
Department of Public Instruction.	do ...	Specimens of School Work.
Public School ...	Albury	do do
Do ...	Armidale	do do

Name.	Address.	Description.
Public School ...	Burwood ...	Specimens of Needlework, and other Exercises.
Do ...	Cook's Hill ...	Exercise Book, and other Specimens.
Do ...	Erina ...	Specimens of School Work.
Do ...	Forest Lodge... ..	do do
Do ...	Gladstone Park ...	do do
Do ...	Goulburn ...	do do
Do ...	Gowrie ...	do do
Do ...	Gundaroo ...	do do
Do ...	Hamilton ...	do do
Do ...	Hillgrove ...	do do
Do ...	Kogarah ...	do do
Do ...	West Maitland ...	do do
Do ...	Fort-street, Sydney ...	do do
Do ...	Mudgee ...	Freehand Drawing, and other Specimens.
Do ...	Muswellbrook ...	Copybooks, and Specimens of School Work.
Do ...	Newcastle ...	Specimens of School Work.
Do ...	Newcastle, South ...	Postage Stamps and other Work.
Do ...	do East ...	Freehand Drawing and other Work.
Do ...	New Italy ...	Specimens of School Work.
Do ...	Paddington ...	do do
Do ...	Parramatta, South ...	do do
Do ...	Roughit, via Singleton ...	do do
Do ...	Summer Hill... ..	Pupil Work.
Do ...	Thalaba, near Dungog ...	do
Do ...	Waverley ...	do
Do ...	Wickham ...	do
Slandon, James ...	Canterbury Public School.	Ornamental Writing.
Eagleton, August ...	Clarence Town Public School.	Sketch, Fruit ; and Map, Ireland.
Ingram, H. A. ...	Eschol Public School, near Dubbo.	Map, S. America ; Map, S. Australia.
Fullerton, B. ...	Fort-st. Public School	Album.
Olsen, V. P. H. ...	Quandong Public School, via Grenfell.	Pen and Ink Sketch, "Cardinal Wolsey."
Zeehke, Herman ...	Wellington Public School.	Map, North America.
Terry, Miss Amy ...	Woollahra ...	Specimen of Handwriting.
Eyles, Miss Ethel ...	Ryde Public School ...	Picture, "Dog's Head."
Starling, Miss Edith ...	West Maitland Public School.	Writing, Mapping, &c.
Architecture Classes ...	Technical College, Sydney.	
Carpentry Class ...	do ...	
Technical College ...	Sydney ...	Sanitary Plumbing Exhibits.
Mechanical Drawing Classes ...	Technical College, Sydney.	
Manual Training Classes ...	do ...	Polished Bookstand.
Art Classes ...	do ...	
Masonry Class ...	do ...	Rampant and Pointed Arch.
Industrial Art Class ...	do ...	
Taylor, James W. ...	do ...	Castings, &c.
Ockleford, George ...	do ...	Specimens of Wood Carving.
Johnson, P. W. ...	do ...	Silver and Embossed Design on Glass.
Mueller, E., and others ...	do ...	Ornamental Design.
Hargreaves, Geo. H. ...	do ...	Panel Pilaster.
Technical College ...	Sydney ...	Calendar of various Classes.
Maiden, J. H. ...	Technological Museum, Sydney.	A Century of N.S.W. Economic Plants.
Department of Public Instruction.	In-Sydney ...	Substances used as Food by the Aborigines.
Do ...	do ...	Specimens of Industrial Work.
Do ...	do ...	90 Specimens.
Do ...	do ...	Collection of Gums, Resins, and Kinos.
Technological Museum ...	do ...	Collection of Tan Barks.
Maiden, J. H., and Hawkesworth, Alfred.	Technological Museum, Sydney.	Pamphlet—Wattles and Wattle Bark.
Do ...	do ...	Pamphlet—Raw Wools.
Do ...	do ...	Pamphlet—Wool Sorting, Classing, &c.
Do ...	do ...	Pamphlet—Illustrations of Types of Wool.

Name.	Address.	Description.
Liversidge, Archibald	... University of Sydney	Two Models of Crystals.
Deaf, Dumb, and Blind Institution, Sydney.	Newtown Road, Sydney.	Six Specimens of Industries.
Wrench, J. T.	... Wallaby Rocks, Sofala.	Painting, "Roses in Bloom."
University of Sydney (Senate of the).	Sydney ...	Series of Photos. of the University
University of Sydney (Trustees of Macleay Museum).	do ...	Collection of Insects.
GROUP 150.		
Chief Secretary of New South Wales.	Sydney ...	"Geographical Encyclopedia of New South Wales."
Commissioners for N.S.W.	do ...	"Flora of New South Wales."
Picturesque Atlas Co.	... Wynyard Square, Sydney.	"Picturesque Atlas of Australia."
Turner & Henderson	... 16 and 18, Hunter-st., Sydney.	"The Federal Geography of British Australasia."
Government Printer	... Bent and Phillip Sts., Sydney.	Historic Records.
Rankin, George	... Care of Messrs. Turner and Henderson, 16 and 18, Hunter-st., Sydney.	"British-Australasian Geography."
Fraser, Dr. J.	... Care of Dr. J. Benvie, West Maitland.	"An Australian Language."
Coombes, E., C.M.G., M.L.C.	Glanmire, near Bathurst.	Reports on School Buildings.
Campbell, W. S.	... Department of Agriculture Sydney.	"Silk Culture and Agriculture."
Fairfax & Sons	... Sydney ...	<i>Sydney Mail</i> Sketches.
Myers, Francis	... Athenæum Club, Sydney.	Coastal Survey.
Government Printer	... Bent and Phillip Sts., Sydney.	Reports on Crown Lands.
Australian Museum	... College-street, Sydney	Catalogue of Mammals.
Minister for Mines and Agriculture.	Phillip-street, Sydney	Report of the Department.
Government Printer	... Bent and Phillip Sts., Sydney.	First Legislative Assembly.
Postmaster-General	... Sydney ...	Annual Report of the Department.
Potter, C.	... Government Printer, Sydney.	Report on Tanks and Wells.
Government Printer	... Bent and Phillip Sts., Sydney.	"Geographical Encyclopedia."
Do	... do do ...	Account Books.
Coghlan, T. A.	... Government Statistician, Sydney.	"Wealth and Progress of New South Wales."
Secretary for Lands	... Sydney ...	Annual Report of the Department.
Government Printer	... Bent and Phillip Sts., Sydney.	Lord Howe Island.
Postmaster-General...	... Sydney ...	Album of Postage Stamps.
Minister for Mines...	... Phillip-street, Sydney	Report on the Bulli Disaster, 1887.
Secretary for Railways	... Macquarie-st., Sydney	Souvenir of the Hawkesbury Bridge.
Postmaster-General	... Sydney ...	History of the General Post Office.
Minister for Mines...	... Phillip-street, Sydney	Report on the Conservation of Water, and Plans.
Colonial Secretary	... Sydney ...	Report on the Conservation of Water.
Government Printer	... Bent and Phillip Sts., Sydney.	Report of Royal Commission on Conservation of Water.
Coombes, E., C.M.G., M.L.C.	Glanmire, near Bathurst.	Report on Technical Education.
Coghlan, T.	... Government Statistician, Sydney.	Statistical Register.
Secretary for Mines and Agriculture.	Sydney ...	"Forage Plants."
Commissioners for N.S.W. Railways.	Macquarie-st., Sydney	R. R. Guide for New South Wales.
Fisheries Commission	... Colonial Secretary's Office, Sydney.	"Fish and Fisheries" of New South Wales.
Government Printer	... Bent and Phillip Sts., Sydney.	History of the Government Printing Office.
Potter, Charles	... Government Printer, Sydney.	"Commerce and Resources of New South Wales."

Name.	Address.	Description.
Government Printer	... Bent and Phillip Sts., Sydney.	Report on Government Asylums.
Do	... do do	"Australian Orchids."
Do	... do do	Blue Book for 1890.
Department of Agriculture...	Macquarie-st., Sydney	Publications.
Do	... do do	Reports.
Fitzgerald, Miss M. A.	... 364, Bourke-st., Sydney	"Australian Furs and Feathers."
Daily Telegraph Newspaper Co.	King-street, Sydney	Sketches, &c.
Fairfax & Sons	... Pitt and Hunter Sts., Sydney.	Vols. of <i>Sydney Morning Herald</i> .
Evening News and Town and Country Journal.	Market-street, Sydney	Picture of Office, &c.
Turner & Henderson	... 16 and 18, Hunter-st., Sydney.	Municipal Directory and Government Blue Book.
Sharp, Alfred	... Watt-street, Newcastle	Pictures of Christmas Tree of N.Z., Banks of the Camden River, the Vegetable Octopus of N.S.W.
Frost, Douglas James	... Grafton	... Map of Clarence River.
Higinbotham & Robinson	... 62, Elizabeth-street, Sydney.	Series of Maps and Statistical Diagrams.
Secretary for Lands	... Sydney	... Series of Maps.

GROUP 151.

Commissioners for N.S.W....	Sydney	... Series of Photographs (6 awards).
Do	... do	... Photographs of Country Town.
Do	... do	... Series of Photographs of Defence Forces.
Do	... do	... Photographs of Mountain Scenery.
Holden, R. Henry	... Kiama	... Specimens of Photography.
Newman, J. Hubert	... 316, George-st., Sydney	Portraits of Public Men.
Potter, Charles	... Bent and Phillip Sts., Sydney.	Photographic Enlargements.
Kitch & Co....	... Katoomba	... Photographs.
King, H.	... 316, George-st., Sydney	do
Government Printer	... Bent and Phillip Sts., Sydney.	do
Kerry & Co....	... 308, George-st., Sydney	do
Turner and Henderson	... 16 and 18, Hunter-st., Sydney.	Heraldic and Commercial Embossing.
Do	... do do	... Specimens of Chromo-lithography.

GROUP 152.

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Hutchins, —	... Sydney	... Patent Sash Reverser.
Grice, E. J....	... 71, Hunter-st., Sydney.	Design for Ceiling.

GROUP 153.

Commissioners for N.S.W....	Sydney	... Public Statutes of N.S.W.
Lambton, S. H.	... Deputy Postmaster-General, Sydney.	Revolving Stand.
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Commissioners for N.S.W....	Sydney	... "The Prison System of N.S.W."

GROUP 154.

Commissioners for N.S.W....	Sydney	... Four Pamphlets on N.S.W.
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Do	... do	... History and Progress of N.S.W.
Do	... do	... Pamphlet: "Coinage, &c., of Australia."
Hyman, Coleman P.	... 187, Castlereagh-street, Sydney	Loan Collection of Coins, &c.

GROUP 155.

Government Astronomer	... Sydney	... Series of Photographs of the Moon, &c.
Royal Geographical Society of Australia.	do	... Transactions of the Society.
Watson, A. E.	... Circular Quay, Sydney	Water colours of Australian Birds.
Hetley, Mrs. G. B.	... Sydney	... 15 Watercolours of Australian Flora.
Wright, Mrs.	... Toile, Bourke-street, Glen Innes.	Water colours of Australian Flora.
Rowan, Mrs. Ellis	... Mt. Macedon, Victoria	99 Watercolours of Australian Flora.

Name.	Address.	Description.
Australian Museum, Trustees of.	Sydney ...	Series of Catalogues.
Do	do ...	Series of Monographs.
Do	do ...	Memoirs.
Do	do ...	Miscellaneous Publications.
Commissioners for N.S.W.	do ...	Catalogue of Australian Mammals.
Do	do ...	Collection of N.S.W. Birds.
Do	do ...	Collection of N.S.W. Mammals.
Do	do ...	Series of N.S.W. Birds (Photos. of)
Do	do ...	Birds of Australia (Gould).
Maiden, J. H.	Technological Museum, Sydney.	Century of Fruits and Seeds.
Technological Museum	Sydney ...	Animal Products (other than wool).
Department of Public Instruction.	do ...	Fibres, Wools, &c.
Commissioners for N.S.W.	do ...	Collection of Plants, Fruits, &c.
Committee on Women's Work	do ...	Flowers painted on Opal.
Do	do ...	Australian Butterflies.
Seton, Miss Therese	Victoria-st., Sydney ...	Miniature Portraits on Ivory.
Paterson, Mrs. John	Rock End, Gladesville ...	Pictures of Australian Flowers.
M'Myles, Mrs. W. C.	Bathurst ...	Flowers from Feathers.
Harris, Mrs. Matthew	Warrane, Ultimo, Sydney.	Animals Modelled in Wax.
Cohen, Mrs. Victor...	Billyard Avenue, Elizabeth Bay, Sydney ...	do
Committee 12 on Women's Work.	Sydney ...	Specimens of Modelling, Photos., Paintings, &c.
Summerbelle, Miss A. M.	Double Bay, Sydney...	Musical Compositions.
Reese, Miss Ada M.	395, Darling-st., Balmain, Sydney.	Hand-painted Curtains.
Committee on Women's Work	Sydney ...	Collective Exhibit.

DEPARTMENT M.—ETHNOLOGY.

GROUP, 164.

Board for the Protection of Aborigines.	Phillip-street, Sydney.	Weapons of the Aborigines.
Bowman, H. W.	do do	Collection of South Sea Island Weapons, &c.
Commissioners for N.S.W.	do do	Wooden Idols—Male and Female.
Do	do do	Collection of Weapons by Stockdale.
Do	do do	Collection of Articles of Clothing.
Do	Sydney ...	Collection of Articles from South Sea Islands. (By Wolfe.)
Do	do ...	Sixty Spears, "Obsidian."
Do	do ...	Enlarged Photographs of Aborigines.
Do	do ...	Two Photographs of Aborigines.
Do	do ...	Series of Enlarged Photographs Illustrating Aborigines of New South Wales and South Sea Islands.
Do	do ...	Pamphlet: "The Aborigines of New South Wales."
Do	do ...	Pamphlet: "The South Pacific and New Guinea—Past and Present."
Do	do ...	"An Australian Language."
Hannay, James Blair	do ...	Weapons from Richmond River District.
Ilett, George	Milton ...	Two Drawings by "Mickey."
Jenkins, Lieut. R. L. H. B.	Victoria Barracks, Sydney.	Weapons and Implements of South Sea Islands.
Lichtner & Solomon	Wynyard Buildings, Wynyard Square, Sydney.	Idols, Implements, &c., of the New Hebrides and South Sea Islands.
Liversidge, Archibald, M.A., G.R.S.	University of Sydney..	Collection of Aboriginal Weapons.
Lumsdaine, Herbert S.	Bank of New South Wales, Casino.	Drawing by Aboriginal.
Mullen, W. H.	West Maitland ...	Collection of Ethnological Specimens from the South Sea Islands.
The late James E. Wolfe	Care of Mr. J. D. Prentice, West Maitland.	Weapons of Aborigines of New South Wales.

Name.	Address.	Description.
Committee on Ethnology ...	Sydney ...	Collection of Obsidian Spears.
Do ...	do ...	Wooden Idols—Male and Female.
Do ...	do ...	Clothing, Implements of War and the Chase, and Tools of South Sea Islands.
Board for the Protection of Aborigines.	Phillip-street, Sydney...	Writing and Needlework of Aboriginal Children.
Do do ...	do ...	Weapons of Aborigines of N.S.W.
Do do ...	do ...	Photographs of Aborigines of N.S.W.
Moore, Charles ...	Director of Botanic Gardens, Sydney.	Handbook of Flora of N.S.W.
Cohen, Mrs. Victor...	Billyard Avenue, Elizabeth Bay, Sydney.	Animals Modelled in Wax.
Harris, Mrs. Matthew	Warrane, Ultimo, near Sydney.	Cows and Calf Modelled in Wax.
Seton, Mrs. Therese	Victoria-street, Sydney	Miniature Portraits.
On Lee, Miss Olive...	Clergy Daughters' School, Waverley, Sydney.	Drawing from the Round.
Warner, Miss Nellie	do do	do do
Shaw, Miss Emmeline	Sydney	Fish Scale Flowers.
Stephen, Miss L. F.	Enmore, Sydney	Painting on Opal.
Rohu, Mrs. Jane ...	60, William-st., Sydney	Two Stuffed Specimens of the Apteryx.
M'Myles, Mrs. W. C.	Bathurst	Flowers from Feathers of the Lachlan.
Australian Museum	Sydney	Series of Publications.
Ramsay, Dr. E. P. ...	Australian Museum, Sydney.	Catalogue of Australian Birds.
Technological Museum	Sydney	Substances used as food by the Aborigines.
University of Sydney	do	Rare Beetles and Insects of Australia.
Macleay Museum ...	do	Rare Butterflies and Moths.
Mosley, Mrs. E. ...	133, Macquarie-street, Sydney.	"He who Runs may Read."
Hyman, Coleman P.	187, Castlereagh-street, Sydney.	Book, "Coinage, &c., of Australasia."
Do	do do	Collection of Early Tokens and Currency of Australia.
Hetley, Mrs. G. B....	Sydney	Watercolours of N.S.W. Flora.
Williamson, Mrs. Weldon	Care of Mr. H. W. Williamson, 53 York-street.	Group of Australian Flowers.
Wright, Mrs. ...	Toile, Bourke-street, Glen Innes.	Six Paintings of Flora of N.S.W.
Palmer and Green, Mesdames	Care of the Misses Lane, 188 King-street, Newtown.	Australian Flowers made in Bullion.
Stephen, Miss L. F.	Enmore, Sydney	Terra Cotta Plaque.
Weiss, Mrs....	Sydney	Branch of Plumbago.
Do ...	do	Pointsettia, Painting on Opal.
Halligan, Mrs. Gerald H.	Eugowra, Hunter's Hill	Original Design for Wall Papers.
Paterson, Mrs. John	Rockend, Gladesville, Sydney.	Four Pictures of Australian Flowers.
Saxby, Miss L. A. ...	Norton-st., Leichhardt, Sydney.	Painting, "Govett's Leap."
Royal Geographical Society of Australasia.	Sydney	Transactions of the Society (4 vols.)
Commissioners for N.S.W....	do	Nets, Baskets, &c., made by Aboriginal Women.

GROUP 171.

Commissioners for N.S.W....	Sydney	Settler's Bark Hut.
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DEPARTMENT N.—FORESTRY.

GROUP 19.

Breckenridge, J. ...	Failford	Dressed and Undressed Hardwood Timbers.
Baker, Frederick Robert	Fernmount, Bellinger River.	Three exhibits of Timber.
Commissioners for N.S.W....	Sydney	Collection of Commercial Timbers.
Do do ...	do	Merchantable Length Timbers.
Do do ...	do	Polished Specimens of Timber.
Abbott, Lady ...	Teralla, North Sydney	Cabinet Collection of Wood.

Name.	Address.	Description.
Department of Forestry ... Sydney	...	Herbarium Specimens of Forest Flora.
Do do ... do	...	Seeds and Seed Vessels.
Technological Museum ... do	...	Collection of Barks.
Department of Forestry ... do	...	Trophy of Wooden Blocks of Colonial Hardwood.
Commissioners for N.S.W.... do	...	Polished Gunstocks, made from Native Woods.
Lewis, Mortimer William ... East Maitland	...	Specimens of N.S.W. Timbers.
Mazoudier & Co. ... Clarinda-st., Parkes	...	Specimens of Worked Timbers.
Commissioners for N.S.W. Sydney	...	Collection of R.R. Ties.
Railways.		
Department of Forestry ... do	...	Collection of Wattle Bark.
Commissioners for N.S.W.... do	...	Collection of Manufactured Ornamental Articles.
Halliday, F. ... Railway Tannery, Bathurst.	...	Wattle Bark for Tanning Purposes.
Raymond & Co. ... 77, Pitt-street, Sydney	...	Wattle Bark.
Department of Forestry ... do	...	Collection of Resinous Gums.
Do do ... do	...	Settler's Bark Hut.
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1894-5.

NEW SOUTH WALES.

REPORT

OF THE

ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

CONDUCT AND MANAGEMENT OF THE LICENSED HOUSE
FOR INSANE AT COOK'S RIVER, NEAR SYDNEY,

KNOWN AS

"BAYVIEW HOUSE,"

AND PARTICULARLY AS REGARDS THE ALLEGATIONS MADE IN THE
LEGISLATIVE ASSEMBLY RESPECTING THE TREATMENT OF
CERTAIN PATIENTS IN THE SAID LICENSED HOUSE.

APPOINTED 18TH OCTOBER, 1894.



Presented to Parliament by Command.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1895.

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Commission.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen,
Defender of the Faith, and so forth,—

To our trusty and well-beloved—

The Honorable Sir ARTHUR RENWICK, Knight, B.A., M.D., a Member of Our Legislative Council
of Our Colony of New South Wales, President;
FREDERIC NORTON MANNING, Esquire, M.D., Inspector-General of the Insane;
ANDREW GARRAN, Esquire, LL.D.; and
JAMES SINCLAIR MCGOWEN, Esquire, a Member of the Legislative Assembly of Our said Colony,—

Greeting:—

Know ye, That We, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you, or any two or more of you, as hereinafter mentioned, to make a diligent and full inquiry into the conduct and management of the Licensed House for the Insane, at Cook's River, near Sydney, in Our said Colony, known as "Bayview House," and particularly as regards the allegations made in the said Legislative Assembly respecting the treatment of certain patients in the said Licensed House: And we do, by these presents, grant to you, or any two or more of you, at any meeting or meetings to which all of you shall have been duly summoned, full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, and to inquire of the premises by all lawful ways and means: And We do give you the power, at your discretion, to procure such clerical and other assistance as you may deem necessary for enabling you to duly execute this Our Commission: And Our further will and pleasure is that you do, within two months after the date of Our Commission, certify to Us, in the office of Our Chief Secretary, under your or any two or more of your hands and seals, what you shall find touching the premises: And We hereby command all Government Officers and other persons whomsoever within Our said Colony, that they be assistant to you and each of you in the execution of these presents: And we appoint you, the said Sir ARTHUR RENWICK, to be President of this Our Commission, which said Commission We declare to be a Commission for all purposes of the Act 44 Victoriae No. 1, intituled, "*An Act to regulate the taking of evidence by Commissioners under the Great Seal.*"

In testimony whereof, We have caused these Our Letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness, Our Right Trusty and Well-beloved Councillor, Sir ROBERT WILLIAM DUFF, a Knight Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this eighteenth day of October, in the fifty-eighth year of Our Reign, and in the year of Our Lord one thousand eight hundred and ninety-four.

(L.S.)

R. W. DUFF.

By His Excellency's Command,
(L.S.) JAMES N. BRUNKER.

Entered on record by me, in REGISTER OF PATENTS, No. 16, page 147, this nineteenth day of October, one thousand eight hundred and ninety-four.

For the Colonial Secretary and Registrar of Records,

(L.S.)

CRITCHETT WALKER,
Principal Under Secretary.

LETTER OF INSTRUCTIONS.

The Principal Under Secretary to The President.

Sir,

Chief Secretary's Office, Sydney, 19 October, 1894.

Dated 18th
October, 1894.

I am directed by the Chief Secretary to transmit herewith a Commission under the Great Seal of the Colony appointing you, in conjunction with the other gentlemen named therein, to be a Royal Commission to make a diligent and full inquiry into the conduct and management of the Licensed House for the Insane at Cook's River, near Sydney, known as "Bayview House," and particularly as regards the allegations made in the Legislative Assembly respecting the treatment of certain patients in that institution.

2. I am desired to add that the Governor-in-Council has also been pleased to appoint you to be President of the Commission.

3. You will be provided with such clerical and other assistance as may be deemed necessary for enabling you to execute the Commission.

I have, &c.,

CRITCHETT WALKER,

Principal Under Secretary.

The Hon. Sir Arthur Renwick, Knt., B.A., M.D., M.L.C., &c., &c.

EXTENSIONS OF COMMISSION.

WHEREAS it is necessary to extend the time within which the Commissioners are to make their report in the above matter: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the said Commissioners are to make such report for a period of two months—to take effect from the 18th instant.

Given under my hand at Government House, Sydney, this nineteenth day of December,
one thousand eight hundred and ninety-four.

R. W. DUFF.

By His Excellency's Command,

JAMES N. BRUNKER.

WHEREAS the time appointed for the return of the Commission in the above matter was by an instrument dated the nineteenth day of December last, extended for a period of two months: And whereas it is necessary to extend the same still further. Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the Commission are to make their return to and for a further period of one month beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 18th instant.

Given under my Hand at Government House, Sydney, this nineteenth day of February,
one thousand eight hundred and ninety-five.

By deputation from His Excellency,

FREDK. M. DARLEY,

Lieutenant-Governor.

By His Excellency's Command,

JAMES N. BRUNKER.

WHEREAS the time appointed for the return of the Commission in the above matter was by an instrument dated the nineteenth day of February last, extended for a period of one month: And whereas it is necessary to extend the same still further. Now, therefore, I do hereby, with the advice of the Executive Council, further extend the time within which the Commission are to make their return until the 9th April proximo.

Given under my hand at Government House, Sydney, this twenty-second day of
March, one thousand eight hundred and ninety-five.

FREDK. M. DARLEY,

Lieutenant-Governor.

By His Excellency's Command,

JAMES N. BRUNKER.

INTERIM REPORT TO THE HONORABLE THE CHIEF SECRETARY.

Sir, Board Room, Chief Secretary's Office, Sydney, 11 December, 1894.

I have the honor to inform you that the period of duration of the Royal Commission appointed to make a full and diligent inquiry into the working and management of the Hospital for the Insane, known as Bayview House, Tempe, will lapse on the 19th instant. In consequence of the protracted nature of the investigation, we shall, as Royal Commissioners, be unable to present our report to His Excellency the Governor within the time prescribed in the Commission, I therefore beg to request that the time be extended for a period of two (2) months—to a date expiring on February 19, 1895.

From official papers placed at our disposal to aid us in executing the terms of our Commission, we see that, on July 10, 1891, in reply to a letter written by Dr. A. J. Vause on 23rd of the previous month, the then Colonial Secretary approved of the renewal for the further period of three years from 31st December, 1891, of an agreement entered into between Dr. Vause and the Government for the care of fifty insane patients in the Licensed House for the Insane, known as Bayview House, Tempe, at the rate of £1 2s. 6d. per week per patient, with the distinct stipulation that such renewal was granted under exceptional circumstances, and that the Government patients were to be removed on 31st December, 1894.

In a further paper, dated December 1st, 1893, the Inspector-General of Insane reported at length, for the information of the Chief Secretary, on the farming out of the insane at Cook's River Road. Dr. Manning then submitted that there had been no economy, but a greatly increased cost in farming out insane patients, and, incidentally, that by reason of political and other extraneous influences, it had been found difficult for the Government to regain possession of the patients farmed out. It was therefore necessary to point out that the whole principle of farming out insane patients is wrong. This memorandum was submitted to the Chief Secretary, who, after careful consideration of Dr. Manning's report and proposals submitted by Dr. Vause, and personal visits to the Tempe, Rydalmere, and Parramatta establishments, made a minute dated 19th March, 1894, to the effect that he had had the figures of cost at the private establishments and the cost of patients in Government institutions carefully checked, and, in consequence, was led to the conclusion that no further extension of the system of boarding-out of insane should be permitted, and he fully concurred in Dr. Manning's report and suggestions; and furthermore, he desired that all parties be so informed, and arrangements made accordingly.

In the meantime, therefore, while asking for an extension of time, we, as the Commissioners conducting this inquiry, recommend and unanimously approve the steps we understand are being taken by the Government for the removal of the Government patients from Bayview House on the ground of increased economy, as fully explained in the report of the Inspector-General of Insane.

I have, &c.,
ARTHUR RENWICK,
President.

To the Honorable the Chief Secretary, Sydney.

**ROYAL COMMISSION TO INQUIRE INTO THE CONDUCT AND MANAGEMENT
OF THE LICENSED HOUSE FOR THE INSANE AT COOK'S RIVER.**

MINUTES OF MEETINGS.

APPENDED are the minutes of the proceedings of the Royal Commission appointed on 18th October, 1894, to inquire into and report upon the conduct and management of the Licensed House for the Insane known as "Bayview House," Cook's River Road, near Sydney, and particularly as regards the allegations made in the Legislative Assembly of New South Wales, respecting the treatment of certain patients in the said Licensed House.

WEDNESDAY, 31 OCTOBER, 1894.

The Commissioners met in the Board Room, Chief Secretary's Office, at 11 a.m.

PRESENT :—

The Hon. Sir A. Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

At this preliminary meeting arrangements were made for the mode of procedure to be followed in executing the terms of the Commission. Mr. W. Wilson, of the Colonial Secretary's Department, attended in the capacity of secretary *pro tem*.

It was decided that it was absolutely necessary to secure the services of a competent shorthand-writer to report the proceedings of the Commission.

Dr. Vause, by letter dated October 27th, applied to the Commission requesting that they would permit him to be represented by counsel throughout the investigation. The Commissioners determined that they could not grant this request.

The Commissioners decided to meet every Tuesday, Wednesday, and Friday, and hear evidence from 11 a.m. to 1 p.m.

The Principal Under Secretary was asked to supply, for the use of the Commissioners, all papers connected with the charges made against the management of Bayview Asylum, including the cases of Major-General Richardson, Mrs. W., and Miss H.; also, to furnish papers and information in his possession concerning the boarding out of patients at this institution from the time it was licensed.

The Commissioners decided it to be judicious to conduct the inquiry with closed doors, and to give no publicity to their proceedings until their Report was presented to Minister.

The Commissioners decided that Dr. Vause should be invited to be present during the sittings of the Commission.

[The Commission was adjourned until the following Friday, at 11 o'clock.]

FRIDAY, 2 NOVEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

A letter from the Chief Secretary was read, stating that he had approved of the appointment of Mr. T. D. Elwell as secretary and shorthand-writer to the Commission. Other correspondence was read and passed.

The Secretary read the Royal Commission. The following witnesses were examined :—Charles E. Jeanneret, formerly Member of the Legislative Assembly for the Carcoar constituency; Professor Anderson Stuart.

Mr. Barton, Q.C., accompanied by Dr. Vause, appeared before the Commission and applied for permission to attend during the sittings of the Commission as counsel for Dr. Vause.

Mr. Barton and Dr. Vause having retired, the Commission considered the application and unanimously decided to adhere to their former resolution that no parties to the inquiry should be represented by counsel.

In the afternoon the Commissioners, accompanied by the Secretary, officially visited Bayview House, and were shown over various departments of the institution by the Medical Superintendent. Special attention was paid to the isolation rooms on the male side, and of the single rooms in the female division. The main building and grounds were also inspected.

TUESDAY,

TUESDAY, 6 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—Henry Gearey, Sanitary Inspector, Sydney Municipal Corporation; John Joseph O'Brien, Sanitary Inspector, Sydney Municipal Corporation; Edmund Sager, Secretary, Board of Health, Sydney.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 7 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—George Dickson, Green House, Annandale-street, Annandale; Alan Farquharson, attendant, Bayview Asylum; Rueben Alfred Peat, attendant, Bayview Asylum; Edward Erickson, warder, Little Bay Hospital; William Little, chief attendant, Callan Park Asylum.

[The Commission was adjourned until the following Tuesday.]

TUESDAY, 13 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—Constable Alex. Mackenzie, Goulburn; Thomas Kernahan, attendant, Callan Park Hospital; Thomas Ramsey, attendant, Callan Park Hospital; Alex. Robinson, formerly an attendant at Bayview House, Camden-street, off Junction Road.

[The Commission was adjourned until the following Wednesday, at 11 o'clock.]

WEDNESDAY, 14 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—Maggie Macleod, formerly nurse at Bayview House, 4, Essex-street, Sydney; Rose MacMahon, formerly nurse at Bayview House, North Shore; Lizzie Verity, formerly nurse at Bayview House, Neutral Bay; Annie Marshall, formerly nurse at Bayview House, North Shore.

[The Commission was adjourned until the following Thursday, at 11 o'clock.]

THURSDAY, 15 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—Rev. E. D. Madgwick, Church of England Chaplain at Bayview House; Rev. Father O'Callaghan, Roman Catholic Chaplain at Bayview House.

[The Commission was adjourned until the following Tuesday, at 11 o'clock.]

TUESDAY, 20 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Andrew Garran, Esq., LL.D., James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—Josephine Mackay, re-examined, formerly nurse at Bayview Asylum; Rachel Kelly, formerly nurse at Bayview Asylum.

[The Commission was adjourned until the following Wednesday, at 11 o'clock.]

WEDNESDAY,

WEDNESDAY, 21 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined:—John Doherty, chief attendant, Bayview House; James O'Brien, attendant, Bayview House.

[The Commission was adjourned until the following Friday, at 11 o'clock.]

FRIDAY, 23 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined:—Bridget Morrissey, formerly matron, Bayview; Mary Magney, formerly housemaid, Bayview; Mary Doherty, cook, Bayview.

In the afternoon Dr. Garran and Dr. Manning, accompanied by the Secretary, paid a visit to the Hospital for the Insane, Callan Park. They were met by Dr. Herbert Blaxland, Medical Superintendent, who conducted them over various divisions of the institution. Major-General Richardson was seen on the verandah of the room which he occupies during the day. The members of the Commission also inspected the single room, in the corridor in which the Major-General has slept since his admission into this institution.

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President of the Commission, on this afternoon paid an official visit to the Hospital for Insane, at Gladesville. He was received by the Medical Superintendent, who conducted him over the institution.

[The Commission was adjourned until the following Tuesday, at 11 o'clock.]

SATURDAY, 24 NOVEMBER, 1894.

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President of the Commission, paid an official visit to the Hospital for the Insane, at Callan Park.

TUESDAY, 27 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined:—Mrs. Harriet Eastcott Clowdy, Paddington; Miss Eleanor Wootton, Moore Park Road; Septimus Harwood, 18, Redmond-street, Leichhardt.

[The Commission was adjourned until the following Wednesday, at 11 o'clock.]

WEDNESDAY, 28 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined:—Robert Harwood, Cook's River Road; Eliza Hunter, laundress, Bayview House; Nellie McBride, nurse, Bayview House.

[The Commission was adjourned until the following Friday, at 11 o'clock.]

FRIDAY, 30 NOVEMBER, 1894.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | James Sinclair Taylor McGowen, Esq., M.L.A.
 General of the Insane, |

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined:—The Hon. Henry Copeland, M.L.A.; the Hon. E. Greville, M.L.C.; Frederick Gannon, solicitor; Sydney Richardson.

[The Commission was adjourned until the following Tuesday, at 11 o'clock.]

TUESDAY, 4 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General for the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined :—Dr. Blaxland, Callan Park ; Dr. Williams, Victoria Barracks ; Dr. Scot-Skirving, Elizabeth-street ; Hon. Dr. MacLaurin, M.L.C., Macquarie-street ; Dr. E. P. Sinclair, Enmore-road, Newtown.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 5 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined :—Bessie Simpson, matron, Gladesville ; Dr. Eric Sinclair, medical superintendent, Gladesville ; Kate Brennan, nurse, Bayview House ; Maggie Kennedy, nurse, Bayview House ; A. Barden, meat buyer, Penshurst.

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY, 11 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined :—Mrs. Johanna Dwyer, formerly nurse at Bayview Asylum ; Dr. Hethrington, Rockdale ; Dr. J. Kingsbury, Newtown ; Dr. G. T. Knaggs, College-street, Sydney ; Dr. W. Crago, College-street, Sydney ; Dr. Ramsey, Five Dock.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 12 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined :—John Hunter, 166 William-street ; Hon. Dr. Creed, M.L.C., Sydney ; Annesley Voysey, 35 Darlinghurst Road ; H. W. Watt, High-street, Carlton ; Jessie Urquhart, nurse, Bayview Asylum.

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 14 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined :—Dr. Beeston, Newcastle ; Patrick Cass, Cowra ; Mrs. Annie Gilchrist, lady superintendent, Bayview Asylum ; Miss Baldwin, matron, Bayview Asylum.

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY,

TUESDAY, 18 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined :—John Young, accountant, Bayview Asylum; Josephine Mackay, re-examined; His Honor Judge Gibson; Mrs. Hankey, a former matron of Bayview Asylum; Patrick Martin, a former attendant, Bayview Asylum; John B. Davis, "Cranbrook," Newman-street, Newtown.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 19 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined :—Catherine Elinor Perrin, nurse, Bayview Asylum; Ada Simpson, nurse, Bayview Asylum; Dr. Jarvie Hood; Esther Allen, nurse, Bayview Asylum; Mrs. Richardson.

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 21 DECEMBER, 1894.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.
 General of the Insane, |

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined :—Sir Alfred Roberts; Nugent Robertson.

[The Commission was adjourned until 11 o'clock on Wednesday, 2nd January, 1895.]

WEDNESDAY, 2 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined :—Dr. L. R. Huxtable; Dr. C. J. Cox.

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 4 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
 Correspondence read and passed.

The following witnesses were examined :—Henry Gearey, re-examined; Dr. Eric Sinclair re-examined; Dr. F. N. Manning.

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY,

TUESDAY, 8 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witness was examined :—Dr. F. N. Manning (examination continued and concluded).

[The Commission was adjourned until 11 o'clock on Friday, 18th January, 1895.]

FRIDAY, 18 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | James Sinclair Taylor McGowen, Esq., M.L.A.
 General of the Insane, |

Correspondence read and passed.

The following witness was examined :—A. J. Vause, Esq., M.B. *et* C.M.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 23 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | James Sinclair Taylor McGowen, Esq., M.L.A.
 General of the Insane, |

Correspondence read and passed.

The following witness was examined :—A. J. Vause, Esq., M.B. *et* C.M. (examination continued).

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 25 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witness was examined :—A. J. Vause, Esq., M.B. *et* C.M. (examination continued).

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY, 29 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witness was examined :—A. J. Vause, Esq., M.B., *et* C.M. (examination continued).

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 30 JANUARY, 1895.

PRESENT :—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witness was examined :—A. J. Vause, Esq., M.B. *et* C.M. (examination continued).

[The Commission was adjourned until 11 o'clock on Friday, 1st February.]

FRIDAY,

13

FRIDAY, 1 FEBRUARY, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witness was examined:—A. J. Vause, Esq., M.B. *et C.M.* (examination continued).

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY, 5 FEBRUARY, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witness was examined:—A. J. Vause, Esq., M.B. *et C.M.* (examination continued).

[The Commission was adjourned until 11 o'clock on Wednesday, 6th February.]

WEDNESDAY, 6 FEBRUARY, 1895.

The Commission met at 11 a.m. at the Board Room, Chief Secretary's Office.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

After deliberation, Mr. McGowen moved, and Dr. Manning seconded, That the President be empowered to draft a Report for the consideration of the Commission. Carried.

[The Commission was adjourned until 11 o'clock on Friday, 15th February.]

FRIDAY, 15 FEBRUARY, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

A. J. Vause, Esq., M.B. *et C.M.* (examination continued and concluded).

[The Commission was adjourned until 11 o'clock on Friday, 1st March.]

FRIDAY, 1 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

The following witnesses were examined:—Professor Anderson Stuart, re-examined; E. Sager, Esq., re-examined.

[The Commission was adjourned until 11 o'clock on Tuesday, 12th March.]

TUESDAY, 12 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.,
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.
Correspondence read and passed.The following witnesses were examined:—C. E. Jeanneret, Esq., re-examined; A. J. Vause, Esq., M.B. *et C.M.*, re-examined.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY,

WEDNESDAY, 13 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—John Young, re-examined; A. J. Vause, Esq., M.B. *et* C.M., re-examined.

[The Commission was adjourned until 11 o'clock on the following Friday.]

THURSDAY, 14 MARCH, 1895.

Dr. Garran and Mr. McGowen paid a second visit to Bayview Asylum and re-examined the isolated rooms in the male division of the institution.

FRIDAY, 15 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.
 General of the Insane, | James Sinclair Taylor McGowen, Esq., M.L.A.

Dr. Vause attended on his own behalf to hear evidence and cross-examine witnesses.

Correspondence read and passed.

The following witnesses were examined:—J. T. Wells; A. F. Twine; A. J. Vause, Esq., M.B., *et* C.M., re-examined.

[The Commission was adjourned until 11 o'clock on the following Monday.]

MONDAY, 18 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Andrew Garran, Esq., LL.D.
 General of the Insane, |

Correspondence read and passed.

The following witness was examined:—F. H. Reuss.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Tuesday.]

TUESDAY, 19 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Hon. Andrew Garran, LL.D., M.L.C., Vice-
 General of the Insane, | President of the Executive Council,
 James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Wednesday.]

WEDNESDAY, 20 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.
 Frederic Norton Manning, Esq., M.D., Inspector- | Hon. Andrew Garran, LL.D., M.L.C., Vice-
 General of the Insane, | President of the Executive Council,
 James Sinclair Taylor McGowen, Esq., M.L.A.

Correspondence read and passed.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Thursday.]

THURSDAY,

15

THURSDAY, 21 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Hon. Andrew Garran, LL.D., M.L.C., Vice- President of the Executive Council,
James Sinclair Taylor McGowen, Esq., M.L.A.	

Correspondence read and passed.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 22 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Hon. Andrew Garran, LL.D., M.L.C., Vice- President of the Executive Council,
James Sinclair Taylor McGowen, Esq., M.L.A.	

Correspondence read and passed.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Monday.]

MONDAY, 25 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Hon. Andrew Garran, LL.D., M.L.C., Vice- President of the Executive Council.

Correspondence read and passed.

Consideration and revision of draft report.

[The Commission was adjourned until 11 o'clock on the following Friday.]

FRIDAY, 29 MARCH, 1895.

PRESENT:—

The Hon. Sir Arthur Renwick, Kt., B.A., M.D., M.L.C., President.	
Frederic Norton Manning, Esq., M.D., Inspector- General of the Insane,	Hon. Andrew Garran, LL.D., M.L.C., Vice- President of the Executive Council,
James Sinclair Taylor McGowen, Esq., M.L.A.	

Correspondence read and passed.

Further consideration and revision of draft report, which, as amended, was agreed to and signed by each member of the Commission.

Mr. McGowen presented a separate report which was read by the Secretary.

It was ordered that it be printed.

[The Commission was formally closed.]

**ROYAL COMMISSION TO INVESTIGATE CERTAIN CHARGES AGAINST
BAYVIEW ASYLUM.**

REPORT.

To His Excellency the Honourable SIR FREDERICK MATTHEW DARLEY,
Knight, Lieutenant-Governor of the Colony of New South Wales
and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

1. We, the Commissioners appointed by Your Excellency's predecessor, the late Right Honorable Sir Robert William Duff, a Member of Her Majesty's Most Honourable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, on the 18th day of October, 1894, to make a diligent and full inquiry into the conduct and management of the Licensed House for the Insane, at Cook's River, near Sydney, known as "Bayview House," and particularly as regards the allegations made in the Legislative Assembly respecting the treatment of certain patients, have the honor to submit the following Report:—

Functions of
Commis-
sioners.

2. In pursuance of the powers conveyed to us as Commissioners, we have held 42 meetings, have examined 82 witnesses, and have inspected the Government Hospitals for the Insane at Callan Park, Gladesville, Parramatta, and Rydalmere, as well as the Licensed House for the Insane at Cook's River. At an early stage of the inquiry we considered it advisable, in consequence of its nature, affecting as it necessarily would the private interests and history of many persons, to conduct the investigation with closed doors. We now feel assured that the course thus adopted has been, for many reasons, fully justified. Application was made on behalf of Dr. A. J. Vause, the Medical Superintendent of Bayview House, to be represented by counsel; but, in the interest of all parties to the inquiry, we deemed it desirable to refuse the request; but at the same time decided that Dr. Vause should be allowed to attend the meetings of the Commission, examine witnesses in his own behalf, and be supplied with a copy of all evidence taken. Mr. Gearey, who, as will subsequently appear, was Mr. Jeanneret's informant, and who practically worked up the case for the accusation, also made application through Mr. McGowen to be present at the examinations, but the Commissioners by majority declined the application.

Number of
meetings,
witnesses ex-
amined, and
official visita-
tions to
Asylums.

3. Before referring to the specific details connected with our inquiry it may be said that on the 11th of December last we found it necessary to ask for an extension of the time originally provided within which we were desired to submit our Report. The request was granted, the time being extended until the 18th day of February, 1895. Further extensions until 9th April, 1895, became necessary, were applied for, and granted. In consequence of information contained in the numerous documents afforded by the Chief Secretary to aid the Commissioners in their investigation, and assisted in forming conclusions by evidence heard in the earlier stages of the inquiry, we, on 11th December, forwarded to the Honorable the Chief Secretary a Progress Report, recommending and unanimously approving the steps taken by the Government for the removal of patients from Bayview House, on the grounds of economy, as fully explained in the Reports of the Inspector-General of Insane.

Extensions of
time and in-
terim report

The charges
and the
evidence.

4. In view of the seriousness of the charges made against Bayview House and its management, and in view of the fact that this is the only licensed house for the insane of any size in Australia, and looking to the extreme probability of a development of institutions of this kind as population increases and requirements arise, we deemed it to be imperative to make as complete an examination into all details of management and routine as the means at our disposal would allow. As a consequence, the inquiry has been more protracted than we originally anticipated; but we felt bound to listen to all the witnesses produced to support the accusations, and equally bound to listen to the witnesses in defence. As the examination of witnesses proceeded, and as various documents relating to the cases of the patients were submitted, the Commissioners found that, in the interest of many persons concerned in this inquiry, either as patients or as friends of the patients, it would be undesirable to publish the whole of the evidence as submitted. As it appeared equally desirable in the public interest, and for the purpose of disclosing the grounds on which the Commissioners based the conclusions at which they have arrived, to give as far as possible the language of the witnesses on the material points referred to, the Commissioners have stated the leading facts as taken from the lips of the witnesses themselves. In order to give every opportunity to all persons concerned to furnish the Commissioners with whatever information they possessed relative to the purposes for which the Commission was appointed, advertisements were inserted in the morning and evening newspapers published in the metropolis from the 5th to the 18th of December, 1894, requesting those desirous of giving evidence to notify such desire to the Secretary of the Commission.

Historical
sketch of Bay-
view Asylum.

5. Before proceeding to deal with the particular case which led to the appointment of the Commission, it may be desirable to give a brief historical sketch of the institution. The Commissioners find that the Licensed House for the Insane at Cook's River Road was opened early in the year 1868 by Mr. Tucker, and was carried on under the provisions of an Act of Parliament passed in the previous year. This Act authorised the license by the Government of such establishments as Bayview House, and made provision for the establishment of reception houses such as that at Darlinghurst. In the early days of the institution experience at Bayview proved that private patients were not sufficiently numerous to make it self-supporting, and in January, 1869, although there was accommodation at Cook's River for forty patients, the wards were occupied by only eight or nine patients. Application was made to the Government of that day to send State patients to Cook's River to assist in maintaining the institution until private patients so increased in number as to enable the proprietor to work the establishment without loss. In response to this appeal the Government sent twenty-five patients, for whom a maintenance fee of 25s. per head per week was paid, a condition of contract being that as the private patients increased those sent by the Government should be withdrawn. From the official documents supplied for our consideration it would appear that at this period the Government Asylums for the insane were in a deplorably overcrowded state. During the following five years there was no increase in the number of private patients at Bayview House, and in 1874, when the number of Government patients was thirty-two, an application made by Mr. Tucker in the previous year, for 100 Government patients to be placed under his care, was successfully renewed, a clause in the contract stipulating that the increase to 100 should continue for four years at the maintenance rate of £1 2s. 6d. per head per week. Still the number of private patients did not increase, for, as a matter of fact, the total did not at any one time exceed ten during the first eleven years after the premises were licensed. The contract of 1874 was continued to the 31st of December, 1885, with a further increase of twenty-five patients. Dr. A. J. Vause took charge of this institution in 1886, when the number of State patients was reduced to fifty, the amount paid by the Government for maintenance remaining at £1 2s. 6d. per head per week. Between the years 1878 and 1891 the correspondence between Mr. Tucker, Dr. Vause, and the Government relative to the applications for additional Government patients forms a most curious and interesting series of documents. Notwithstanding the frequent opposition of the Inspector-General of Insane to the continuance of this contract, and his repeated representations that the Government was prepared to receive into public institutions the inmates of Bayview House who were paid for by the State, the contract was renewed from time to time, and requests for an increased number were granted to such an extent that in the year 1888 there were no fewer than

than 130 Government patients at Cook's River Asylum. The last renewal was for three years from 1st January, 1892, to December, 1894, and when this renewal received sanction in July, 1891, Dr. Vause was distinctly informed by letter that all Government patients would be withdrawn on the date specified.

6. It is needless now for the Commissioners to refer to the influences which must have been brought to bear on various Governments to result in the renewal of these contracts in face of the opposition of the Inspector-General of Insane, who urged on more than one occasion that both on the grounds of economy and treatment the patients could be equally well, if not better kept at the public hospitals for the insane. In his memorandum to the Chief Secretary, in 1893, which will be found in Appendix "W," the Inspector-General does not hesitate to say that "female patients of the chronic class are maintained in the Government asylums at very considerably less cost than £34 a year, counting all charges and including interest of money as rent of buildings and cost of repairs of every description; yet for patients of this class £56 a year, after all collections are deducted, has been paid at Cook's River. Putting the matter briefly, the Inspector-General asserts that Government has paid the highest rate for the maintenance of the cheapest kind of lunatics. The difference between £56 and £34 a year for 125 patients during the twelve years from 1875 to 1886 and for 50 patients during the eight years from 1887 to 1894, inclusive, has been no less a sum than £41,800."

Renewal of contracts and cost of maintenance.

7. Commenting on this calculation, the Inspector-General says:—"So that in twenty years the Government has paid £41,800 to the proprietors of Cook's River in excess of what the Government patients sent there could have been maintained in Government establishments, and to what purpose? The patients would have been as well housed, as well fed, as well clothed, and in every way as well, if not better, cared for in the Government Asylums as at Cook's River, and there could scarcely have been fewer recoveries. The excess in cost has certainly not tended to the recovery of the patients, since there has not been a single instance of recovery or discharge since 1880—twelve years ago. The only reason which can be given for the unnecessary expenditure of this large sum of money is by way of subsidising a private asylum for the reception and care of patients able and willing to pay for their maintenance, and this is an object, if not of doubtful advantage, certainly one to which it is possible to take exception."

Comments on expenditure by the Inspector-General of Insane.

8. In the year 1885 representations were made to the Government by the Hon. S. H. Terry, M.L.C., and the Hon. Edward Greville, M.L.C., who, at this time, were acting as attorneys for Mr. Tucker, supporting an application made at that particular period for a continuance of the Bayview House contract, and an increase in the number of Government patients sent there for treatment. The substance of the arguments used in the appeal to the Government was—(1.) The success attending the treatment of patients. (2.) The overcrowded state of Government Asylums. (3.) Provisions contained in the Lunacy Act for the establishment of licensed houses, such as Bayview House, in consequence of numbers of persons preferring this mode of treatment rather than public institutions for their friends. (4.) That a Government monopoly would be established in the treatment of lunacy which, it appeared to them, would be impolitic, not only as a matter of economy, but also on scientific grounds; that Mr. Tucker had rendered valuable aid to the Government when the public asylums were overcrowded; that he had endeavoured to comply with every wise suggestion for the improvement of the institution; and that he was warranted in applying for a renewal and continuance of his contract. (5.) That the *per capita* rate paid by the Government for maintenance of these patients was reasonable. To these representations the Inspector-General of Insane replied by saying that amongst the Government patients at Bayview House the proportion of recoveries was small—in fact, although they were mainly chronic cases, the recoveries could hardly have been fewer, only four Government patients having been cured during upwards of fifteen years; that the cost of maintenance was excessive compared with the cost at Government institutions; and that there was adequate accommodation for these patients at public hospitals for the insane. In answer to the argument that unless Cook's River Asylum was subsidised in some way it would be closed, various suggestions were made by the Inspector-General as one speaking with authority, by which Bayview House or similar institutions could be adequately maintained without State aid. Finally he pointed out that the expectation of a continuance of the contract between Mr. Tucker and the Government was not consistent with the letter dated

Representations to the Government.

1st March, 1882, which announced the determination of the Colonial Secretary, "that under the circumstances, and in consideration that the arrangement between yourself and the Government shall be finally closed and the patients removed at the end of three years, that term of extension shall be allowed."

Removal of Government patients endorsed by Commissioners.

An anonymous letter. Purchase money and liability.

9. The Commissioners have examined the whole of these and other documents, contained in the Appendix, and they feel fully justified in unanimously endorsing the action of the Government in removing the Government patients from Bayview House at the end of last year to the public Hospitals for the Insane.

10. While on this part of the subject the Commissioners desire to point out that an anonymous accuser charged the Hon. Edward Greville, Mr. Henry Copeland, M.L.A., and others, with having a proprietorial interest in Bayview House. These gentlemen when called before the Commission, strenuously denied this allegation, and the Commissioners are clearly of opinion that the sole proprietorship of this institution has been vested in Mr. Tucker in the first place, and subsequently in Dr. Vause, the present Medical Superintendent. A further charge made by the same unknown author was that large profits were made, not only out of the Government patients but also from the private patients at Bayview, and the figures supplied by the Inspector-General of Insane appear at first sight to support such a conclusion. From the evidence of Dr. Vause, given with his official books before him, it would appear, as far as he is concerned, that whatever profits he has made through Government patients have been absorbed in the repayment of purchase money, the increase of accommodation, the general improvement of the asylum buildings, and the acquisition of a larger area of land adjoining Bayview House grounds. Dr. Vause was subjected to rigorous examination on this particular point, and he informed the Commission that the original purchase money, as arranged between himself and Mr. Tucker, was £14,500. In addition to the purchase price the present proprietor testified that he had expended £500 for furniture, £2,500 on a new house, making a total indebtedness of £17,000. He estimated, too, that he had expended about £3,000 in repairs and improvements, and in all £5,000 in new buildings. Altogether by instalments extending over a number of years the debt has been reduced out of profits from £14,500 to £8,500. The final instalment of £9,500 of the liability to Mr. Tucker fell due on the 1st of January, 1894. Dr. Vause, on the 2nd April, borrowed £9,000 from an insurance company, this paying off Mr. Tucker. Of the last mortgage, some hundreds have been paid off. The sum of £500 has been paid on the new house account, leaving a remaining total indebtedness of £10,500. In fact, Dr. Vause asserts that the whole of his profits made during a period of twelve years, exclusive of £3,500 paid to Mr. Tucker as purchase money, and after paying working expenses and the interest due on borrowed capital, have been devoted to the reduction of his liabilities. In his evidence Dr. Vause said there remained a sufficient margin for the provision of a sinking fund to pay off by instalments the original amount borrowed while he had the Government patients, but since they have been removed the revenue, after paying working expenses, has not been more than the customary salary of a medical superintendent.

Major-General Richardson's Case.

The charges made by Mr. Jeanneret, then M.L.A.

11. Referring now to the particular case which led to the appointment of this Royal Commission we wish to state that on May 22nd, 1894, Mr. Jeanneret, a member of the Legislative Assembly for the Carcoar Constituency, moved the adjournment of the House to discuss what he termed "the inhuman manner in which the Licensed House for the Insane, Bayview House, Cook's River, is conducted." In the course of his indictment the hon. gentleman made the following remarks, as reported in *Hansard*:—"I think it behoves the Government, upon the statement I have laid before the House, to make a full inquiry. The inquiry will prove this: That a gentleman has been for months past—for the last four months to my knowledge—kept from 5 in the afternoon till 7 in the morning, over twelve hours, in a cold stable, without even a bed to lie upon, without any water, without any attendant, without any food, having upon his body nothing but his night-shirt." Mr. Jeanneret was the first witness examined, and his first answer before the Commission was an affirmation that the charge he previously made in Parliament was valid and true. He disclaimed any personal knowledge of the circumstances or the management of the institution, and admitted that he levelled these

these allegations against Bayview House on information derived from a hearsay source. Although this was the first time the matter was mentioned in Parliament it was not the first occasion on which it had received the attention of the Government. It is evident that Mr. Jeanneret was set in motion by a house inspector under the City Corporation, named Henry Gearey, who informed him that Major-General Richardson was the recipient of inhuman treatment at Bayview Asylum, and that he was prompted to this activity in the patient's behalf because of a long standing friendship and of kindness rendered years ago. When cross-examined on this point, Mr. Gearey admitted that he had met Major-General Richardson and shaken hands with him only once at a ball in the Sydney Town Hall; that he had never visited at Major-General Richardson's house; and that he was not on terms of intimacy with him. Mr. Gearey received information from a man named Alexander Mackenzie, now in the police force, but who had been employed as an attendant at Bayview House for about four and a half months, and who still had a cousin there as a nurse, named Margaret Macleod. Mackenzie admits having been dismissed from the institution as he thought wrongly (1062-3). He wrote to Gearey saying, he knew Major-General Richardson was not getting justice, and to see that he got it would be far sweeter to him than any other form of revenge (1064). The cause of dismissal as regards Mackenzie is also self-supplied, for in answer to Question 1219 he accepts an impeachment embodying insubordination and impertinence to the lady superintendent. He refused to remove his hat whilst in her presence in the office, and when informed of the circumstance replied, "I consider that I should only take off my hat to my superiors." For having been guilty of this conduct, which he considered inconsistent with discipline, the Medical Superintendent dispensed with the services of this attendant, and the action of Dr. Vause on this occasion is the only motive disclosed to us which prompted this particular witness in his subsequent procedure. Consequent upon this particular set of circumstances, the Commissioners have had to contend with unusual difficulties in the evidence laid before them, as to the general management, inasmuch as in the main the testimony in support of the various accusations has been given by discharged servants, whilst much of the rebutting evidence is from servants still engaged at the institution. Assertions made under these conditions must be received with caution and reservation. Indeed, in numerous instances, the statements are absolutely contradictory, amounting to positive assertions on one side, and equally unequivocal denials on the other.

12. In view of the complaints made, Sir George Dibbs instructed Professor Anderson Stuart, the Government Medical Adviser, to make a special visit to the establishment and report. He took with him Mr. Sager, the Secretary to the Board of Health, Messrs. Gearey and O'Brien, house inspectors under the City Corporation, and Detective Goulder, a member of the Police Force, and made a surprise visit on 20th of May at 5.30 a.m. His report, which was strongly adverse in its tone, was accompanied by confirmatory documents signed by Mr. Sager and Messrs. Gearey and O'Brien. On these reports the Inspector-General of the Insane, made an official report, and another was made by the Official Visitors. To these Dr. Vause replied. These documents were placed before us at the commencement of our inquiry, and, together with Mr. Jeanneret's statement, furnished the material on which the Commissioners had in the first instance to proceed. These documents are embodied in and form a part of the evidence of their several authors, and reference to them will show that they contain a full history of the case and the charges against the management in the treatment of Major-General Richardson while at Bayview House.

13. Briefly told, the history of this case reveals the fact that the Major-General, who at the period was Commandant of the New South Wales Land Forces, was suddenly seized with a mental malady in November, 1892. The exciting causes are described by medical experts and medical friends of the family as having been extreme worry over a certain Royal Commission appointed to inquire into Military matters of New South Wales, and adverse criticisms on the part of Victorian Military authorities. A conference of medical gentlemen, consisting of Dr. Manning, the Inspector-General of Insane, Brigade-Surgeon Williams, the Principal Medical Officer of the New South Wales Military Forces, and an intimate friend of the Major-General, and Dr. Robt. Scot-Skirving, the family physician, was held. The Inspector-General advised a preliminary course of treatment in a private house under medical guidance and with skilled attendants, but difficulties in obtaining

obtaining suitable custodians resulted in the patient being admitted to Bayview House on the certificates of Dr. Williams and Dr. Scot-Skirving. The patient was received at Bayview House on 22nd November, 1892, the case being regarded medically as one of general paralysis of the insane in its acute or maniacal stage. There is little or no direct personal evidence as regards the early treatment of the patient at Bayview House, but a perusal of the case-book, extracts which will be found in Appendix Y, shows that on the day after admission the Major-General, as night drew near, became excited and noisy, and, as a consequence, was placed in the isolated room to sleep. This treatment was repeated on the following day, and was continued for about three weeks, when he became more tranquil. Subsequently it would appear that the patient occupied sleeping rooms in the main building, both upstairs and downstairs, according to the varying moods of his mental and physical condition, until November, 1893, when, owing to excitement, destructiveness, and other habits peculiar to paralytics in this stage of the disease, it was deemed by the Medical Superintendent advisable to put him again in the isolated room at night to sleep. He continued under this treatment until the 20th of May, 1894, when, on the order of the Chief Secretary, he was removed to the Hospital for the Insane at Callan Park. The case-book notes show, furthermore, that the Major-General occupied a private room during the night in the main building, with several exceptions, when he was for a single night at a time placed in the isolation room from December, 1892, to November, 1893.

Allegations
against the
treatment of
the Major-
General.

14. Grouped and relatively arranged, the allegations against the management of Bayview House and the treatment of this particular patient, as taken from the statements, reports, and sworn testimony of accusing witnesses, are as follow :—

- (1.) That Major-General Richardson was unnecessarily placed in an isolated room to sleep, without members of his family or the family physician being acquainted with the fact.
- (2.) That he was confined at night in a cold stable; that the building was altogether unsuitable for this purpose; that it was unnecessarily damp through being too near to the ground; and that it was deficient in light and ventilation.
- (3.) That, for purposes of economy, the patient had no bed to lie on; no bed covering—no night-clothes but a night-shirt; that he was often put in the room naked; and that he wore unsuitable day-clothes.
- (4.) That, owing to neglect, the room was not properly cleaned; that there was no night convenience provided for the relief of nature's calls; and that the room smelled foul from the presence of stale filth.
- (5.) That he was frequently left without food or drink for more than twelve hours, including the whole of night-time.
- (6.) That he was frequently left unattended for twelve hours, including night-time.

15. The Commissioners will deal with these charges *seriatim*, and review the confirmatory and contradictory evidence. "That the Major-General was placed in an isolated room to sleep, without members of his family, or the family physician, being acquainted of the fact" is a complaint which receives most emphasis, and naturally so, from Mrs. Richardson and Mr. Sydney Richardson. It is alleged that the sleeping accommodation of this patient when in the single room was never mentioned by the asylum authorities to the relatives and friends of the patient, nor to the official visitors, until they discovered the fact by personal inquiries. Mr. Sydney Richardson deposed that Dr. Vause told him his father was sleeping in the room opposite the sitting-room down-stairs (4714); that he had no recollection of the Medical Superintendent informing him it would be necessary to put the Major-General in a single room to sleep (4713); that he was never told by Dr. Vause that the patient was sleeping in an isolated room at night, but, on the contrary, he understood to the last that an attendant was constantly with his father (4664). Probably some confusion arose from the use of the definition "single room" by Dr. Vause when conversing with the relatives and friends of the patient. It is easy for any person unacquainted with the technical meaning of the term to be misled by its use, he being under the impression that a patient in a single room is merely sleeping by himself in ordinary conditions instead of in an associated dormitory with other patients, whereas the actual meaning of the term in the working
of

of establishments for the insane is sleeping in isolation. It is therefore probable that Mr. Sydney Richardson applied the former interpretation to the term, and it is certain that Dr. Williams, a friend of, and constant visitor to, the patient, was misled, for, in answer to questions 4945 and 9596, he says, when informed of the General being in a single room, he always understood that he constantly had an attendant with him, and that this room was either upstairs or downstairs in the main building, and certainly not in a detached building. Although having been kept in ignorance of the nightly sleeping accommodation of the patient, he could not complain of the treatment, and he believed the Medical Superintendent did everything he could for the comfort and welfare of the patient. Mrs. Richardson informed the Commissioners (7620 *et seq.*) that she took it for granted the Major-General was under constant supervision. When visiting the institution she saw the patient, first in his bedroom, occasionally in a sitting-room, and in various rooms down-stairs. She believed he at first slept upstairs, that he was then brought down to a room opposite the one she saw him in, which she understood to be the room in which he slept latterly. In the course of conversation, the patient informed her that he slept in a place he called a stable, and when she questioned the Medical Superintendent on this assertion, Dr. Vause assured her that the Major-General was not altogether responsible for what he said. Most emphatically she resented not having been informed of the patient's removal from the main building into isolation, and, failing having been told of the change herself, maintained that the least which should have been done was to acquaint the Inspector-General and Dr. Scot-Skirving of the fact. The medical testimony relative to the necessity for sleeping in isolation is singularly unanimous in support of this treatment. Dr. Scot-Skirving, the patient's family physician, did not appear to regard the isolation being kept secret from himself or the family as a serious offence, for even if he was told (4986) that the Major-General was placed in an isolation room it did not make any impression on his mind. If he had been apprised of the patient being in solitary confinement at night, he would, he said, at once have thought such treatment to be necessary, as (4991) he had every confidence in Dr. Vause as an expert in the matters of lunacy. Dr. Blaxland, the Medical Superintendent at Callan Park Hospital for the Insane, who received the Major-General on the day of his removal from Callan Park, asserted, in answer to Questions 4755-4816, that it was absolutely necessary to place him in a separate room and to make special provisions for the patient because of his peculiar habits. Precisely the same course of treatment was followed in the early days of his residence at Callan Park as had been in force at Bayview House, with the exception of an attendant being constantly on watch outside the single-room door, which was left ajar for observation purposes. A trial with an attendant inside the room was made, but it would not answer at all, the patient becoming more excited in company than when alone.

16. The Inspector-General of Insane does not view the reticence of the Medical Superintendent at Bay-view in the same lenient light as other medical witnesses. In his report to the Government on this case, he says he "saw no objection to General Richardson being placed in one of these rooms as an occasional measure, or to the continuance of the practice for a brief period, always under proper conditions as to the details of treatment; but he was decidedly of opinion that when Dr. Vause found he had a trying and difficult case requiring exceptional treatment at night, and taxing the limited resources of a comparatively small establishment, so as to interfere with the rest and comfort of other patients, he should have taken steps to inform both the private medical attendant of Major-General Richardson and his family and himself, so that new and special arrangements, pecuniary and otherwise, might have been made, and rooms set apart and structurally altered if necessary in the new house lately added to the establishment. * * * It was clearly the duty of the Medical Superintendent to bring under his notice any departure from usual methods of treatment." In cross-examination, the Inspector-General supplemented his report by saying he blamed Dr. Vause (8618) for not having fully reported the case to him and to the medical attendant of the Major-General's family, who frequently visited the asylum. When he made inquiries as to the patient's sleeping-room (8619) he was told by Dr. Vause that the bedroom had been changed, and that he was sleeping in a dormitory below; that he *occasionally* occupied a single room; but he was not aware that he was in one single room for a long period until the whole matter was placed more fully before him. In his opinion it would

would have been nothing short of cruelty to inform Mrs. Richardson, she being so highly sensitive and anxious about the patient, but the family medical attendant should have been told (8658). If he had known it was necessary to resort to continuous single-room treatment in the night-time (8635), he would have thought it advisable, considering the situation of the single rooms, which, although quite sufficient for their objects and ordinary purposes, are certainly an outbuilding, and liable to be a source of objection to people who do not understand questions of insanity, and considering that Mrs. Richardson wished her husband to have special night attendance, to make arrangements with Dr. Vause, in consultation with the medical attendant of the family, to have a special attendant stationed outside the door or in an adjoining room, similar to the course followed with the patient at Callan Park. While not considering such attendance or surveillance absolutely necessary, the constant presence of an attendant would have been more satisfactory to the family. He did not think Major-General Richardson would have been any better with an attendant so immediately near him while he was locked in, neither did he think the Major-General suffered in any degree from being placed where he was at Bayview House. If the whole matter had been fully and unreservedly reported to him at the proper time his opinion was that all the subsequent trouble would have been saved.

17. The official visitors were equally ignorant of the change from the main building to the isolation ward, until by personal investigation they discovered that it had been made. Sir Alfred Roberts, the Chairman of the Visiting Boards (7705), said the fact was never brought under his notice, neither was it recorded in the medical journal, nevertheless, had he been in charge of Bayview House he would, considering the excited and restless condition of the patient, have placed him in isolation (7775-6). In his opinion, the Medical Superintendent was not blamable for taking the course he took (7784). In the mind of Sir Alfred Roberts, too, it is evident there was some misunderstanding of the term "single room," as, in reply to Questions 7880-6, he admits having read the report of the case in the medical case-book, and if an entry was therein made, announcing that the Major-General occupied a single room during the first week of his residence there, he did not understand it to mean his being placed in isolation, as he did not occupy one of the isolation rooms at the time, but a single dormitory. He, however, did not regard the case as one of absolute isolation, nor a *bonâ fide* case of seclusion. This subject opened up a somewhat wide question, which the Commissioners deal with at length under a separate heading further on in this report. Mr. Nugent Robertson, another member of the Visiting Board (Questions 7945 to 7950), informed the Commissioners that neither from entries in the medical journal nor information volunteered, but from personal inquiries, he learned that the Major-General slept in an isolated room, and had been so sleeping there for some six weeks before the circumstance came within his knowledge. He understood that the Major-General was placed there temporarily, and was surprised to find he had been sleeping there longer than the visitors were aware of. While not aware how long he was an occupant of this particular room at night continuously, he knew the patient to be there for a considerable period before the fact became a matter of public notoriety. When he made the discovery—either from Dr. Vause or an attendant, he did not know which—he examined the medical journal to ascertain if the terms of the Act had been complied with, but found no entry. Dr. Huxtable, also an official visitor, approved of the single-room treatment in this case, adding that, in his opinion, if the patient was noisy and restless at night such a condition would be good and sufficient reason to place him beyond the possibility of self-injury or annoying other patients (8114). It did not come to his knowledge that the General was sleeping in an isolation room until the Medical Superintendent acquainted him; neither could he tell the Commissioners how long or how often he was placed in that room to sleep. There could, however, be little doubt that it was, for medical reasons, proper treatment, which was adopted in scores of similar cases. Keeping the members of the family ignorant of the patient's sleeping accommodation was not regarded as a matter for complaint by this authority, as he declared (8118) "That would wholly depend on what the family consisted of. Letting such things be known often did more harm than good." On the other hand, he is certain that the removal of the Major-General should have been notified in the proper book for the information of the official visitors. Dr. Charles James Cox, the present Chairman of the Visiting Board, whose

whose close, intimate friendship with the Major-General has extended over many years, has taken a deep and constant interest in this case. Reporting to the Colonial Secretary on this patient and his treatment at Bayview House, Dr. Cox, three days after the Major-General was removed to Callan Park, said it had been explained to him that restless habits caused by disease rendered it impossible to keep him in an ordinary bed in an ordinary room, and that it had been found necessary to place him in a secluded room at night, as he could not be satisfactorily managed in any other way without undesirable and injurious coercion. Knowing well the whole of the circumstances surrounding the case, he unhesitatingly approved of the patient sleeping in isolation (8267-75); it was the best course to be followed; and the same thing was done in hundreds of other cases of that nature. It was, however, only eight days before the Major-General was removed to Callan Park when, prompted by some undefinable impulse, he casually inquired if a patient occupied the room (8270), and ascertained that it had been used as the Major-General's sleeping apartment for some considerable time. In his opinion, Dr. Vause was not required by law to report to the official visitors or the family any change made in this respect, nevertheless he thought it would have been more judicious on the part of the Medical Superintendent, for his own comfort's sake, to have informed the members of the Visiting Board and the Inspector-General of Insane.

18. Dr. Vause defends himself against this charge in his main statement to the Commissioners (8930), by asserting that in the transitional stages of the disease the Major-General, at different periods, became so irritable at night, even at the presence of an attendant, that the excitement speedily developed into violent and dangerous outbreaks. These naturally had a retarding effect on his recovery, and he consequently thought it advisable to place him in a single room at night, and at night only. There was, he maintained, in reply to the strictures of the Inspector-General of Insane, "no departure from usual methods of treatment" in following this course, for if this room was fit for occupation for one month it certainly would be for six. Solely out of kindly feeling toward Mrs. Richardson he states, that he shrank from adding to a distress which was visibly affecting her health by enlarging upon the condition of the patient in any way calculated to increase the pain of mind she so acutely evinced. Although he did not make a prominent feature of the fact of the Major-General sleeping in isolation, he says he mentioned it incidentally to several medical men, notably Dr. Scot-Skirving, Dr. Williams, and to the Inspector-General of Insane. Here again the necessity for the medical attendant to have been more explicit when mentioning the sleeping-room of the Major-General to members of the family and medical visitors to the asylum prominently arises, and is admitted by Dr. Vause himself when he states "that he told Mr. Sydney Richardson the General occupied a single room at night, but he could quite understand that this gentleman thought he meant an ordinary bed-room occupied by one person." The matter, however, Dr. Vause proceeds to explain, did not strike him in that light at the time he proffered the information. The isolation of this patient (9171) was in accordance, as far as his knowledge extended, with the most important medical opinions yet obtained; the change to this state amounted to nothing more than the necessities of ordinary treatment, and he had not the slightest doubt in his mind as to the advisableness and humanity of placing the Major-General in a single room at night (9216). This change was notified in the case-book, and he did not consider himself under any obligation to dilate upon these circumstances to the official visitors, the medical visitors, or the members of the family. Most strenuously he denied (9983-7) having shown the friends of the patient the room he previously occupied as the room he was sleeping in for the purpose of deceiving them while he was undergoing single-room treatment at night, neither did he (10205), by evasion or otherwise, attempt to hide the fact of the Major-General sleeping in a single room from the official visitors.

19. The conclusions the Commissioners arrive at on this point are as follow :—

1. In placing Major-General Richardson in this isolated room without The Findings. acquainting the Inspector-General of Insane, the Official Visitors, or the members of the patient's family of the change, Dr. Vause, in his capacity as Medical Superintendent, carried out a practice, which is in accordance with the rules for the government and management of institutions for the treatment of the insane in Great Britain, America, and New South Wales.

2. Your Commissioners, in view of the special circumstances of this case consider it was an error of judgment that the Medical Superintendent failed to inform the Inspector-General of Insane, the Official Visitors, the private medical advisers of the Richardson family with his procedure in this respect, notwithstanding the views expressed by many medical witnesses in connection with the treatment of cases of this kind.
3. In fairness to Dr. Vause it should be mentioned that no complaints whatever were made of the treatment of the Major-General during the first twelve months of his residence at Bayview. On the contrary, it is admitted that it was solely due to the treatment and care accorded by Dr. Vause that the patient improved so much after his admission. Yet part of that treatment, and, according to Dr. Vause, an essential part, consisted in putting the patient to sleep in the very room and under the same conditions as to attendance that subsequently furnished the ground for complaint. It is clear that no motives of economy or convenience could have induced the change to the isolation room, and that Dr. Vause was influenced solely by medical considerations.

Single room
and its suit-
ableness for
occupation.

20. The second series of accusations arranged from the evidence and documents submitted to the Commissioners is—"That the patient was confined at night in a cold stable; that the building was altogether unsuitable for the purpose; that it was unnecessarily damp through being too near the ground; and that it was deficient in light and ventilation." That the Major-General was confined at night in a cold stable is an assertion made by Mr. Jeanneret in Parliament, without personal knowledge, but on the evidence of Mr. Gearey, whom, in answer to question 5, he describes as a reliable witness. It will be as appropriate, as it is necessary, to describe at this stage the visit made to the asylum by the Medical Adviser to the Government, out of which most of the allegations in this particular case have arisen. Before day-break on the morning of May 20th, armed with authority from Sir George Richard Dibbs, Professor Anderson Stuart, Mr. Sager, Mr. Gearey, Mr. O'Brien, and Detective Goulder, of the Metropolitan Police Force, proceeded to Bayview House. On entering the grounds through the front gate, no one objected to their presence (407) nor asked the nature of their business. They met an employé and asked him where Dr. Vause could be found, were directed towards the kitchen, and passed on, the employé not seeming surprised (408) at seeing strangers on the premises so early on a Sunday morning. Unchallenged, the visitors proceeded through the grounds (406) to a small courtyard, dividing the main building from another section of the male division, and containing the isolation wards. "After a time," an attendant appeared upon the scene (Professor Anderson Stuart's report); he is said to have roused the head attendant, who, after considerable delay, came to the visitors. Professor Stuart stated "his office, authority, and business," but the chief attendant told him he could not let any patient be inspected without Dr. Vause's direction, and that gentleman was still in bed in his residence. The visiting party then divided, the Professor and Mr. Sager going to the office, and Mr. Gearey and his official comrade being left on guard over the building supposed to contain the patient, to see whom the visit had been made. This precaution was taken under the instructions of Professor Anderson Stuart, who directed Gearey (140) "to steadfastly keep his eye on the place where Major-General Richardson was supposed to be confined, and he did so, feeling that unless he did there might be some attempt to smuggle him out." Dr. Vause was roused out of bed by his domestics, and Professor Stuart, after apologising for his intrusion at such an early hour, explained the nature of his mission. No hesitation was displayed in complying with the request, the Medical Superintendent without demur conducting the Professor and Mr. Sager to where the Major-General was. In the meanwhile, however, John Doherty, the senior attendant, and James O'Brien, another attendant at Bay-view, moved the Major-General "as a mere matter of routine" (2699) from this room, across the yard to the lavatory, and as the attendants with the patient entered at one end, Professor Stuart, Mr. Sager, and Dr. Vause entered at the other. A passing greeting was exchanged between the patient and the Professor, who, with his companions before-mentioned, proceeded through the door-way by which the Major-General had entered, when he was met by Gearey, who told him the patient had been taken from the left-hand compartment of the building in the yard. The door had been closed. Dr. Vause directed it to be opened, and he, with Professor Stuart, Mr. Sager, Gearey, and

and O'Brien, entered the room and made an inspection of it and its contents. At the outset the Commissioners feel it incumbent on them to say that the evidence relative to this inspection reveals a surprising want of observation. Perhaps that may be explained to some extent by the early hour and breaking daylight, together with the hurried nature of the inspection. Neither of the accusing witnesses stated the actual time this part of their morning's operations occupied, but in defending himself against these allegations Dr. Vause says, in answer to questions 9249-50, that from the time he first saw Professor Anderson Stuart until the visitors left the premises only about 10 minutes elapsed, and he did not think they were 2 minutes in the single room. The whole visit, he continues (9383-4), was so hurried in character that there was no time for explanations of any kind. After rapidly going through the place the Professor left, saying, "I have seen the General; I have seen the room he occupied; good morning."

21. Returning to the charge that the building is a cold stable, Professor Stuart, in his report, states that the building is a "stable-like outhouse, the compartment being quadrangular in shape, about 12 by 12 wide, with a very high ceiling, with no window or means of ventilation or of warming, with a wooden floor on the level of the ground." The ventilation was said to be absolutely insufficient, but contrary to the statement in the report, Dr. Stuart, in answer to Question 36, expressed the belief that there was a small window, screened by a shutter. At all events, his conclusion regarding the ventilation is that it was not up to standard unless (57) the smell of a urinal was taken as the standard. He gave the opinion the floor should have been made to slant, and it might have been of asphalt, and if of wood it could have been impregnated with paraffin. In a subsequent examination he said that he did not recommend asphalt because it would be too cold (10353). His assumption was that the building had been a stable, and he contended absolutely that there should be light and warmth in the room, whereas the patient was confined (102) in an outhouse within four brick walls. Although the building had the appearance of a stable (56) he made no inquiries on the point, but proffered an opinion to the Commissioners that if "the place had been a stable at any time, and converted into its present use, so much the worse." While inferring that the patient had been cold during the night, and that he was shivering from cold when removed, he admitted that this shivering appearance might be but the usual tremor of a paralytic. The witness Gearey, who must be regarded as the chief accuser and who worked up the whole case against the management of the institution, in reference to the alleged ill-treatment of the Major-General, is more pronounced in his statements than Professor Stuart or any other of the visitors to Bayview House on the 20th of May last. He asserts that he kept faithful and steadfast watch over the door of the room in which the patient was confined until his removal to the lavatory was effected. He accuses one attendant of attempting to push him away and of ordering him off the premises (142 *et seq.*), but he remained until he saw Major-General Richardson taken across the yard supported on each side by an attendant. At this moment the Major-General, it is said, was shivering from cold, seemed to dread crossing the yard (158), was expostulating with the attendants, and exclaimed, "Don't push, I have not got my coat on yet; good morning, gentlemen, I don't want a bath, I'm too cold." Further on this witness asserts that the patient's "face was drawn with pain (184), and he looked like a man going to execution." According to Question 162, the room was examined carefully by this witness, who says there was no ventilation beyond that available through the observation-hole in the door (168). There was a shutter high in the wall which had not been opened; no light except that which came through the open door (170); saw no ventilation-bricks (171); the floor seemed damp and the room cold (179); the room was pitch dark, and if there was a window it was covered up with a shutter (194); and the reason why he noticed this was that there were unbroken cobwebs on the shutter, which could not have been possible had it been opened on a recent date (200). In reply to Question 212, Gearey says he never left the vicinity of the door during the time Professor Stuart and Mr. Sager were away. This particular evidence was given on November 6th, 1894, and on January 4 this year the same witness was re-examined, and said he was still positive he saw the cobwebs over the window, and he was equally sure the window had not been open for months. These cobwebs he saw from the outside of the room over the window, and he could not see anything from the inside,

inside, because it was too dark (8446 *et seq.*). Cross-examined on this point Gearey, although having said formerly that he never took his eyes off the door, declares that he saw the cobwebs when walking up and down across the yard between the closets and the room, and when near the closet he could not see the cobwebs, but when it became broad daylight, and he walked round the building, he saw these spider-webs, which had not been broken by the opening of the shutter. Gearey's opinion as to the origin of the building is emphatically that it was a stable, and that the window in the wall was, in the earlier days, specially put there for the purpose of pitchforking loose hay into the loft. The size of the opening was about 2 feet square, for "when he looked up he knew there were no other means of egress from the room," and he said to himself "you cannot get a man out of that."

22. John Joseph O'Brien, a fellow official of Gearey, who was also present at the proceedings at Bayview House on May 20th, in the main corroborates this accusatory testimony. Speaking as one having had nine years experience as a sanitary inspector, he said he examined the room (260 *et seq.*) but saw no means of ventilation. The room was so dark that it looked like a cell, and failing to see any light he felt positive there was no window in the wall. With a boarded floor nearly level with the ground, the temperature of the room was cold, the floor was damp, and the Major-General appeared to be in a cold, shivery, weak condition (2659). When the door was first opened (278) he did not use the opportunity of personally inspecting the actual condition of the Major-General while in the room, nor did he see cobwebs over the window shutter (285). Practically, he repeats the evidence of the previous witness relative to the removal of the Major-General, and his spoken resentment while crossing the yard. He is also positive he saw no window in the room, which was quite dark (306), except for the light admitted through the open door, and that, he says, was the only light which came within the walls. It was a dark morning, not quite daylight (332), and, with the light thrown in through the open door, he was positive cobwebs could not have been visible.

23. Mr. Sager, the Secretary to the Sydney Board of Health, states in his report that the building resembled, from outside appearances, a stable; the room itself was 12 or 14 feet square, 16 feet high, with a wooden floor, no window, and no ventilation, the only opening being an observation hole in the door with a shutter. Having made a careful observation of all he saw (358-364), he did not discern any apertures for ventilation or light; there was no distinct place in which light could enter the room; if there was a window it must have been covered with shutter or blind; it certainly would be impossible to have seen cobwebs at that time in the morning with the light available, for, on looking round, he saw nothing but semi-darkness; indeed it would have been as much as an observer could see to notice the shutter itself. Since visiting the establishment he had been informed that there was a window in the room, but when he looked round he saw no sign of any aperture whatever. Differing from the other witnesses, Mr. Sager says the room did not appear to him cold or warm, neither could he detect the difference between the Major-General shivering from cold or from paralysis (401). Mackenzie, who attended on the Major-General every second day during the few months he was engaged at Bayview House, informed the Commissioners that the patient used to call his sleeping-room a stable (855). Personally he saw by going into the room (953 *et seq.*) that the Major-General was shivering with cold, and he told another attendant named Copley it was a disgrace to the country that a man who had occupied such a high position as the patient should be put in a room like that. The room was cold at night and warm in the morning, when frequently he had seen the Major-General shivering (1005). He considered the boarded floor being close to the ground was a great fault, as in damp weather it would not dry. His evidence was at direct variance with regard to light and ventilation to the statements made by the previous witnesses, inasmuch as he states there was (956) a hole high in the wall opposite the door which had a shutter on the inside and two or three bars on the outside. With an intimate acquaintance of this room, he said this shutter was opened every day, and in warm weather it was frequently left open at night. Sometimes he let the shutter down so as to let light into the room early in the morning (he being left to his own devices in this respect), and then the head attendant would put it up again (1011-1012). Mr. Sydney Richardson, when asked if the patient ever made any reasonable or rational complaint regarding his treatment, said his father informed him (4652-54)

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on more than one occasion some months before he was removed from Bayview House that he slept in a stable, and on questioning Dr. Vause upon this assertion he replied that his father's statement amounted to nothing more than the mere ramblings of an insane person.

24. Against these charges numerous witnesses, professional and otherwise, gave convincing testimony. The attendants now at Bayview House on the male side, and some who have left the employ of Dr. Vause, gave entirely contradictory evidence. Attendant Farquharson in answer to questions (9596-9597) states, there was a shutter in the room, which on cold nights was pulled down by a string from the back and left up when the nights was warm. A painter named Peet, employed at Bayview House, asserted that there is a window in this room (687) which was always open or partly open when he saw it. William George Dickson who was a warder at the institution some eleven years ago, gave evidence to the effect (443) that there was a window in the room in his day, but it was kept closed by a shutter. Doherty, the senior attendant at present employed by Dr. Vause, contradicts Mackenzie by saying in answer to questions (2731 *et seq.*), that the floor of this room was always dry by between 10 and 11 in the morning. The patient might have said that he was sleeping in a stable, but he never objected to go into the room. There was a window in the room, and if the night was cold the shutter would be down; if it was warm it would be left open. On the warmest day the patient was always shaking, but he did not shiver from cold when taken out of this room on that particular morning. Even on winter mornings after leaving a warm room he never felt the sleeping apartment used by the patient, strike him as cold (2955). The ventilation was not faulty. The unbroken cobweb assertion he distinctly denied (2837) as the shutter in question was raised every day. Another attendant named James O'Brien, who for a time at all events, was alternately on night duty with Doherty to watch over the Major-General, states in his evidence that sometimes the patient would object, and at other times ask to be put in this room to sleep (3144). He too said it was his custom to pull down the shutter or raise it according to the state of the weather. He did not think the Major-General shivered from cold, for he was always very shaky on the warmest day. The shutter was certainly pulled up once a day at least (3234), hence it was impossible for cobwebs to have been where they were said to be. The Hon. Edward Greville, M.L.C., questioned in reference to this isolation building, said he never knew it to be used otherwise than as a receptacle for refractory patients. Mr. Tucker informed him that it was built and had been devoted ever since to this special purpose (4618-19). An architect who for some time occupied the room as a patient both in winter and summer, and who is now recovered, gave valuable evidence as an expert on this room. He said he occupied it at his own desire (6129 *et seq.*); there was nothing uncomfortable in his experience; he never suffered from cold while there in the winter; the heat was not excessive during the summer; the ventilation was perfect; and he was satisfied with the room in all respects. Particularising the ventilation (6152) he said there is an opening about 6 or 8 feet from the floor, in the wall to the outer air. In cold weather a shutter is put over this opening, and there is also ventilation in the door through the observation aperture. He thought the ceiling was perforated; but of a certainty the ventilation always struck him as being good. Another professional gentleman, who has intimate knowledge of both isolation rooms, is no less pronounced in praise of the ventilation. They are described as having air space below the floor; as possessing proper means of allowing the air to escape; and in his opinion it is better to keep these rooms dark, such being conducive to the patients obtaining more sleep. Patients suffering from general paralysis (6495) were not so susceptible to cold as ordinary patients, for the acute paralytic was unable to recognise the feeling of cold.

25. The medical evidence, which was voluminous and exhaustive, has an important bearing on these particular allegations. Dr. Herbert Blaxland, the Medical Superintendent of the Hospital for the Insane at Callan Park, who received the Major-General on the day he was removed from Bayview House, and who continued the single-room treatment, said he has never known single-room patients suffer from a chill (4801 *et seq.*). Paralytic patients were particularly tremulous, and he questioned whether a layman would be able to discern whether the tremor was from cold or paralysis, especially in a case like that of Major-General Richardson's. He did not think there would be much advantage in having an asphalt floor in single rooms. In his opinion (4840) it was unnecessary to artificially heat single
rooms

rooms in an Australian climate; there were none so heated at Callan Park, and letters from medical superintendents in South Australia and Tasmania, stating that the practice of artificially heating did not obtain at either place, agreed with his experience. Indeed, on this point, Dr. Blaxland (4848) considered that a slight feeling of cold was more beneficial than otherwise, because, as a rule, a patient feeling chilly was more likely to keep himself covered up and remain in bed. His experience was that on cold nights patients were quieter, while on hot nights they are more noisy and restless. Dr. Blaxland considered the admission of light into these rooms at daybreak to be of no importance (4807); indeed, with a restless patient, it would be an advantage to keep the room dark in the morning, if he happened to be asleep. Darkness in the cell early in the morning was not any disadvantage to the patients (4812). Dr. Eric Sinclair, the Medical Superintendent at Gladesville, supported his medical confrere at Callan Park, by saying (5240) he had found, from experience, that it was not advisable to have too strong a light; that the floor of his single rooms were of wood (5246), and that while he did not find it necessary, in this climate, to artificially heat these rooms (5259), he had never known patients to suffer from cold neither by day nor night. Dr. Williams (4944), Dr. E. P. Sinclair (5053 *et seq.*), Dr. Kingsbury (5804), and Dr. Jarvie Hood (7541 *et seq.*) all bore testimony to the suitability of this room for single-room treatment, each and all admitting that in Major-General Richardson's case such treatment was necessary, indeed imperative. It being detached from the main building, was said to possess advantages by placing the patient beyond the possibility of annoying other patients whilst in a noisy mood, and at the same time putting the patient himself away from possible annoyance, by contact with his fellows. Some of the medical witnesses considered the advantages and disadvantages to be about equal. Dr. Creed, M.L.C., who examined this room since the Major-General was removed to Callan Park, expressed his satisfaction (6072) both with the cubical space and the ventilation. He thought it might be disadvantageous when removing patients on a wet day, in having the building detached, but this could be obviated (6088) by constructing a covered way from the isolated dormitory to the main building.

26. The official visitors expressed opinions on these points consonant with those of the other medical witnesses. Sir Alfred Roberts (7661) said the two isolation rooms in one separate building were built before he began his visits, and prior to the first license being granted. They answered the purposes for which they were intended very well, the ventilation was ample, they were sufficiently lighted, and boarded round inside. While not exactly the same in character to those put to similar purposes in modern asylums, those rooms possessed some advantages, as the patients in them were more likely to be quiet and less likely to disturb others. The chief drawback in having the rooms detached from the main building would be in crossing the yard in any kind of weather, and, personally, he thought it would be preferable to put such persons in a corridor (7667). With Dr. Creed, he believed the difficulty of crossing the yard could be overcome by the construction of a covered way between the isolation rooms and the main building. In his experience he never knew nor heard of patients catching cold by crossing the yard early in the morning; indeed, one of the peculiarities of lunatics was that their cutaneous circulation was so active that they did not feel the cold (7751). One improvement that could have been made in the isolation rooms was constructing the floor 6 inches higher from the ground. Mr. Nugent Robertson (7908) expressed himself as highly satisfied with the ventilation of these rooms, which in regard to air-space were, in his opinion, better than many similar rooms in the public institutions.

27. Dr. Huxtable, from an experience gained in this and other countries (8061), thought the isolation rooms were perfectly suitable for the purpose, that the air-space was above the average cubical size, and that the ventilation was satisfactory. Comparing the room in which the Major-General slept with the corresponding rooms in Government asylums, he considered those at Cook's River to be superior, because of the larger cubic space (8103 *et seq.*), and their being detached was not such a disadvantage as to render them unworkable; perhaps it would be an improvement if a covered-way from the rooms to the lavatory were constructed. Dr. Charles James Cox, the present Chairman of the visiting Board, several days after the Major-General was removed, reported to the Government particularly in connection with the room. His description of the building in this report may be taken as correct, when he says
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the two rooms form a detached building in the courtyard about midway between the two main buildings on the male side. The distance of these rooms from the building in which is the dining-room of the male patients (8252) is about 12 to 14 yards. The two rooms are identical in every respect. The one occupied by the Major-General is 12 feet long, 10 feet broad, 13 feet 8 inches high, and is lighted by a central window, situated 8 or 10 feet from the floor, 1 foot 9 inches by 1 foot 6 inches, which can be closed by a shutter from the outside. With the door closed and the shutter open, the room was light enough to read easily. Ventilation was provided for by three ventilators of ordinary kinds—one above and at the side of the window, a second on the opposite wall to the west, a third in the centre of the building, and six or eight open round holes are bored through the wooden ceiling. The building is of brick, with a gabled roof, and floored with firm wood, the space below the floor being efficiently ventilated. Dr. Cox inclines to the opinion, that an improvement would have been effected if the basement had been raised in its original construction by several inches, as the floor, to his mind, is rather near the surface. The interior of the room is panelled with wood to a height of 7 feet, the walls are colour-washed above, and the ceiling is boarded and painted. Both rooms are described as being perfectly dry. In the course of cross-examination Dr. Cox told the Commission (8314) that practically, for medical purposes, the isolation rooms at Bayview House are as good as those in the Government institutions; that he did not think Major-General Richardson had gained anything regarding sleeping accommodation by the change from Bayview House to Callan Park; that he thought it was an advantage for the room to be detached from the main building; that the isolation wards must have received Government sanction, or the house would not have been licensed; and, finally (8321), he would not condemn the rooms if he reported on them now.

28. The Inspector-General of Insane, in reporting to the Government on the 30th of May last (8616), says the rooms referred to as stables were built by Mr. Tucker for special isolation purposes before his connection with the Lunacy Department, and were subsequently altered. Although detached and ugly, the building is dry, panelled with wood, and neither ill-lighted nor devoid of ventilation. The ceiling is packed with sawdust, so as to make it cool in summer and warm in winter. They are intended for the temporary seclusion of violent, noisy, and restless patients, and for such cases they are fairly suited, the objection of being detached having some compensating advantages in the increased quietude. While equal in convenience to those at the Government asylums (8659), the Inspector-General stated that the building being detached put it beyond the supervision it might otherwise have.

29. Dr. Vause, in reply to these charges, most emphatically denied that the rooms were ever intended for or used as a stable, and he places his contention beyond all doubt by producing a letter, dated January the 31st, 1895, from Mr. F. H. Reuss, architect of Sydney, who therein states that about the year 1868 to 1869 he acted as architect to Mr. Tucker in the erection of a dormitory, and at the same time he erected a building for a seclusion room under the doctor's direction. The walls were padded about half way; the ventilation was a very great point with Mr. Tucker, and received special attention. Mr. Reuss was subsequently examined before the Commissioners and confirmed the statement made in his letter. A plan on which the position of this building is marked (A), together with a sketch of the building itself, appears in the Appendix. With the exception of the absence of an awning from the single rooms to the main building, the Medical Superintendent, supported by the evidence of all the medical experts, maintained that the two single rooms, in one of which Major-General Richardson was accustomed to be placed at night, are suitably situated, and in every way adapted for the purpose of insuring to patients absolute rest, undisturbed either by the presence of attendants or the proximity and annoyance of other patients. Controverting the statements that the room was cold, it was pointed out, that, in no Australian asylum did the authorities resort to artificial heat for single rooms, and no complaints had been made concerning the lowness of the temperature. It was contended that from the very nature of the rooms they are invariably warm, and, furthermore, excited or restless patients did not feel or catch cold. That Major-General Richardson was shivering from cold on the morning of the 20th of May is rebutted by the Medical Superintendent (9363-65) when he says: the patient was always shaky, and on this occasion he was shaking from a well-marked muscular tremor,

tremor, a characteristic of his case. Dealing with the question of light, Dr. Vause asserted that part of the system of single-room occupation was keeping the patients in comparative darkness so as to induce sleep, therefore (9393-94) the lighting should be judiciously managed, and he contended there was in those rooms sufficient light for all practical purposes. He scouted the idea of the witness Gearey having seen cobwebs and meets this assertion by disputing the veracity of this witness in saying he saw these cobwebs on the external face of the shutter, from the outside, whereas the shutter is fixed on the inside of the window, with window sashes outside. Indeed it would be impossible for him to see either window or shutter (9400.) The ventilation of the rooms he claimed to be good and sufficient, and, if called upon as an inspector of an asylum, he would sanction it as sufficient (9296.) Having given special attention to this particular necessity, the yard was raised with the effect of giving an increased current of air underneath the floor, and two air-bricks were inserted in the walls to increase the ventilation, and most decidedly he denied the statement made by witnesses when they said the rooms were insufficiently ventilated. So far as the rooms were concerned, he did not think they could be much improved, except by having a room adjacent for the use of an attendant (9396).

30. A collateral inference associated with these specific charges was that on the morning of May 20th the patient was removed from the isolation room and given a cold bath. No direct evidence in support of this supposition was forthcoming, Professor Stuart stating (71) that he "only heard something to that effect," and in answer to question 83, "his impression was that the patient had a cold bath, but for certain he did not know." Gearey and O'Brien also infer that the thoughts of an approaching cold bath were repulsive to the Major-General, and led him to protest while crossing the yard from the isolation room to the lavatory. Doherty and O'Brien, his attendants, who escorted the patient across the yard, positively denied (2904 and 3277) that he said, "I do not want a bath; I'm too cold," but, on the contrary, he took his bath kindly. Apparently intent on examining the sleeping apartment, not one of the visiting party waited to see the General undressed, to see the state of his body, to learn the nature of the bath, or to ascertain the temperature of the water used, an omission which resulted in our having to ask many questions, and the waste of much time. The whole of the evidence brought forward to refute this inference, even that of Mackenzie, goes to prove the Major-General always had a warm bath, and that, on this particular morning, shortly after the visitors took their departure, the patient had his usual sponge bath in his own room in tepid water.

- The Finding. 31. 1. Upon these specific charges your Commissioners determine that although the building referred to as a stable and outhouse presents, architecturally speaking, an unprepossessing appearance, it was originally constructed for the purpose to which it was applied in the night treatment of Major-General Richardson's case, and that it had been used, with the approval of the Inspector-General of the Insane and the official visitors, for many years and by many persons in similar circumstances for similar purposes, and, according to Dr. Vause, with uniformly good results. The evidence was clearly and indisputably against this building ever having been a stable, or ever having been used for any purpose other than for the isolation and treatment of insane patients, who, by the nature of their affliction, required to be alone.
2. With one or two exceptions the evidence of the numerous witnesses particularly examined on this point pronounced these isolation rooms on the male side to be suitable for the purposes to which they are put. Many of the expert witnesses who have inspected the isolation wards in the Government institutions say those at Bayview House are preferable in some respects. Your Commissioners very carefully inquired into this point, and they are of opinion that, whilst many of the more recently-erected separate rooms in the Government asylums contain superior appliances and provisions for comfort, others are inferior to those at Bayview House.
3. The charge that these rooms at Bayview House are unnecessarily damp through being too near the ground arose from the fact that alterations have been made in the level of the yard in front of the building, and
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although the Commissioners believe it would be advantageous to have a more thorough ventilation beneath the floor, they do not think the floor itself is damp, even in its present condition, but they consider it could be improved by the use of better selected wood with the interstices suitably caulked.

4. The charge that there was insufficient light in these rooms, your Commissioners consider to be groundless, inasmuch as the unanimous testimony of expert witnesses was to the effect that cases treated in such rooms ought to be screened from light. The light should be sufficient to permit of inspection by attendants or nurses or medical officials from time to time.
5. There can be no doubt that the ventilation of these rooms could be improved, but your Commissioners believe that it is adequate for the purposes to which they are intended.
6. Reference has been made to this room being cold, it having been said that the Major-General, when removed from this room on the morning of May 20th, was shivering or shaking, because, according to some witnesses, of having been confined all night in a cold sleeping apartment. Your Commissioners believe this was a mistaken view of actual facts, and they therefore agree with the medical authorities, who stated that tremor was one of the symptoms of the disease from which the patient is suffering, and that the room itself would not in the circumstances referred to in the evidence on this part of this subject be in any injurious degree cold or dangerous in its effect on the patient.
7. Your Commissioners regret that this room is detached from the main building and so far from the room used by the attendants, who were alleged to have watched the Major-General during the night. This fact alone shows that these attendants were unable to be in that close proximity to the patient which was so highly desirable in the circumstances of his case. They further believe it to be an undesirable fact that this and other patients who sleep in this room, or the attendants, should have to cross an open yard in stormy weather, or any other unfavourable climatic conditions, and therefore are strongly of opinion that a covered way should be constructed between the isolation rooms and the main building. Whilst the isolation of this particular patient was undoubtedly proper treatment, and while there is no evidence that the Major-General suffered in any way from the detached position of this room, it is clear to the Commissioners that a provision of the kind now suggested should long ago have been supplied.
8. A further inference is that Major-General Richardson could only have had a cold bath on the morning of his removal and on other mornings when taken from his sleeping-room to the lavatory. Your Commissioners believe adequate provision was made for this patient to be properly bathed in warm water.

32. The trend of the evidence given by some half-dozen witnesses was to the effect "That, for purposes of economy, Major-General Richardson, while in the isolation room at Bayview House, had no bed to lie on, no bed covering, no night clothes, but a night-shirt; that he was often put in the room naked; and that he wore unsuitable day clothes." A statement to this effect, if not in these exact words, was made in Parliament by Mr. Jeanneret, who, it will be remembered, accepted Mr. Gearey's version of affairs as the basis of his charges. Referring first to the personal clothing worn by the patient both day and night, it is necessary to bear in mind the arrangement originally made between the Major-General's relatives and friends and Dr. Vause. According to the evidence of Mr. Sydney Richardson (4649 *et seq.*), Dr. Skirving made the arrangements with Dr. Vause, the terms being a payment of £5 5s. per week as maintenance fee. By members of the family the Medical Superintendent was frequently authorised to buy anything that money would purchase for the additional comfort of the patient. Especially in regard to personal wearing apparel, either for day or night use, repeated offers were made of further supplies whenever necessary (4709); and because of the exceptional destructiveness of the patient with pyjamas and singlets Mrs. Richardson, at Dr. Vause's request, forwarded some sixteen or eighteen suits of night-clothes to the institution. The Inspector-General of Insane, in his report

No bed or
bed-clothes;
no personal
night-clothes,
and unsuitable
day-clothing.

dated 30th of May, points out that the payment for maintenance in this case was certainly not too liberal, and could, under the special circumstances of the case, scarcely have been remunerative. In face of this arrangement and the apparent absence of any necessity to be sparing in dress, the accusing witnesses assert that for economic reasons the patient was not clothed as he should have been. Mr. Sydney Richardson (4670) said his father was not as well dressed then as he is now, and that his clothes were worn and spotted; Gearey, referring to the clothing worn when the Major-General was removed from the room, describes it (215) as appearing "as if it had belonged to an engineer engaged in a workshop"; Mr. Sager (385) said, "the clothing was extremely untidy for a man who had occupied the social position of Major-General Richardson"; and Mackenzie (903 and 1129) said it was the custom to dress the patient in better clothes when it was known he was to be visited by his friends.

32A. In the course of his evidence Dr. Blaxland, the Medical Superintendent of Callan Park, informed the Commissioners that precisely the same arrangement in regard to the supply of personal wearing apparel which existed at Bayview House is in force now. The family supply the personal clothing which, although torn repeatedly (4793), is renewed whenever necessary. The cost of maintenance, however, is £327 per annum as against £5 5s. per week, and because of the extraordinary destruction of clothing and other articles in the early days of his residence at Callan Park, this amount did not, as it does now, cover all expenses. Senior Attendant Doherty, at Bayview House, flatly contradicted former witnesses when he declared that the clothing worn by the Major-General on the morning of 20th May was, comparatively speaking, a new, clean, and good suit, not a month in wear (2700 *et seq.*), and he denied Mackenzie's statement by saying the clothes, excepting occasionally the nether garments (2994), were never changed when the patient was visited by his relations. Attendant O'Brien said the Major-General on this occasion wore a dark tweed suit perhaps a month or two old (3199), and not in a dirty condition, and, moreover, that he had three or four other suits to wear. Dr. Edward Petrie Sinclair, acting Medical Superintendent for Dr. Vause during his illness, also testified to the Major-General's dress in the daytime being good and clean (5040) and suitable to a man in his position, whilst Dr. Vause himself denied (9468) that the wearing apparel was dirty or unsuited to the patient.

33. The more serious allegations, however, were those which aver that neither bed, bed-covering, nor night-clothes were provided for this patient, and that frequently he was placed in the isolation room naked. A bulky mass of most conflicting evidence running through the whole inquiry was tendered on these assertions. Professor Anderson Stuart reported the sole contents of the room to be a mattress with a coarse canvas tick, whose straw stuffing felt hard and inelastic as if it had been lain upon for some time, and three pieces of coarse canvas cloth in single ply. There was neither blanket nor coverlet (67) nor covering enough to keep a man warm during the night, and altogether the bedding and clothing were totally inadequate (78-9). Mr. Gearey calls the bedding and bed-clothes (163) a sort of mattress made of coarse pieces of canvas sewn together, and stuffed with straw, together with three pieces of canvas sheeting measuring about 3 feet square, certainly not sufficiently large to cover a man. The latter were not rugs (214). In his opinion the Major-General could have had nothing on, except, perhaps, a night-shirt, before his day-clothes were taken into the room by the attendants (215); but when taken out he wore a flannel shirt buttoned up in front, and he could not say for certain if there was any garment underneath. Inference and belief convinced him the patient was naked in the room all night (233 *et seq.*), as there were neither torn clothes nor anything else on the floor, save the pieces of canvas which Professor Stuart counted at the time, saying "one," "two," "three." The witness, J. J. O'Brien, Gearey's brother officer, corroborated this evidence in every particular, except that he said the pieces of canvas measured about 4 ft. by 6 ft., and that he was positive a blanket had not been stitched on these canvas coverings (293). Mr. Sager differed slightly in his details, as he reported having seen in the room only an old and torn straw mattress and two pieces of canvas (336) of a size which he imagined would, if laid out properly (367), have just covered a human being, but on which he saw no appearance of blanket having been stitched (399). If the patient wore a singlet when he was removed from the room, it must have been so low down that it did not reach the throat. Witness Mackenzie made the most sweeping

sweeping assertions in support of these allegations when he declared, in answer to Questions 878 *et seq.*, that during his three months' service at Bayview Asylum he undressed the Major-General and put him to bed in this room as many as four nights a week; that, except on about half-a-dozen occasions, he wore no night-clothes of any kind besides a singlet or small flannel shirt, which he left in the room of his own accord "for mere pity's sake, because the patient complained of being cold"; and that he never supplied him with pyjamas, and was positive he put the General in the room naked, after having been definitely told to do so by the head attendant. He complained to Doherty of what he considered to be the shame that the Major-General could not get a better bed, offered to make a "proper mattress on which the patient could sleep," and eventually he was supplied with money, and on one of his afternoons off "he purchased canvas in Sydney, took it to Bayview House, and made the mattress" (950). Prior to this the bed was a common bag stuffed with straw. The stronger mattress was made, not because every other put in the room had been torn, but owing to his desire that the patient should be more comfortable than previously, and because of his complaints and inability to sleep, as the straw punished him by coming through the old bagging and puncturing his skin (1190). On one occasion a hair mattress, soiled by a dirty patient, was placed in the General's room, but, he refusing to sleep on it, threw it on one side (1103). For fear of being charged with insubordination, he did not report these matters direct to Dr. Vause, and he was unaware whether or not they came within his knowledge. This witness stated that the bed-covering used in the room was a rug made of two pieces of common rough canvas and one breadth of canvas, to which was stitched a piece of blanket (1109).

34. The Inspector-General of Insane, reporting on 30th May, says: "There is evidence of Dr. Vause and the attendant that flannel underclothing and flannel night suits were supplied and used, though very frequently torn (8616); but the fact remains that the bedding was coarse and insufficient, and that a grievous mistake was made in not supplying and keeping up the supply of blankets and blanketed rugs, though these blankets probably would not have been used, and almost certainly would have been torn to pieces, as patients in this condition are singularly insensible to cold or other bodily sensations. In treating patients of the character indicated whilst isolated at night, short straw or hay frequently renewed is the only material which can safely be used for mattresses. The coverings of these are frequently (sometimes nightly) torn, and the contents taken out, and if these are horsehair, kapok, or other close material they tend to suffocate the patient when burying his head or falling off to sleep among them." When before the Commission as a witness, the Inspector-General substantiated his report by saying (8656) the bed-clothing was wanting in warmth, and either rugs with blankets inside them or blankets themselves should have been provided. While not wishing to convey any idea of the patient having been put in this room naked (8862), he felt perfectly certain he very often was naked in the room, and he had seen him naked in his room at Callan Park.

35. Evidence of rebuttal was forthcoming from various sources. Taking first the testimony of attendants, that which may be accepted as the most disinterested and impartial came from the chief and ordinary attendants in the male division of the Hospital for the Insane at Callan Park. Mr. Little, the chief attendant, showed that the Major-General, on admission to Callan Park, was placed in a single room, and had occupied one until the present time (771 *et seq.*). He was supplied with a mattress, sometimes of straw and sometimes of hair, but the latter he refused to use, threw it aside, and asked for one made of straw. At the time this witness was examined (November 7th), the patient slept in a night-shirt, but even then his condition determined whether or not he was allowed ordinary blankets and sheets. When first at Callan Park, he tore his night-shirt once, twice, and three times a night, but with improvement mentally and physically a greater degree of quietness ensued (792-3). Attendant Kernaghan, of Callan Park, supported his chief when he asserted that the Major-General preferred a straw rather than a hair mattress (1287), and always asked for straw, believing it possessed electricity (1288). After complying with a request to change the mattress the Major-General would lie down and go to sleep, but occasionally he became so restless at night that he tore the blankets (1296) and other bed-clothes. Attendant Ramsay, of Callan Park, described the patient as one who, while not physically strong enough to be dangerous,

was

was difficult to manage (1330 *et seq.*) because of his sleepless, restless disposition, his persistence in destroying bed-clothes and personal night apparel, and his unyielding resistance to be reclothed. The attendants at Bayview House, called for the defence, told a widely different story to that of the accusing witnesses. Doherty, the senior attendant, describing the process of putting the patient to bed, said he was conducted to the isolation room (2709 *et seq.*), his day-clothes were removed, pyjamas and a singlet were substituted, and a straw mattress, with a strong canvas ticking, owing to an ordinary bed being useless, was comfortably arranged. With this mattress there were pillows and strong blanket-lined rugs, 6 ft. by 4 ft. 6 in., large enough to cover any man. Possibly on the morning of May 20th the canvas coverings had been stripped of the linings, as he had seen the Major-General on the previous night picking the blanket from the inside, a custom to which he was partial, as he appeared to prefer the rugs without. When first placed in the isolation room he invariably threw everything off his body, sometimes tore his pyjamas to shreds, and refused to remain clothed. Notwithstanding this repugnance to wearing night-clothing, the patient was supplied, as far as he knew, every night with pyjama-trousers and singlet. Whether worn or not these night-clothes should have been placed in the room with this patient, and every attendant who put him to bed was specifically instructed to induce him to wear the clothes. If an attendant failed in his persuasive powers, the articles were left in the room. While on night duty, this witness said he frequently saw the patient, who, although restless, was wearing night-clothes, and, as a rule, he had them on his body when removed for his bath in the morning. A day or two after Major-General Richardson was taken from Bayview House to Callan Park, Doherty showed the Inspector-General of the Insane, two of the three rugs, used by this patient on the night before the surprise visit to the institution (3006) was made. James O'Brien, the other attendant, who is said to have been on alternate night duty at Bayview House during a part of the period of Major-General Richardson's residence at the institution, told the Commissioners that the bed used was a canvas tick filled with straw (3153 *et seq.*), having as covering canvas sheets lined with blanket; he was always supplied with pyjamas, but sometimes without a singlet, because he would not wear one; the patient was never put naked in the room. If, while more excited than usual, he destroyed the pyjamas, those torn were replaced by other suits. On the morning the visit was made, and when the Major-General was removed from the room, he was wearing pyjamas and singlet beneath his ordinary day clothes (3194). When most restless, the patient was most destructive, and in these moods (3231) he had known him to tear two suits of pyjamas in one night. Sometimes when the patient was willing he would endeavour to coax him into a more pacified state of mind and reclothe him. Three other employees at Bayview House gave evidence for the defence. Alan Farquharson, who waited on the Major-General every alternate Sunday, and who put him to bed at about half-past 6 at night on these occasions, distinctly stated that the bedding was taken out every morning and put back at night, it always being clean and dry, and fit for a man to sleep on (550-2). The day-clothes were taken away because of the patient's destructive proclivities; but this witness was absolutely certain the General was never put to bed naked, but on the contrary always was dressed in pyjamas, which, however, he frequently tore off, and as a consequence was found naked in the morning (577). The custom at these times of unrest and destructiveness was for the attendant to take a top coat to the room when removing him in the morning, to shield him from the gaze of passers-by and protect him from the cold (592); in fact, he did not remember any occasion on which he went to the room for the purpose of removing the patient on which he did not find the floor littered with the fragments of torn garments, bedding, and bed-clothes (647). R. A. Peet, the painter permanently engaged at the establishment, had constant opportunities of seeing this patient morning, noon, and night, and on many occasions, by looking through the observation hole in the door (675), he had noticed the inmate always to be partly dressed. Edward Erickson, at present a warder at Little Bay Hospital, but formerly an attendant at Bayview House (750 *et seq.*), told the Commissioners that there was good bedding accommodation in his time, consisting of two sheets, two blankets, and two pillows, like an ordinary bed, in the isolation rooms. Patients were never put to bed naked. Some wore pyjamas, and those who had none were always provided with some other night apparel.

36. Henry Watt, also a former attendant at Bayview House, whose special duty it was to put the Major-General to bed, stated that he took off his day-clothes and put on pyjamas and a flannel singlet, which were usually torn off (6196 *et seq.*). At times there were three mattresses on the floor, to prevent the patient injuring himself, and the ticking of these, with the blankets and sheets, were generally torn to pieces during the night and scattered about the room. While quite certain the patient was never put to bed naked, he was frequently in that state next morning, and if attendant Mackenzie (6245) did not put night-clothes on him, he was guilty of negligence, and disobeyed instructions issued by the Medical Superintendent through the head attendant.

37. The medical testimony on these points embodied the opinions of the Medical Superintendents at Callan Park and Gladesville, the official visitors to all Hospitals for the Insane, and some of the most prominent private practitioners in the Metropolitan area. Dr. Blaxland who, having charge of the patient at present, who received him when he was removed from Bayview House because of alleged maltreatment, and who has had and used exceptional opportunities for studying the case, in the course of his evidence, as it bears on these allegations, and which will be found in answers to questions 4779 *et seq.*, stated that special provision in a single room had to be made for this patient on his arrival at the institution. Because of his habits of tumbling about the room and restless movements, two or three straw mattresses were placed on the floor to minimise the possibility of self-injury. For covering, a rug made by quilting a blanket between two sheets of canvas was used. Sometimes the patient would have ordinary blankets instead, and at others he would refuse to use blankets and say he preferred the rugs. Unusual difficulty was experienced in getting the Major-General to wear personal night-clothes. They tried their best to accomplish this end, but on the first night of his residence at Callan Park he destroyed seven garments and one bed-tick. During the first four months of his stay the destruction of clothing—the list itself appears in the Appendix—amounted to 118 shirts, 39 blankets, besides sheets, socks, and pillow-slips. This, too, is not a full list of every article destroyed during the period attempts were made to get him dressed. The attempt to force pyjamas on had the effect of increasing mental irritation, and, medically speaking, it was decidedly better in the interest of patient to leave him naked rather than accentuate his malady, while in the acute stage, by attempting to keep clothing on his body. The night treatment of all general paralytics in the acute or maniacal stage at Callan Park, irrespective of persons, social status, or anything else, was to (4817) first try the case in a single room, with night-clothing, which could be worn or discarded according to inclination. If in a destructive mood, the clothing was, for safety's sake, removed from the reach of the patient, who was left in the room with loose straw and quilted rugs for covering, and seen by an attendant every hour. Dr. Sinclair, the Chief Medical Officer at Gladesville, who, to keep abreast of the times, has visited, for comparative and educational purposes, the principal lunatic asylums in England, Scotland, and various other parts of the world, said, practically the same night treatment is followed in the acute stage of general paralysis at the institution over which he has control as that described by Dr. Blaxland. In the first place the patient was supplied with a straw mattress, a canvas rug, blanket-lined, and personal night-clothes (5267). If the mattress was destroyed it was replaced by loose straw. A certain proportion of patients while in the acute stage were put into isolation without personal covering, but with canvas and blanket rugs, both by night and by day, and these customs were observed at all the large institutions he had visited. Dr. Creed (6091) thought if a patient destroyed and disliked wearing night-clothes he should be provided with covering not easily torn, and canvas rugs were quite sufficient for patients of this class. Another medical practitioner, who has an intimate knowledge of Bayview House and other institutions, said canvas rugs, blankets, and ordinary bedding supplied to these rooms were quite sufficient. Dr. Ramsay, who was *locum tenens* for Dr. Vause, (5979) stated that during the months of March and April last, while Mackenzie was employed there, he saw blankets, sheets, and a rug which had been used by the Major-General. Dr. Edward Petrie Sinclair, who also acted as Medical Superintendent for Dr. Vause, described the bedding as straw mattresses, rugs lined with blanket (5087) large enough to cover a man and sufficiently thick to keep him warm at night; and Dr. S. T. Knaggs said, supposing a patient tore his bed clothes and denuded himself at night, he would leave him alone (5918) rather than cause irritation by attempting to re-clothe.

38. The official visitors did not condemn the management of Bayview House in the system of single-room treatment. Sir Alfred Roberts has never known an injurious chill result from a patient denuding himself, and seeing them in a naked condition was more (7753) distressful to the observer than the observed. It would be useless to insist on dressing a resisting patient, for the trial would meet with failure, and the contest would injuriously affect the patient. From a medical point of view it was desirable to avoid a struggle. The bedding used at Bayview House for this class of patient was similar to that followed at all large asylums—a straw mattress, a pillow, and a rug, made of ordinary canvas, lined with blanket (7793 *et seq.*). In some respects the latter was a preferable structure as compared with double canvas, having a blanket between, because of the woollen material coming next the skin. If, however, patients picked the blanket off, it would be the duty of the Medical Superintendent to have it renewed. In his experience he had not known patients put to bed naked, but they speedily made themselves so. Dr. Huxtable (8142) saw the rugs used in the Major-General's room, and they were the usual coverings approved by medical authorities for patients of that class. Adequate for this purpose, it was nothing unusual for the blanket lining to be torn away. Dr. Cox in his report (8252) notified a great improvement in the bodily health of the patient, and specifically stated that, as far as he had been able to judge by examination, the bed-clothing provided was sufficient. If any patient objected to wear personal clothing at night he would not break his rest by insisting on re-clothing the patient (8334), as instinctively as soon as paralytics realised the necessity for warmth they covered themselves, hence his strong advocacy of loose straw, and plenty of it, being placed in these rooms as bedding. The rugs used (8356) were of suitable quality, with ample blanket stitched inside, and, moreover, he was informed by the matron that the Major-General could have as many as he chose. Personally, he regarded pyjamas for any patient in the acute stage of paralysis as an unnecessary extra, liable to become a nuisance consequent on the peculiar habits to which they are prone. If the Major-General had been put in the room naked no great harm would have ensued. The disagreeable part of the proceeding would be more to the looker-on than the patient, who in this state would not realise his position. All sentiment must be set aside, and from a medical point of view (8372) it was to the interest of these patients to be left alone as much as possible, clothed or unclothed.

39. Dr. Vause, in his own defence, pointed out (8930) that were it true, on the grounds of economy, that he failed in supplying every requisite to this patient, he would have been defeating his own aim and object, which, before everything else, was ultimate recovery. The cure of a patient so well known and so important in his personality, would have been to him professionally of the first importance, and, therefore, he felt it incumbent on him to devote even extraordinary care to his treatment. No doubt people, ignorant of the requirements of acute paralytics, jumped to the conclusion that straw mattresses were an invention in the direction of economy, but, on the contrary, experience had proved conclusively that straw was as good as any material, if not the best, for this specific purpose. To the strictures of the Inspector-General of Insane, concerning alleged insufficiency of bed-clothing, he could but reply that everyone admitted there were three canvas rugs, and canvas was universally used, and proved to be the best kind of covering for these patients. Its properties as a non-conductor of heat were enormous; it prevented the egress of moisture, the rapid evaporation of which was the principal cause of feeling cold in the human body. The provision of even half-a-dozen blanket-lined rugs was a mere nothing to anybody who had the welfare of the patient and establishment as much at heart as he, and despite the assertions of the Inspector-General, a statement, he presumed, made prior to Dr. Manning ascertaining for himself that the Major-General would not be managed with less "coarse bedding," he could only adduce in extenuation the fact that the articles of bed-clothing used at Callan Park for months past were identical with the bed-clothing used at Bayview House by the Major-General during his worst periods. The supply of blanket sheets or rugs, he maintained, was kept up, and the rugs seen on the 20th of May being stripped of their woollen lining was an unusual event; but, as a compensating balance, there were three pieces of canvas, while one ordinary blanket-lined rug was sufficient covering for anybody kept in a single room. A supply of blankets was kept up for a considerable time at extra cost, but this was discontinued in the hope of checking the destructive habits of the patient by giving him blanket-lined rugs. He then picked off the
blanket

blanket lining, and this habit only received a partial check when he reached the canvas, and even this was sometimes torn. Dr. Vause gave a general denial to all the charges under this head, as shown in answers to Questions 9589, 9237, 9243, *et seq.* Two of the three canvas rugs found in the room on the morning of 20th May were shown to the Inspector-General a few days after the occurrence, and he described them as being of the ordinary size. To satisfy themselves beyond all dispute, the Commissioners had one of the rugs—the only one remaining—produced, and identified by Dr. Vause as having been used by the Major-General on the night of 19th May, 1894. Its actual measurement was 5 feet 9 inches long and 3 feet 9 inches wide. Attached to the inner side were the remains of a blanket lining, which originally had been square-stitched to the canvas, and evidently picked off by the patient. An ordinary new canvas rug, blanket-lined, was also produced as a sample of the rugs at present used by this class of patient at Bayview House. This measured 5 feet 7 inches long by 5 feet wide.

40. In regard to these charges the Commissioners find—

1. Although the evidence upon the subjects referred to in these charges is very The Findings. conflicting, your Commissioners have no hesitation in believing that purposes of economy entered in no way into the provision actually made for the treatment of Major-General Richardson while in the single room. Regarding these provisions themselves there is an extraordinary discrepancy of statement. The charge itself would lead to the belief that no provision was actually made for the night comfort of the patient, and that as a regular practice he was placed in this room nightly denuded of clothing and without bed or bedding. The evidence shows clearly that both at Bayview and afterwards at Callan Park the Major-General, in consequence of his affliction, was a most destructive patient and prone, on many nights when placed in his room, to destroy every vestige of night-clothes, whatever their character, prepared for his use. The evidence of the attendants at Bayview, and other witnesses, is to the effect that an ample supply of personal night-clothing, bed and bedding, was always put in his room, and that it was no uncommon thing for him to not only destroy his personal apparel but the bed and bedding too. On the other hand, the Government visiting party, who proceeded to Bayview on the morning of 20th May for the purpose of making special inquiries into the Major-General case, his treatment and condition, were under the impression that he had no night clothes on whatever when removed from the isolation-rooms to his day-room for his morning's sponge-bath. Had any of them waited to see the Major-General undressed for his bath and put in his bath this would have been placed beyond all doubt. As a matter of fact the Commissioners believe that on many occasions the Major-General must have been in the condition described by these Government officials; but the fact that no fragments of torn clothes were seen or found in the room, either by the visitors or the Bayview House attendants, lends credence to the assertion that day clothes were put on over night clothes, as mentioned in the evidence.
2. Your Commissioners believe that usually bed and bedding provision was made for the night in the shape of a straw mattress and rugs, and that it was the instructions of the Medical Superintendent to provide personal night clothes; but they are not in a position to say whether on this particular occasion provision had been made.
3. Further, your Commission are of opinion that the official inspection on the occasion referred to, made as it was on a dark, cold, winter's morning, and extending over only a few minutes, no matter how acute the observers might have been, did not include the observation of many details. For example, whilst the Medical Superintendent and the night attendants on Major-General Richardson swear positively that an india-rubber utensil was in the room on the morning of May 20th, the Government officials sent specifically to make full inquiries into everything associated with this case were equally positive that there was no such convenience. A number of expert witnesses were minutely examined on this matter of treatment, and stated distinctly that it would probably be a terrible shock to

to the uninitiated to see things as they were seen on the morning the official visitors made their inspection of the room occupied as a sleeping apartment by Major-General Richardson ; but at the same time the absence of clothing and other ordinary comforts usually expected in a night room was by no means an uncommon occurrence in cases of this kind. Your Commissioners, therefore, taking the whole of the evidence into consideration, believe that the question of illtreating this patient in any respect for the purposes of economy never entered the mind of the Medical Superintendent. The form of treatment followed by Dr. Vause was approved by all the medical experts examined by the Commission, and the Medical Superintendent himself very clearly showed that it would not have been in his interest to neglect to make every provision for the relief and cure of this patient.

4. With regard to the charge that Major-General Richardson wore unsuitable day clothes, your Commissioners can only point to the fact that the clothing was supplied by the relatives of the patient, whose repeated instructions to Dr. Vause were not to stint the patient in any way; in fact to supply anything that money could purchase for his comfort. The Commissioners believe that Dr. Vause acted to the best of his discretion in supplying the clothing worn by the patient. The only evidence opposed to this view is that which had reference to the clothing he wore when being removed from the isolation-room to the main building on the morning of May 20th, and on that occasion the apparel used was stated to be such as was ordinarily employed for the purpose of covering him in his passage from the sleeping-room to his bath in his day-room, while for other purposes and at other times he wore suitable clothing. The evidence of his personal attendants at this time, and the statement, passed unchallenged, was that he had four suits of clothes in wear. Your Commissioners believe that neither on the grounds of economy, nor for the sake of his own reputation, did the Medical Superintendent allow the Major-General to remain unsuitably clothed. The patient was visited frequently by members of his family; he was seen unexpectedly at different times by medical gentlemen, and other visitors by whom he was well known, and who took a considerable amount of interest in his case, and as there is no record of any serious complaint on this head to be found, your Commissioners do not consider the allegations to be of any consequence.

Sleeping-room not cleaned; no night convenience; and foul smell from stale filth.

41. Further charges in the general indictment made against the general management of the institution and the treatment of Major-General Richardson are—"That owing to neglect his sleeping-room was not properly cleaned; that there was no night convenience provided for the relief of nature's calls; and that the room smelled foul from the presence of stale filth." In his report to the Government, Professor Stuart described the contents of the room, to which full reference has been made in a previous part of this report, and then adds that the wooden floor (29-45) had been fouled, and that "the odour of the place was most repulsive—a stale urinous odour of considerable standing." There appeared to have been an attempt to half wipe up the filth, and hurriedly make the room look decent. The contents of the place were lying on the floor, all fouled, and he could distinctly detect stale urine on that occasion. In his opinion there might be a considerable abatement in the smell of those rooms (45) as utensils should be provided, and although the tendencies of lunatics was not to use them, they should be trained to habits of cleanliness and made to get up two or three times a night if necessary. As a rule they did not like to be disturbed, and there was a certain amount of discomfort in getting them up, but that was better than allowing patients to remain in bed while addicted to dirty habits. In support of this contention Professor Stuart said it would be better to follow advice given by Charles Mercier in his work issued in 1894, entitled "Lunatic Asylums, their Organisation and Management," where, under the heading of "Dirty Habits," the author dealt with the treatment of these particular patients, recommending that they be roused up at least three times a night at the same time every night, for the purpose of training them into habits of cleanliness. The alternative of two evils was, Dr. Stuart continued, one of a man allowed to remain in bed in a state of filth, and the other, that of probable annoyance by waking him up, and he thought the latter was the lesser of the two. His opinion was that the floor of these rooms

rooms should be made to slant slightly, and, if of wood, impregnated with paraffine or some other preventive. The floor, too, might be of asphalt; but certainly something should be done to prevent it getting into the state it was, when a little trouble might keep it comparatively sweet. In answer to the Inspector-General of the Insane, Professor Stuart expressed the opinion that Mercier, in his work, was referring to patients of wet and dirty habits, and, personally, perhaps, he did not think the same opinion would apply to acute maniacs and general paralytics (85), neither did he think it would be advisable to disturb the rest of an acute maniac or a general paralytic for the purpose mentioned in the quotations he had read (88). There was in that room more than one distinct odour, and the odour was stale (98)—of longer standing than one night (108). The witness Gearey (166 *et seq.*) described the room and its contents as being in a state of absolute filth, and stinking so abominably that he was glad to escape to obtain fresh air. His experience as a sanitary inspector told him that the stench came from an old standing cause. He was positive there was no utensil in the room (198). John Joseph O'Brien, another sanitary inspector, with nine years experience (255 *et seq.*), said he had opportunities of acquainting himself with different smells, and could distinguish that of fresh from stale urine. There was a stale odour and a most sickly smell in this particular room on the morning in question. The floor was smeared, and, in his opinion, some attempt had been made to clean the room while the patient was being dressed. He was positive there was no gutta-percha utensil in the room. He had never come across a worse room in his experience as an inspector of Chinese dwellings in the City of Sydney than this room at Bayview House from a sanitary point of view (320), and if in the course of his inspection he had found any place in a similar condition he would have reported it for prosecution. Mr. Sager stated (390-94) that the room smelled foul; there was excreta on the floor, and he was quite sure there was no utensil in the room. Alexander Mackenzie who again appeared as the chief witness in support of the charges, told the Commission that during his stay at Bayview House (853) he used to clean out this room every morning, but in damp weather the boards would not dry, the fault being, in his opinion, because the floor was too close to the ground. With proper scrubbing he did not think he could keep the room clean and sweet (1039 *et seq.*), and he attributed the continual smell to the fact that he could not get the floor dry. Sometimes he scrubbed it out with a hard broom and hot water, and then could not get it clean and sweet. The room was properly attended to, or, if it was not, it was no fault of his. Never to his knowledge was an india-rubber utensil placed in the room (885). There was only one about the place, and that was used in the next room by another patient. He denied that the Major-General was at all dirty in his habits (893-1007), and the only way he could account for the state in which he was found in the morning was his having been placed in a dark room without any convenience, where he could walk about and possibly fall about. There was a suffocating, filthy, foul smell in the room—always the smell of stale urine (964). During the whole of the four months he was there, he was positive there was no india-rubber or any other utensil placed in the room. The floor was dirtied; the mattress, the straw, and the covering were soiled, and only once, he thought, during the months he was there did he rip that mattress open and remove the straw—and then he did it on his own initiative (111-19). Mr. Sydney Richardson informed the Commission that he saw this room at a quarter to eleven o'clock on the morning of the Sunday his father was removed from Bayview House to Callan Park (4687). It had then been washed out, and the floor was very wet. There was an abominable smell, although the room had been washed out (4708).

42. The evidence for the defence amounted to a direct denial of the charges. It was somewhat voluminous, and included the testimony of attendants at Bayview House, Callan Park Hospital for the Insane, private and public medical practitioners, the Government visitors appointed under the Lunacy Act, and Dr. Vause himself. Epitomised, it is as follows: Allan Farquharson, employed at Bayview House, whose duty it was to attend on the Major-General every second Sunday, in answer to questions (570 *et seq.*), described the patient as dirty in his habits, and said he had seen a utensil in his room, but the patient would never use it. The room smelled the first thing in the morning, but he never detected a stale odour when putting the General to bed at night. His experience invariably was to find the sleeping room dirty early in the morning—in fact, he never saw it clean. Further questioned (640), this witness said he was positive an india-rubber utensil was in the room

every time he put the Major-General there. Ruben Alfred Peet (684) said the room smelled sweet, and that there was no stale odour about the floor. Edward Erickson, a former attendant, deposed that there was a chamber utensil in each of these rooms, and further (752), these rooms were always kept clean after having been used by patients. They were cleaned every morning before Dr. Vause made his usual rounds. William Little, chief attendant at Callan Park, was called to testify to the Major-General's condition at the time he was received at that institution. The patient, he said, was in the habit of dirtying his mattress (775 *et seq.*), and a utensil left in the room was sometimes used and sometimes not. The room smelled bad in the morning, and he was aware (818) that often the odour from acute maniacs was exceedingly strong; he, however, could not tell whether the urine was fresh or stale, but he knew it was very strong in smell. The single rooms occupied by this class of patients were as a rule extremely filthy, and he did not think the keepers of lodging-houses in the city or elsewhere or sanitary inspectors would ever see rooms in such a state as these. Speaking as one having had thirty-two years' experience, he could say Major-General Richardson was one of the worst patients he ever had to deal with. This extreme dirtiness was usual with patients of this kind, and in dealing with wet and dirty patients at Callan Park they tried to give them rest at night, and at the same time endeavoured to train them in good habits. In his opinion it would be improper treatment in the case of an acute maniac to rouse him from his sleep two or three times a night; he would let him sleep rather than rouse him for the purpose of cleanliness. This evidence was corroborated by Thomas Kernaghan and Thomas Ramsay, attendants at Callan Park, the latter adding (1344 *et seq.*) that there was no particular difficulty experienced at Callan Park in removing the smell from the room by the use of disinfectants. Many rooms at Callan Park were perpetually soiled, yet they managed to keep the floors clean and the apartments comparatively sweet. John Doherty, senior attendant at Bayview (2727 *et seq.*) said there was a smell in the room when he removed the Major-General on the 20th May, but nothing beyond the ordinary smell. The room always emitted a stale odour in the morning, but it disappeared after being scrubbed out, when it would always be dry between 10 and 11 o'clock in the morning. The room was supplied with a utensil, which the patient would not use. As a consequence the room would probably throw off a strong odour as soon as the door was opened. He did not notice on that particular morning any distinct smell of stale urine, and the reason why a utensil was put in the room, although it was not used, was because it was the custom. It was Mackenzie's duty when he first arrived at the institution (2911) to clean the floor of the room, and he had no recollection of complaining that this had not been thoroughly done, thus leaving a smell in the room. He had never noticed in that room any stale urinous odour, and there was no such condition when he put the patient in the room the night before the Sunday morning Professor Stuart made his visit. No smell remained after the room had been scrubbed, and he would repeat that there was a utensil in the room when the Major-General was removed, for he saw it. James O'Brien, the other night attendant on the Major-General (3151), also stated positively that there was an india-rubber utensil in the room occupied by the Major-General. It was part of his duty to clean out the room, and usually (3187) the floor took about three hours to dry. The room was always sweet when he put the Major-General in at night. He denied (3236) that there was any stale urine about the place, for if there had been he would have detected it, and this he had never done in the day-time after the room had been properly scrubbed. Henry M. Watt, an attendant who had some experience of the Major-General, described his peculiar habits as mentioned in connection with these charges, but differed from the other attendants when he said no utensil was left in the room, because the patient was so destructive that it would have been dangerous to leave it. He, however, used to be seen every two hours, and the utensil was taken into the room on each occasion (6199). Sometimes there was and sometimes there was not a bad smell in the room. Part of the time he was there it was his duty to scrub the room, which on a fine day would dry quickly, but it would take longer on a wet muggy day. He never noticed a smell, stale and foul, when putting the patient to bed. If he had done so, and if the room had not been sweet, no time would have been lost in communicating with Dr. Vause on the subject.

43. The medical evidence on these points goes to show, beginning with Dr. Blaxland (4747) that this patient when admitted to Callan Park was refractory, destructive; and dirty in his habits. In cases of general paralysis, sometimes the urine of patients became highly ammoniacal, and this patient was in an acutely ammoniacal state on May 20th. He was placed under single room treatment; special provisions were made for him because of his peculiarities, and he knew (4836) it would have been impossible to follow the course of rousing the patient two or three times a night as recommended by Mercier, and quoted by Professor Stuart. It would certainly be unadvisable to rouse a general paralytic in this manner. His idea was that Mercier in writing as quoted was referring to old demented who were wet and dirty from inertia. In cases of acute mania he would not interfere. True, one might interfere (4763) to a certain degree, but there was nothing to be gained if a man was thrown into a state of constant irritation—by telling him or attempting to train him to do this or to do that. It would not be wise to rush in and tell a patient to use a utensil, for if he did the patient would not do it. The patient in question insisted on doing as he liked, and if an attendant interfered he would throw at him his pillow or the first thing he could lay his hands on. Up to December last the patient was sometimes as peculiar as ever in his habits. If the room at Bayview House stank abominably until 11 o'clock in the morning, even after it had been washed out earlier in the day it would be nothing uncommon, and if the room were well washed out in the morning (4834) it would be ready and fit for occupation again every night. Such a room requiring constant washing would dry better away from a corridor, if it had a large door, than a single room situated in a corridor such as at Callan Park. Dr. Eric Sinclair, the Medical Superintendent at Gladesville Hospital for the Insane, stated that while in certain stages of insanity, there was a particularly strong urinous smell from patients, it could be removed from the single rooms. He had wooden floors which could be made sweet under ordinary circumstances (5246 *et seq.*) even with this particular class of insane patient. Perhaps asphalt would dry quicker, and if so the smell would not last as long, although it would be quite as bad the first thing in the morning. An inexperienced person knowing nothing of these matters except by casual examination, he was afraid, could not state authoritatively whether the smell detectable was from fresh or stale urine. He certainly did not think with Professor Anderson Stuart, that patients in the acute mania stage in general paralysis should be roused two or three times a night for the purpose of cleanliness (5253). Such experiments might be tried with advantage on demented, but certainly not on general paralytics in an acute stage. On no account should these patients be roused. Interference in that direction would involve great danger, of a falling off in general health, owing to want of continuous rest. He did not believe that Mercier, when writing as quoted by Professor Stuart, meant his opinions to apply to acute cases of mania, but, on the contrary, to imbeciles, to demented, and to old and feeble patients, who might remain in bed from sheer indolence or weakness. If Professor Stuart applied those opinions to the treatment of acute maniacs, he had altogether mistaken his case. In most of these cases (5286) utensils were placed in the rooms—in some instances it would be futile to take this precaution because patients would not use them. With a dirty patient in a single room the accumulation of filth could not be avoided, and it was better to leave them in the dirt than to constantly insist on keeping them clean. With the aid of sanitas soap and carbolic, the smell was removed from the single room (5329 *et seq.*), which, when opened in the morning, emitted a strong smell of fresh urine. These patients, too, threw off from their own bodies exudations sufficiently pungent to cause a room to be stuffy, and the smell of these rooms, the first thing in the morning, would be quite sufficiently convincing to anyone meeting it when coming from the fresh air outside. If the floor of the room had not been properly cleaned it was quite possible for an odour to rise. Sometimes the liquid sank into the boards, and the smell returned as the room became dry. Dr. Edward Petrie Sinclair (5051), who acted for Dr. Vause at Bayview House for a time, stated that he never noticed any smell in the isolation room on the male side; and Dr. Hetherington expressed the opinion that he would leave patients of extremely dirty habits alone as much as possible. Such circumstances (5893) were not distressing to the patients themselves, but confined exclusively to the spectator; and—considering the question from a purely medical standpoint, purely in the interest of the patients—putting sentimental feeling altogether on one side, it was best to leave such patients alone. Dr. S. T. Knaggs

Knaggs (5920) said it would greatly depend upon the patient whether, in regard to personal cleanliness, it would be better to clean him during the night or leave him in his dirt. If a patient became excited through the interference necessary to clean him, it would be more judicious to leave him quiet. He would study the temperament of each case, and with an amenable patient he would interfere, but not with an unsuitable subject. Certainly he would not rouse (5930) a patient suffering from acute mania, to whom sleep was of paramount importance. He would not rouse a physically healthy patient, as sleep by all means was of the greatest importance in all these cases. Dr. Ramsay, who was in charge of Bayview for a time, said he was sure (5967) this room was scrubbed out every day. At 9 o'clock every morning he saw it wet as a result of having been scrubbed out. The doors were wide open, and there was no smell in the room after it had been cleaned. Dr. Creed supported (6077) the other medical witnesses relative to the peculiar odour emitted by this class of insane patients, and added (6095) that if a patient of this character were awakened and in a dirty condition, and if it could be done without violence or struggling, he would expect him to be cleaned. If cleaning him, however, involved violence or the use of force, he would leave him alone until morning. Such was the choice of two alternatives, and he knew of no physical injury which could accrue by allowing the patient to remain for twelve hours in this state. The distress would be wholly to the observer, as the patient could not feel nor realise his condition. While he could not conceive how a patient could sustain injury by being left alone, he knew it would be most injurious to use force in cleaning him. There might be two classes of patients, one to whom it would be comparatively harmless if he were cleaned, and another to whom it had been necessary to give a narcotic, and with whom it would be most inadvisable to interfere. Another medical practitioner, who had special experience at Bayview Asylum (6446) said these rooms were kept absolutely clean, and were always scrubbed out as soon as patients left them in the morning. From his experience, he most decidedly supported other medical experts when they said that in the treatment of patients in isolation wards (6469 *et seq.*) the first and chief requisite was sleep. Such was the established opinions of the best medical authorities, and it was desirable in the highest degree to avoid irritation, either by interference in watching or by restraint. Exceptionally dirty and destructive patients he would leave alone, in the hope of securing rest; it would be no easy matter to clean a patient of this kind in the night time, and more harm would be done by irritation than good would be gained by making him clean. Dr. A. Jarvie Hood (7571) said supposing he had to treat a paralytic dirty in his habits, he would not wake him for purposes of cleanliness, but if he was not in a good sleep nor likely to go to sleep, he might be cleaned. He would sink the whole of the sentimental side of the question, treat the patient for his own good, and, regarding the question from a medical point of view, he would certainly not disturb a patient as long as he could sleep. Giving him a utensil or interfering with him in any way, thereby inducing restlessness and irritation, would do more harm than allowing him to remain alone.

44. The official visitors also gave evidence on these points. Sir Alfred Roberts (7684) said that on the whole, and especially in cases of acute mania, he thought it was better when a patient acted in an unsatisfactory manner, for him to remain alone rather than be disturbed by an attendant entering the room for purposes of cleanliness. He would not allow attendants to go into the room periodically, for taking the interest of the patient into consideration, he not grasping nor suffering the ignominy of his condition, he should be left alone until he received his morning bath (7783), and personally he did not think the medical superintendent was to blame for the course he took in the Major-General's case. After administering a narcotic, the patient should be left alone to sleep as long as possible. In cleaning patients it would be necessary to employ at least two attendants, and this would mean tremendous work in the middle of the night, setting aside altogether the prejudicial effect the excitement would have on the patient. Patients of this class (7803 *et seq.*) had distinctly-smelling urine, and it would be difficult, in fact, impossible, he should say, to detect in the early morning the smell of stale from that of fresh. A sanitary inspector of a municipal council, entering a room when it was first opened in the morning (7826) would most likely encounter something altogether different to smells he would meet with in his ordinary avocation—perhaps

a smell at which he would be horrified, and furthermore, his experience in municipal matters, as a sanitary inspector, would not enable him in the slightest degree to correctly judge of the freshness or staleness of matter in this room. Dr. Huxtable was of opinion (8098) that anyone might easily be deceived regarding the odour from a room tenanted by this class of patient. A person experienced might be able to make a distinction, but an employee of a municipality whose duty it was to look after sanitary matters generally would not be able so to do. As a medical practitioner (8130), he would not interfere with a dirty patient during the night. The universal practice was to leave these patients alone until morning, sleep ever being the first consideration. The result of long medical experience was that interference was harmful. Patients arriving at this condition did not suffer, because they no longer remained persons of refinement. Dr. Cox (8257) said any statement to the effect that the room was in a filthy condition and that there was a stale urinous smell about the place was not in accordance with his experience, but he must add that he was never in the room at night. It was probable that the offensiveness of the smell would arise from the disease and the ammoniacal condition of a patient in a particular stage of paralysis. In his opinion, persons unaccustomed to these cases could not distinguish between the smell of stale urine and the smell of an ammoniacal odour. Very many times he had been in these rooms—sometimes in the morning between 11 and 12, and sometimes in the afternoon—and had never detected the odour described (8261). Officials connected with the municipal department, whose duty it was to examine places in the city, entering that room after it had been occupied by a patient all night, would certainly not be able to distinguish the smells to which he had referred. The correct treatment in cases of this kind (8372) was to leave the patients undisturbed as long as possible, the first consideration being sleep.

45. The Inspector-General of Insane reporting to the Government on 30th May said, of the Major-General, that lately for some weeks, though the bodily strength in the main had continued, there had been mental decadence with actively filthy and destructive habits, and great restlessness and excitement, all those symptoms being increased at night, and attended by great insomnia. From his long experience (8637) in these matters, and after hearing all the evidence in connection with the room, and after having seen and been in that room very frequently, he had never smelled any bad smell there, and considered the room was cleaned very fully and completely by being scrubbed, and he thought as far as the odour was concerned it compared favourably with similar rooms occupied by dirty patients at public asylums. The evidence given by Professor Anderson Stuart, and the opinion he quoted from a distinguished authority regarding urinous smells and the changes necessary were not applicable to this special class of patients. The treatment of acute cases was quite different to that of demented, and must be carried out on altogether different principles. Persons with general civic experience were not competent to pronounce a reliable opinion on a room occupied by a patient in the condition Major-General Richardson was on the 20th of May. If these officers (8641) paid a similar visit to the single rooms at the Government asylums he would undertake to say they would meet with smells worse than anything with which they would come in contact in a municipal inspection, if these visits were paid early in the morning. No cure had been discovered for this evil, which was difficult to avoid. It was possible (8655) for a medical man to occasionally distinguish stale from fresh urine in these cases, but certainly in numerous instances urine was alkaline and practically stale when passed, therefore it was impossible to distinguish urine recently passed, much more urine passed for several hours, especially in general paralytic patients.

46. In his own defence Dr. Vause traversed the statements of accusing witnesses, and contended (8930) that it was not surprising when it was admitted that the urine of acute maniacs gave forth a strong ammoniacal odour, that Professor Stuart, Mr. Richardson, and Messrs. Gearey and O'Brien, should have noticed what appeared to be the smell described by them, this giving the impression that the room had been neglected and allowed to remain uncleaned, an impression which he submitted was absolutely erroneous. Positive evidence had been given that these rooms were cleaned out daily as a matter of course. The official visitors asserted that they had invariably found them sweet and clean. Both the attendant Doherty and himself saw an india-rubber utensil in the room when the Major-General was removed on the morning of the 20th of May. There might have been an offensive smell in the room on that morning (9255), but during the brief visit which was made he did not think

think the distinctions referred to could have been discovered. Regarding the use of the utensil neither he nor Professor Anderson Stuart would have succeeded in persuading the Major-General in that direction if he refused, and it would have been a very dangerous experiment to try (9307). The patient could neither be coaxed nor forced. The quotations used from Mercier by Professor Stuart (9311) embodied no new theory in its application to demented, or aged and lazy and dirty patients, but it could not be applied in acute cases. If he had the Major-General on his hands again, and in a similar condition, he would follow the same course of treatment and issue similar instructions. He never spared any trouble in trying to keep that floor sweet, and Doherty saw that this duty was properly performed. The day before the Major-General was removed (9336) he was absolutely positive he was in the single room, and there was no foul smell there then; indeed he was perfectly positive there was nothing of the kind there as described by Professor Anderson Stuart. The floor was of good sound hardwood, and a stale smell of this kind could not have come from under the boards, because if it did it would not be got rid of, and the members of the Commission knew the room was sweet enough now. He did not think he could have distinguished the difference between a stale and a fresh smell (9374) in the room under such circumstances as those of the 20th of May, and he entirely rebutted (9406) the statement "that the smell was there and must have been there for some time." In all cases of great excitement (9453), he would certainly not disturb dirty patients when asleep, and even his own relatives and friends he would leave in that condition. The best medical opinion was with him on that point, and he would not have a patient disturbed for the purpose of cleanliness. In Major-General Richardson's case he was strongly impressed with the necessity of sleep, which was a question of life and death. If he could not procure sleep he felt certain the patient would go down towards death. With his sole attention concentrated on this one point his instructions were imperative that the patient must not be disturbed, and fighting with him in the matter of cleanliness would have destroyed the object he had in view.

47. The Commissioners find as follows in regard to these allegations:—

The findings.

1. The weight of evidence is entirely in favour of provision having been made for the proper cleansing of this room from day to day. Definite instructions were given by the Medical Superintendent to this effect, and every attendant engaged at Bayview House swears they were regularly and systematically carried out.
2. There is also sufficient evidence to show that an indiarubber utensil was supplied more or less regularly for the use of this patient while sleeping in the isolation-room. Whilst there certainly is some discrepancy in the evidence as to whether one had been placed in the room on the night of May 19th, your Commissioners believe that some reliance must be placed on the sworn testimony of Dr. Vause and the attendants to the fact that they saw the utensil in the room on the morning of May the 20th, when the patient was removed. The Commissioners believe that in consequence of the darkness of the morning and the hurried character of the visit the utensil was overlooked by the official visitors on this occasion.
3. Regarding the stale urinous smell, said to have been in the room on this particular morning, your Commissioners, after hearing the evidence of expert witnesses, cannot come to any other conclusion than that in the discrimination made by witnesses unaccustomed to the result of single-room treatment of cases of insanity of this description they were misled. From the evidence fully summarised in the foregoing pages it is clear that the witnesses were inexperienced in the conditions surrounding isolation-rooms in lunatic asylums after they have been occupied during the night by patients of a destructive or violent, or wet and dirty character. The testimony given by authorities from the public asylums is conclusive on this subject.

Charge of being left without food or drink for more than twelve hours.

48. Another charge was "That Major-General Richardson was frequently left without food or drink for more than twelve hours, including the whole of night-time." A statement to this effect was made by Mr. Jeanneret in the Legislative Assembly; but the first direct evidence given before the Commission concerning this allegation was by the witness Erickson, who said (721) that during the two
drink

years he was at the institution he did not know whether it was the custom at night-time to prepare hot milk, cocoa, etc., for refractory patients confined in the isolation rooms. Mackenzie said definitely (874) that there was no provision whatever, supposing the necessity arose, to give the Major-General or any other patient a drink of cocoa or milk, or anything else, if he were restless, hungry, or thirsty, and required nourishment during the night. The kitchen was locked up every night, and there was no other place where an attendant might make a warm drink or anything else for a patient. As far as he knew, it was impossible to get nourishment of this kind in the night-time; of that fact he was certain (905). Mr. Sydney Richardson informed the Commissioners that while his father did not complain about the food he received (4668), he invariably said he never had any breakfast.

49. Contradictory evidence was given by Senior-attendant Doherty (2790), who asserted that Major-General Richardson was specially treated in regard to diet, he always being provided with everything he wanted, no matter the hour; such, for instance, as cocoa, milk, beef-tea, &c. Medical comforts (2800 *et seq.*) were provided for the Major-General, supposing he required them during the night; they were kept in a cupboard in the dining-room, and the means for making any warm drink were at the fire in the kitchen, the door of which he never found locked at night. The cupboards were open and available to male attendants; and if they were not aware of the fact they ought to have been. Witnesses who said there was no such provision must have been mistaken, for there had always been available a supply of tea, cocoa, sugar, and other things which could be procured during the night. The Major-General had asked him for a drink during the night (9265 *et seq.*), and repeatedly he had supplied him with cocoa and tea. He had done so as often as two and three times a night, and more than twenty times altogether. He had never been unable to obtain the necessary materials for this purpose, and always prepared these warm drinks at the fire in the kitchen, which was kept going summer and winter all night long (3092). This evidence was supported by Attendant O'Brien, in answer to questions 3171-77, and he further stated that he had given the patient cocoa or warm milk as often as three times in the night, after suggesting it to him, thinking it might soothe him to sleep. Dr. Ramsay (6031) also told the Commissioners that there were stores of tea, sugar, and milk kept in a safe on the verandah, the key of which was in Doherty's possession. Dr. E. P. Sinclair stated (5086) that Major-General Richardson was always particularly well looked after in this respect, and dined in Dr. Vause's private house. Dr. Williams also asserted that this patient was fed from the private table of the Medical Superintendent (4955).

50. Dr. Vause, on his own behalf, described (9208) that for some time Major-General Richardson was fed artificially with stomach tubes, because he would not take food in the ordinary way. At one period he refused food entirely, and was fed artificially with milk, strong beef tea, eggs, and sugar. Two months later he began to take food in a natural way, and from that time there was an improvement in his general health. When it became necessary to place him in the single room at night, provision was made for supplying the patient with refreshments if he became exhausted. He had (9221) peptonised cocoa, specially made with milk, and kept in one of the sitting-rooms. At the time of his removal, his appetite was fairly good, and appetising food was always specially provided for him. Regarding the supplies of stores at night (9479 *et seq.*) he pointed out that they were issued every day, as a rule, just after breakfast, in sufficient quantity to last till the same hour the following day, including provisions for breakfast the next morning. They were kept where the attendants could have access to them during the night. It would be impossible to induce attendants to perform night duty unless they were supplied with food, and plenty of it; and it was the universal practice for attendants on night duty to prepare and cook food for themselves.

51. With regard to this charge, your Commissioners regret that more detailed The finding. explanations were not obtained by the Government Medical Adviser and his party, when they made their surprise visit to Bayview Asylum. The tenor of the evidence is that a misunderstanding occurred relative to this subject between the Medical Superintendent and the visitors, either owing to the want of opportunity or reticence on the part of Dr. Vause. From the evidence of Dr. Vause and the attendants who waited on Major-General Richardson, it is clear that, whether visits were periodically made and nourishment was given to the patient at stated intervals during the night, or not, ample provision was made for these purposes. 52.

Charge of
having been
left un-
attended for
twelve hours
at a time.

52. The final charge against the management of Bayview House in regard to this case was "That Major-General Richardson was frequently left unattended for twelve hours, including night-time." The exact words used by Mr. Jeanneret when making this charge in Parliament were "A gentleman has for months past, for the last four months to my knowledge, been kept from five in the afternoon till seven in the morning, over twelve hours, without an attendant." Professor Stuart, in his official report, inserted this clause:—"Dr. Vause says the Major-General was put in the outhouse when violent and specially ill, but no attendant remained in the outhouse with him, and that no attendant would see him between 10 p.m. and the morning, I presume 7 a.m., since when we first saw him he was being brought into the lavatory for his morning ablutions in the ordinary course of events." In his cross-examination, Dr. Stuart said he did not know whether the attendant he saw was attached to this patient, but he most certainly thought (100) there should have been an attendant, but there was not one there. Mr. Gearey (139) said there did not seem to be any supervision over the patients while he was in the yard, and it struck him as a kind of "go-as-you-please arrangement." Mr. Sager, in his official report, credits Dr. Vause with saying, in reply to questions:—(1) That the patient was placed in the single dormitory because he was noisy, dirty, and destructive; (2) that when there he had no night attendant; (3) that he was shut in about 7 p.m. and brought out about 7 a.m.; (4) that an attendant generally looked to him about 10 p.m. These statements were substantiated in cross-examination in answer to questions (374-76), in which witness said, from the conversation of Dr. Vause, he was under the impression the patient was visited each night about 10 o'clock. Warder Erickson, although not referring to the Major-General (722), was unaware of night attendants watching over patients, in the isolation ward. When he was an attendant, he generally went to the cell door about 10 o'clock at night, immediately before going to bed, and looked through the observation hole to see that all was right. Mackenzie (857 *et seq.*) said that as far as he saw, the Major-General was put into this room about 5 o'clock every evening. It was not part of his duty to watch him at night, but sometimes before going to bed at 10 o'clock, he, with a warder named Copley, who had gone to South Africa, would look at the patient through the observation hole. Nobody saw the patient after that hour until the next morning, as he was positive that no attendant was on night duty. Dr. Vause (1002) never made a round during the evening up to 10 o'clock. There was no attendant told off for night duty; they had to work as many as sixteen hours a day, and he could safely say (1017) that every male attendant was in bed by half-past 10 at night. Mrs. Richardson told the Commissioners she was certainly under the impression that one attendant at least (7369) slept in the same room with the Major-General all night; if she had been told by anyone whom she could trust that it would be better for the patient to be alone during the night she might not have objected, but she always understood that he had an attendant with him.

53. Attendant Doherty gave evidence directly contrary to these statements, as he said the Major-General constantly had an attendant, but not always the same person (2685). He, with O'Brien, was on duty on alternate nights during the period the Major-General was in the isolation room (2798), and his instructions from the Medical Superintendent were not to disturb the patient if he thought he was asleep, but on no consideration was he to be left without being seen for a longer period than three hours, whether awake or asleep. Whenever he was on night duty (2961) he looked in on the Major-General every two or three hours, and he did so for six or seven months (3079) prior to the patient being removed from Bayview House. He was on duty the night previous to the Major-General being taken away, and he saw him on that night every two or three hours. James O'Brien, the other night attendant, testified that he took night duty on alternative nights with Doherty, and, on these occasions, acting under the instructions of Dr. Vause, he saw the patient every two hours. Those instructions were faithfully carried out, and he never went to sleep himself all night (3244) and left the Major-General alone. If the patient was noisy it was his custom to open the door, but if he was asleep he merely looked through the observation hole, and refrained from disturbing him. Henry M. Watt, a former attendant at Bayview (6191-6243), said it was Dr. Vause's particular order that the Major-General should be seen every two hours during the night-time, and this instruction was obeyed. The attendants at Callan
Park,

Park, Mr. Little (781 *et seq.*) and Mr. Kernaghan, pointed out that the patient is under constant night supervision at this institution, but it was desirable that as little disturbance should be made as possible. An attendant sat in front of his door, which stood ajar, so that he could be seen without noise or interference. Patrick Martin, who was at Bayview House, as a generally useful man, for nine-and-a-half years under Dr. Vause, said there was always a night attendant on duty (7222) when a patient was confined in isolation, frequent visits being made to him throughout the night.

54. The medical authorities questioned on this matter of night attendance concurred that the proper and universal course had been followed by the Medical Superintendent at Bayview in the treatment of Major-General Richardson. Dr. Blaxland, who, in this inquiry, must be regarded as a witness of first importance and unquestionable impartiality, he now having charge of the patient, and a full knowledge of the nature of his ailment and the history of the case, stated that when he first received the patient (4775-8) he made the experiment of putting an attendant with him in the single room for the purpose of watching him and looking after his requirements, but found that such a course of procedure would not do at all. It was better to leave him alone with an attendant on watch, and this treatment resulted in the patient getting more mental repose and sleep. There was nothing cruel nor heartless in leaving the patient as much alone as possible while in that stage of his malady, of course, providing he was visited at intervals, and to secure this visitation there was a special man stationed constantly outside the room door (4186) with instructions to see him every hour. Dr. Eric Sinclair, Medical Superintendent at Gladesville (5272), confessed that after having seen most of the large asylums in the world, and inquired into systems of night attendance, he knew of no other effectual way of dealing with that class of patient. Keeping an attendant in the room was not a plan he would recommend, as he thought it better for the patient, if he had to be put in a single room, to place him there with a straw mattress rather than with an attendant. The presence of an attendant would not cure or check dirty habits (5274-5), and if he had such an increase of staff as would enable him to place an attendant with each dirty patient of this class, he would still object to make any departure from the present system, for experience proved that a change in that direction would be harmful to the patients, by keeping them in a constant state of irritation, and in consequence increase the excitement. Dr. Hetherington (5885-5900) expressed similar opinions relative to a night patrol being harmful, if it disturbed patients in their sleep. He did not think a night attendant was necessary at Bayview House when either or both of the isolation rooms on the male side were occupied, inasmuch as attendants slept so close to these rooms that they would hear if their services were required. On some occasions the attendants were actually roused in this manner. For any patient he had in the rooms he did not provide a night attendant, but there was one case where an attendant slept in the room with the patient. Dr. Ramsay (5988 *et seq.*) said he was aware of the fact that some attendant—he making Doherty responsible for it being properly done—waited on the Major-General during the night time. That rule was faithfully observed during the two months he was at Bayview House as Acting Medical Superintendent, because every morning he received from the head attendant a report of how the patient had slept the previous night. He felt quite sure an attendant periodically at stated intervals looked into the Major-General's room, and evidence given to the contrary was a mistake, unless he had been misled by the head attendant. Dr. Knaggs (5916), Dr. Creed (6106), and Dr. A. Jarvie Hood (7756) all approved of general paralytics being kept in isolation while in the acute stage, but under surveillance at stated intervals during the night.

55. Sir Alfred Roberts, as chairman of the Visiting Board, stated his belief that the night watch was properly kept (7764), notwithstanding the fact that by force of circumstances, in the isolation room being detached from the main buildings, there was some inducement for a night watchman, on a cold, dark, and dismal night, to remain by the fire in the dining-room in preference to crossing the yard to see a patient. Instructions for an attendant to see or listen at the door of this patient, and if quiet, not to disturb him, were quite proper, but he thought (7771) a patient in that particular stage should be seen at least every hour. Dr. Huxtable, speaking of general paralytic patients, informed the Commissioners (8123) that observation every two hours throughout

throughout the night was the custom in many cases. In England, visitations varied under different circumstances, bi-hourly visits being necessary at times. Instructions to visit a patient in the state Major-General Richardson was every two hours would not be an arrangement with which he could find fault, with the reservation, of course, that Dr. Vause, as Medical Superintendent, knew what was necessary, and gave directions accordingly. Dr. Cox thought it was much better (8333) for an attendant to be on the outside rather than inside with a patient of this class, and if Dr. Vause ordered that the Major-General should be inspected every two hours that would have been quite sufficient. It would have been nothing short of folly to disturb him uselessly, but at the same time there should have been an attendant sufficiently near to hear any disturbance. Specially he inquired into the point as to whether an attendant would be near enough if located in the dining-room, 14 yards distant, and in so doing asked the patient to speak when inside the room, while he, as listener, was in the other building. With the door of the sitting-room open, he heard the Major-General speak (8364), and providing there was no straw on the floor, he could hear the patient pacing the room in his bare feet. If an attendant occasionally listened at the door, this patient would be under sufficient night observation providing he was asleep, as if he discovered him to be asleep, it would be madness to flash a bull's-eye lantern in his face. It was not absolutely necessary that this patient should be seen at stated intervals unless the attendant were so instructed by the Medical Superintendent.

56. The Inspector-General of Insane officially reported to the Government on May 30th, 1894, that "with regard to the mode of treatment employed, the placing of a patient by himself in a room at night was one frequently and rightly adopted in institutions for the insane. The presence of an attendant was liable, in some cases, to altogether prevent sleep, and personal interference, in any form, was often so much resented that isolation became absolutely necessary. Interference at the hands of attendants was, perhaps, especially to be avoided in this case as, notwithstanding the mental failure, the long ingrained habits of command to a considerable extent remained. There appeared to be no doubt but that an attendant was always on duty at night in a sitting-room near where Major-General Richardson was sleeping, whose main, if not sole, duty was to look after the patient." In cross-examination as a witness, the Inspector-General stated (8621) that the attendants engaged in watching the Major-General seemed to be fit men for the position, but perhaps the night watching might have been better by the visits being more frequent. The only difference between the night attendance at Bayview House and that in vogue at Callan Park was (8919) that the patient was, at the last-named institution, under constant supervision throughout the night instead of being seen at stated intervals.

57. Dr. Vause declared (8930) that if, on the grounds of supposed economy, he had failed to provide sufficient attendance on this patient he would have retarded his recovery, which was the first and only object of his treatment. When the Major-General was put in the single room at night an attendant was told off to visit him every two hours. The two men of his establishment in whom he had the greatest confidence (9219) took it in turns to watch this patient on alternate nights, with special instructions not to disturb him unless absolute necessity arose for them to enter his room. Every provision was made for the due performance of this duty by the night-attendants (9233). In the visitation of any patient confined in the single rooms it was his custom to insure inspection every two hours, but at the same time the room must not be entered unless a special purpose—such, for instance, as the administration of food, the rearrangement of bedding, or the soothing of excited patients—demanded this attention; and in Major-General Richardson's case he was particularly anxious to insure unbroken rest, because at this juncture he relied on sleep as the one restorative. Hence the remark to Professor Stuart, that no attendant would see him between 10 o'clock at night and 5 o'clock in the morning. When speaking to Professor Stuart on the morning of the 20th May, he omitted to explain that, although the room was not entered, an attendant saw the patient at least every two hours, and acted as seemed necessary according to the patient's condition. When Professor Stuart reported Dr. Vause as having said, "The General was put in the outhouse when violent and especially ill," he misunderstood the words used, which were, "The General occupied a single room when too excited to be manageable in his ordinary bedroom"; and he did

did not use the term "outhouse" as applied to the room in question. His sole explanation for this misunderstanding was (9532) that the visit in question was a hurried one, and he thought his conversation with the visitors amounted to informing them of his instructions to the attendants, prohibiting unnecessary disturbance of the patient during the night, but, at the same time, insisting that he was to be seen at intervals. He did not think he told Professor Stuart that Major-General Richardson was left unseen from 10 o'clock at night until he was removed the next morning. The system of night watching in this case was the outcome of a mutual arrangement between two of the most trusted officials in his establishment (9554 *et seq.*), and as Medical Superintendent he considered it best to allow these men to work the night watching in their own way. The case with which they had to deal was so exceptional as to cause more trouble at one time than at others, and so long as the night watchers suited themselves, and the work of nocturnal supervision was satisfactorily done, it was not wise for him to interfere. If there had been more than one patient requiring night attention, such a system would not have answered, but in the circumstances the arrangement suited the men, and he was satisfied with the night supervision and attendance, especially as Doherty and O'Brien were experienced in night duty (9997).

58. The Commissioners, in relation to this charge, find as follows:—

1. This complaint is to a large extent involved in the charge already referred to. From the description given by Dr. Stuart and those who accompanied him to Bayview House on May 20th, it would appear that there was some laxity in the matter of attendance, as according to the statements made, attendant O'Brien, who was said to be in charge of the Major-General during the night of May 19th, was not seen by the visitors, as he undoubtedly should have been if he was on duty at the time. Even if O'Brien had retired after the performance of night duty, Senior-attendant Doherty should have been present on ordinary day duty. The continuity of attendance was not demonstrated to the satisfaction of the Commissioners, and consequently it is their impression that, although definite instructions had been given for regular attendance on the Major-General, the attendant in charge could not have been close at hand on this occasion.
2. The Commissioners consider that this defect was owing in a large degree to the fact that attendants while on the night duty had no conveniently accessible room within easy reach of the patient, and that, on the contrary, these attendants when not actually engaged in visiting the patient passed their time in a separate building some distance from the isolation rooms, having no window or aperture of any kind for overlooking the rooms in which patients are kept during the hours of night watch.
3. The Commissioners, however, do not believe the allegation, that the Major-General was left for twelve hours without an attendant, including the night-time, has any foundation in fact.

Case of J.J.G.

59. The discrepancy of the evidence furnished to the Commissioners by the various witnesses was exemplified in a remarkable degree in the case of J.J.G. an old gentleman, 87 years of age, suffering from senile dementia (9817). The attendant on this gentleman was Mackenzie, one of the principal witnesses in connection with the various charges against the management of Bayview Asylum. This witness stated that there were rats in the room in which Mr. G. slept. Mr. G. having accidentally fallen out of bed had injured his head. Mackenzie stated that, as a matter of personal observation (936), he had seen rats attack the wound in Mr. G's head, and that he complained of the matter (not to Dr. Vause), but to the head attendant (938), but no attention was paid to his complaint at the time (939). In describing the particular circumstances witness stated in answer to Questions (940, 941, 942, and 943), that immediately after the accident, the patient jumped up and exclaimed "Oh, my head!" about every five minutes. In the morning he found the pillow covered with blood. Saw a larger wound on the patient's head, but failed to realise by what it had been caused. Next night patient made more noise, and Mackenzie says he struck a light, and saw a rat

Serious
allegation.

rat

rat jump out from the back of Mr. G's head, which was then bleeding. On the morning following he told the head attendant of the circumstances, and was instructed to close all the doors. He did so, but next night the rats came again, gnawed open the bandage on the patient's head and again attacked the wound until it became nearly the size of the palm of his hand, or 4 or 5 inches in circumference. The next day the carpenter put pieces of tin over the holes through which the rats came. Another witness, Farquharson, who is at present employed at Bayview Asylum, stated that he had heard of the accident (608) and that he had heard that rats had eaten some portion of Mr. G's flesh (610); he added further that he had heard some of the warders say (611) that the rats had gnawed the flesh to the bone on the back of Mr. G's head. He was aware that there were rats near where Mr. G. slept. Reuben Alfred Peet, employed as a painter at Bayview Asylum, had heard of the accident to Mr. G. (693), but had not heard of the attack of the rats on the wound in Mr. G's head (681), and he thought they were not more in number than is usual in old places like Bayview Asylum (682).

60. On the other hand, J. Doherty, at present the head attendant at Bayview Asylum, stated that Mr. G. was placed in the charge of Mackenzie (already cited) (2818), and that he had reported to him that the wound had been attacked by rats, but on examination he found (2821) no difference in the size of the wound which might not have occurred through the patient rubbing the dressing off. He stated (2822) that the wound was about half an inch long, and after Mackenzie had told him about the rats the wound was neither larger than it was at first nor ragged about the edges. It was a clean cut. He never knew of, nor heard anything about, a rat jumping from under the pillow or having got at the wound, and saw no grounds for believing such to be the case.

61. The evidence of O'Brien, at present employed as a warder at Bayview Asylum, was to the effect that, although he had heard of the accident to Mr. G. (3205), he had never heard of the attack of the rats on the wound (3207), and that Mackenzie had only remarked to him that there were a few rats in the old building (3209).

62. Dr. Vause stated that he saw the case after the accident, which occurred on 2nd February, and dressed the wound (9819). It was reported to him that some one had (9820) said that the wound looked as though it had been attacked by rats. He laughed at the idea, for the wound was small, having a granulated surface. The case was duly entered in the Journal, and the entries were read by the Commissioners (9222). The wound was nearly healed when the patient was discharged (9823) on 11th February (9841). The statement with regard to the rats attacking the wound was absolutely untrue (9846), and he had never heard of any other circumstances connected with Bayview Asylum wherein rats had been injurious to patients.

The finding

63. The Commissioners have no hesitation in stating that the evidence given by the attendant Mackenzie is a gross perversion of the circumstances of the case, based on an erroneous presumption. While, doubtless, there were rats in the vicinity of this room, and in the bed-room itself, there can be no doubt that the description of the circumstances is greatly exaggerated. A wound such as that described by Mackenzie would have been a most serious matter, and could not have healed in the manner described in the short interval between the occasion of the accident and the discharge of the patient; in fact it would have given rise to symptoms that must have occasioned anxiety, if not alarm, to the friends when the patient returned to his home, where as the Commissioners find, on the contrary, that no mention of the circumstances is made in the letter dated 26th February, 1894, when Dr. Vause is tendered the most grateful thanks of the relatives of Mr. G. for his kind care and attention.

Case of Mrs. A.

64. The complaints against the treatment of Mrs. A. were made by her cousin, Mrs. H.E.C., who stated that she thought she was not insane (3727), although she was very dull at times, and suffered from excessive weakness. To a large extent the witness thought that her cousin was not violent (3738, 3754). This patient was under the care of Dr. Hetherington (in the absence of Dr. Vause), and Mrs. C. complained of the rudeness of that gentleman, and his denial of the fact

fact that Mrs. A. was in a dying condition, and the difficulty of obtaining access to the patient (3756), both in regard to herself and Mrs. A.'s mother, who had travelled a long way for the purpose. The witness further stated that, although a private room for the patient was paid for (3758), she was placed and died in one of the associated dormitories (3759). There was no information as to her death (3774). Subsequently she saw the body of her cousin in the mortuary, which she described as a stable (3763), with fodder under foot, and a couple of bags of fodder in the room (3766). It was also charged that, although boxes of linen were taken into the institution, and Mrs. A. was only a fortnight there before she was dead, there was no linen left. It would appear that Mrs. C. afterwards saw Dr. Vause, and made her complaint to him, and in disagreement asked him to sue her for any money owing for maintenance (3788).

65. Dr. Hetherington, who was in charge of Bayview Asylum during the absence of Dr. Vause from April, 1891, to April, 1892, stated in his evidence that he had only a hazy recollection of Mrs. C.'s visits to the institution (5968). He was satisfied, however, that the mortuary was suitable for its purpose (5846), and that it was kept as it should be (5847). The particulars stated in Mrs. C.'s evidence were not remembered by him (5866), and he gave a positive denial to her other statements (5865).

66. From the records of the Bayview Asylum, it would appear that Mrs. A. was admitted there on 16th May, 1892. The certificates were duly signed, and showed that she was suffering from melancholia, and she died on 23th May. Dr. Vause was absent in England when this case occurred, but on his return to this country was visited by Mrs. C. Dr. Vause's evidence is, in effect, a complete denial of the principal circumstances stated by Mrs. C., and his only recollection of the matter was as to her complaint of (9631) Dr. Hetherington's want of consideration for her at her various visits to her cousin. Dr. Vause further stated that the records of Bayview Asylum contained no mention of the provision (9535) of a private room; that Mrs. C. had inaccurately stated the amount of the maintenance money, and that no money was owing for which legal proceedings would be necessary. As regards the clothing supplied and missing, he had confidence in the matron then on duty (9640), that a careful record was kept of all such matters, and that he had heard no complaints from the matron on the subject (9639). He further stated that he believed the body was laid out in the proper way in the dead-house of the Asylum (9641).

67. In this case it would be impossible for the Commissioners to offer any The Finding. opinion on many of the complaints made by Mrs. C, which, it will be seen, are denied by Dr. Hetherington (5968). The Commissioners have, however, personally inspected the mortuary of the institution, and are satisfied that it is sufficient for its purpose, and contains similar provisions to those generally found in such buildings.

Case of Miss H.

68. The case of Miss H. was brought under the attention of the Commissioners in consequence of application made by her brother, Mr. S.H., for her discharge from Bayview Asylum, in order that she might be placed under his own care and control. Mr. S.H. denied that his sister was insane, and affirmed that she was retained in Bayview Asylum in consequence of his brother, Mr. R.H., being pecuniarily interested in the matter, and that Dr. Vause was a willing agent for the purpose. According to his view, the motive of his brother in retaining his sister in Bayview Asylum was that he and his children might ultimately obtain any accumulated moneys belonging to his sister. This witness also stated that he was dissatisfied with the treatment received by his sister as regards the food and other circumstances. On all these points he had received information from Mr. Gearey, who he stated seemed to know everything that occurred in Bayview Asylum; that, in fact, if he went to Gearey in the morning and asked what had occurred in regard to his sister during the day, he could obtain from him the information he required as early as 4 o'clock in the afternoon (3980 *et seq.*). The witness further stated that in the year 1891 he entered a suit in the Equity Court to obtain the release of his sister, but failed to obtain this result.

69. The statements of this witness were contradicted in every point of importance by the evidence of his elder brother, Mr. R.H., by the production of the medical certificates of duly qualified medical gentlemen, and by the evidence of the Inspector-General of the Insane and Dr. Vause.

70. Mr. R.H. spoke in most laudatory terms of the treatment of his sister, and read extracts from his reports, as a senior trustee, to the Master-in-Lunacy, approving of the liberty accorded to his sister in making and receiving visits, and expressing his contentment with the provisions supplied, the attention to personal requirements, and the comfort given in residential accommodation. He also stated that, while her physical health was excellent, her mental condition was such that there were strong grounds for believing that if she were beyond legal control, the eccentricities of conduct and manner, that occurred in the past, would be found to be in no degree diminished. The retention of the patient in Bayview Asylum, he said, was approved by her only sister and that sister's husband, a medical gentleman, and also by her other brother, Dr. H. This witness also stated that a portion of his sister's property, under the will of his mother, would fall to him and the other sister jointly, and that the larger portion of his sister's property, in case of her death, went to his children. Mr. R.H. contradicted the statements of his brother, Mr. S.H., as to his possession of independent means and his suitability in other respects to become the guardian of his sister.

71. In this case the various medical certificates showed that Miss H. was first admitted into Gladesville Asylum in April, 1875. Subsequently (31st May, 1881) she was admitted to Bayview Asylum on the certificate of Drs. Fortescue and Hodgson and at the request of her father. She had leave of absence on 12th December, 1882, and, after residing with her friends for a time, she was returned to Bayview Asylum on 7th August, 1884 (9671). She was discharged on 20th August, 1891, and re-admitted on same day at the request of the then (9673) trustee on certificates signed by Drs. Ashwell and Long, her father having died. This unusual course of action was explained by a letter produced by Dr. Vause (9675). Since then she has continued an inmate of Bayview Asylum, and according to Dr. Vause, her condition is (9676 and 7) much the same as before, complaining of insults being heaped upon her, but fails to specify any particular insult, and displays various symptoms of insanity. She visits her brother R. from time to time, and goes out driving and walking; occasionally attends the theatres, concerts, and public gardens accompanied by a nurse.

The Finding.

72. The Commission have carefully considered the case of Miss H., and, in view of all the circumstances connected with its history, are not prepared to recommend any departure from the decision of His Honor Judge Owen. In the opinion of the Commissioners, Miss H. requires the modified restraint now adopted, and the complaints made with regard to her treatment have not been justified by any of the evidence submitted.

Mr. W.'s Case.

73. The charges of maltreatment in this case were made by the witness Mackenzie, who stated (1154) that Mr. W. was so paralysed as to be unable to do anything for himself or to eat food when it was placed before him, and yet, helpless as he was (1155), he only got a bath and a change of clothes once a week on each Saturday afternoon; that his clothes (1160) were necessarily in a filthy condition and rotted away (1164). Further, that, although as his attendant (1199) he kept him as clean as was possible, in consequence of the insufficiency of attendants (1203) he was neglected. These serious charges, however, the Commissioners found to be completely answered by the evidence of other witnesses. H. M. Watt, who had been an attendant at Bayview Asylum on two occasions, stated, that although W. was a passively dirty and leaky patient (6259), he received a warm bath, &c. (6260). That it was untrue that he was bathed only once a week on Saturday afternoon; in fact, he was bathed when required. He had a bath once every day, and sometimes twice, according to circumstances (6261). He also stated that he had plenty of clean clothes (6262), and that if he had not been cleaned and changed frequently his legs would have become sore (6264). The filthy condition of the trousers, &c., described by Mackenzie (6265) was positively denied by this witness. This witness also stated the frequent visits to the patient by his friends and by Dr. Creed (6266), and that Dr. Creed had seen him frequently in his ordinary condition on the lawn (6268). Dr. Creed stated that when he sent W. to Bayview Asylum (6078) he was in a most delicate state of health, and that he was surprised that he had lived so long (6079) as eight years, a matter of pecuniary importance to his friends (6080).

(6080). It was only in consequence of the great care given to this patient that he had survived (6081). Further, if he had been neglected, the witness believed his life would have been materially shortened (6110). He had seen W. on several occasions, and had found him properly dressed and comfortable (6113); and when he visited Bayview Asylum he went frequently direct to the patient without a minute's interval (6114). The Inspector-General of the Insane gave a complete history of the case (8697), and stated that as he was deeply interested in the patient he never visited Bayview Asylum without specially seeing, speaking to, and examining this patient. The best proof of the care with which he had been treated was that he had lived so long beyond expectation. The Inspector-General of the Insane, who had heard the evidence of Mackenzie, stated that it was impossible to make special preparations by cleaning, &c, for visitors, owing to the patients' paralysed and helpless condition, and that the serious neglect charged by Mackenzie was refuted by the fact that if he had not received the utmost attention he could not have lived.

74. In this case the Commissioners have no difficulty in arriving at a conclusion. The Finding. They believe that the neglect charged, if it did occur on any particular occasion, was the result of Mackenzie's own want of attention to his duties. The weight of evidence and the results of treatment show conclusively that such neglect, if it did occur, was of immaterial character, and that the treatment of the case in the Bayview Asylum was attended by satisfactory results.

Mr. S.L.'s Case.

75. The witness Dickson gave evidence and made certain charges of neglect with regard to the case of Mr. S.L. He stated that this patient was strapped in a chair, with a strap round his waist and muffs on his hands, fastened to the straps (445, 446, 447). The sight shocked him, and on making inquiries he learned that the patient had been sitting in that position since between 8 and 9 o'clock in the morning. Without consulting anyone he gave Mr. L. a bath, and when he conversed with the attendant about the case, that official said it would be waste of time to bath a man like this patient. When he saw Mr. L. his legs were cramped, his clothes were saturated with urine, and when he tried to walk he could not do so without help, owing to his legs being cramped. This witness said he was not at Bayview House a month before the patient could walk across the lawn when held by the sleeve.

76. Dr. Vause's evidence with regard to this case was to the effect that Mr. L. was so severely paralysed (9801) that if he had not been supported by some mechanical arrangement in the chair provided for this purpose, he would have had to remain in bed constantly. It was the duty of the attendants to keep the patient clean (9802), and he contradicted all the statements made by Dickson as to neglect of the patient (9815). He stated that the chair employed was made with long arms (9810) specially for Mr. L.'s use, so that he could lie full length in it, and that it was designed in view of the fact that when lunatic patients of this class once get back in a chair of this kind it is difficult for them to tumble out, especially with a sheet or strap under the arms. The patient, he asserted, was daily under his observation (9811), and therefore he was able from his personal knowledge to contradict the exaggerated statements of Dickson.

77. In the absence of any further evidence on this subject, the Commissioners The Finding. prefer to give credence to the statements of Dr. Vause, more especially from the somewhat boastful character of the evidence given by Dickson in other respects.

The Case of Mrs. W.

78. In the case of Mrs. W., it would appear from the evidence that she was admitted to Bayview Asylum in December, 1884, and her previous history showed that she had been exposed to great heat in India, twenty-six years ago, which resulted in mental aberration. Shortly after this date, on the action of her late husband, who was an army chaplain in India, she was admitted to the Crichton Asylum in Scotland. About eight years ago, she was removed to a private asylum at Cremorne, in Victoria. With temper brooding and uncertain, she has an exacting and fidgety disposition. About two years ago, her sister, Miss E. W., according to her own

own

own statement (3797 *et seq.*), as the result of certain reports in connection with the treatment of her sister, and, on the advice of her legal adviser in England, came to this country. From the evidence, it would appear that Miss W. is under the impression that Mrs. W.'s late husband, as well as her sons, have persecuted Mrs. W., and have placed her in a lunatic asylum without real ground for such procedure. In fact, Miss W. charges the sons of Mrs. W. with complicity with Dr. Vause in keeping her sister in Bayview Asylum, knowing that she might with safety be discharged. Miss W. expressed herself, in her evidence, as being extremely anxious to obtain the discharge of her sister, in order that she might have her under her own care and control, although she stated that if her sister were so released from Bayview Asylum and placed in her care, she would have only her own (3879 *et seq.*) income of £60 per annum, and would require the pension belonging to her sister, £187 per annum, to maintain herself and her sister under the circumstances.

78. Without entering more fully into the nature of the further evidence in this case, it may be stated that Mrs. W. was first placed under control in the Crichton Asylum, in England, at the instance of her husband, Rev. W. W., and afterwards released. Subsequently, she was placed in Cremorne Asylum, Melbourne, Victoria, and for the last eight years she has been an inmate of Bayview Asylum. The evidence clearly shows that unfortunately this lady requires to be thus cared for. Further, the Commissioners believe that the sons of this lady consider that in their judgment the best treatment for their mother is that at present adopted, and in case of her recovery they are prepared themselves to take charge of their mother. There can be no doubt that they have no pecuniary interest in her retention in the asylum. It may be further stated that an appeal was made by Miss E. W. to the Supreme Court (8677) under sections 81 and 90 of the Lunacy Act, in the hope of having her sister discharged from Bayview Asylum to her own custody. This appeal was opposed by Mrs. W.'s sons, and the Court decided that Mrs. W. was not sane, and that it was not for her benefit that she should be removed from the Colony.

The Finding.

79. In the case of this lady, the Commissioners concur in the result thus arrived at. Independently of the question of finance involved in the matter, they believe that for many reasons the desire of the lady's sons should not be overlooked.

Mr. H's Case.

80. In this case a complaint was made by a witness named W. S. Dickson, who, according to his own statement, had been employed as a warder for six or eight weeks at Bayview Asylum in April, 1883 (410), that Mr. H., a patient whom he was in charge of (421) was quiet in his demeanour, and that there was no necessity to treat him as a refractory patient, and yet he was placed in a dark cell every night in the week, although in all other respects he was fairly treated (430). This witness stated that he was not an excitable patient, and was sensible and intelligent (437), and not subject to outbreaks of violence.

81. The statement of this case was completely contradicted by the evidence of the Inspector-General of the Insane (8686-91), who said this patient when sane was an extremely able man in a large business as a storekeeper, and "the first sign of his insanity was that he neglected his business and desired to become a member of Parliament." Before the general election of 1882 was completed, he was in the Receiving House at Darlinghurst, from whence he made a most extraordinary escape. He was sent to Bayview House on the 12th January, 1883. He was admitted to Gladesville Hospital for the Insane on the 22nd of the same month, where he removed the lock from his door by the aid of a sharpened tablespoon, and was only by accident prevented from strangling a night attendant with a rope made from sheets. At the wish of his friends he was transferred to Bayview House on May 14th, 1883, from which institution he was discharged on September 6th, in the same year. Some years subsequently he was readmitted to Gladesville, from whence he was removed shortly before his death. It was absolutely necessary for his own safety, and that of others, to place him in a single room, and he was not safe at Bayview during the night, except in a single room. Dr. Vause's (9794-9799) description of the case and treatment of this patient while at Bayview House, bore out and supported the statement made by the Inspector-General. He certainly did not consider Dickson competent to express an opinion regarding the

the character of this case. H. was a remarkably plausible individual, and without an intimate knowledge of his actions and the history of the case he could understand anyone being carried away by his conversation. H. was not treated as a refractory patient, as he had ordinary bedding and bed-clothing in a single room. When he escaped from Bayview Asylum it was not from a single room, but from a dormitory. From the history of the case given by the Inspector-General, and from his own observation, he considered it absolutely necessary to adopt the measures he did in this case.

82. The Commission can arrive at no other conclusion than that the witness Dickson was an incompetent judge of the nature of this case, and that his opinions on the subject are unreliable in view of the history of the case as already described; and further, that no other course was open to Dr. Vause, having regard to the history of the patient and the reports received with him from Gladesville, but to place him in a single room at night for the safety of himself and others.

The Finding.

The Case of Miss C.

83. The history of this case was to the effect that the patient was affected with acute melancholia, for the treatment of which she was admitted to Bayview Asylum on 8th March, 1894. Shortly after her admission, it was found necessary to administer the sedative medicines usually employed in such cases, and, as the restlessness of the patient increased, to place her in a single room. The statement of the complaints made with regard to the treatment of this patient forms a curious commentary on the character of the evidence given by some of the attendants on subjects requiring expert knowledge.

84. Margaret Macleod stated that the patient was put into a single room (1564-1739), but that she also got a good deal of shifting about, and was given draughts made of stuff that caused her to become very stupid. This attendant administered the drug at tea-time in her tea, according to instructions (1565) from the matron (1566), although she did not consider her an excitable patient, and was not violent in any way (1740). She refused the draughts, and this attendant forced them down her throat (1749). Her father came to see her nearly every day; but the interview took place in a different room from that in which she slept, and her clothes were changed, so that her father went away with an untrue impression as to her treatment (1750-1754).

85. Josephine Mackay corroborated, to some extent, the evidence of Macleod, but stated that she was so noisy at night that it was necessary to put her in a single room, and to administer bromide of potassium. She added that deception was practised on the patient's father when he visited his daughter, a room being shown to him in which Miss C. never slept, and she remonstrated with the matron with regard to this deception (2310-2320).

86. This evidence was contradicted by Nurse McBride, who stated that Miss C. was put into a single room only when she became very troublesome (4419), and that then she was provided with a nightdress (4420). Nurse Kate Brennan confirmed this statement, and added that a draught was given occasionally only. She had never seen draughts given to this patient in tea, but this had been done in the case of other patients under instructions (5520-5531). Ada Simpson further confirmed this evidence, and stated that several mattresses were put into the single room, because she would not stop in bed, and this precaution was taken until she became quiet (7532-7535).

87. Nurse Catherine E. Perrin stated that she put Miss C. in the single room, and she saw that she was provided with suitable nightdresses, which, in one stage of her illness, she tore up, and was so destructive that they were useless, and only blankets and rugs were found to be serviceable (7346-7352).

88. Mrs. Gilchrist, the lady superintendent referred to by Macleod in her evidence, stated that draughts were given to Miss C. as ordered by the doctor, and they were given in her tea if necessary. Witness had never known patient to be stupid from them, but she suffered very much from sleeplessness (6647-8). This witness further contradicted Macleod's statements about the changes made in the patient's night accommodation, and averred that during the early part of her illness she was only fit to be kept in a single room, and, as the single rooms were all on the Government side, that was the only reason she was placed there (6649-6652). Mrs. Gilchrist further

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stated that when the patient's father visited her he asked to see her room, and she showed him the room in which she was sleeping at that time; but the patient slept in various rooms. She was tried in the hospital, and then she was taken to a single room. She was next tried in the associated dormitories, and then she had to be put in a single room again, in accordance with the development of her disorder (6814-6818).

89. Mr. C., the father of the patient, described the history of the case and the circumstances under which she became an inmate of Bayview Asylum (6503-6510). He visited his daughter frequently, and was satisfied that she was made comfortable. His family and himself had been much distressed by the newspaper reports about Major-General Richardson, and he came from the country to remove her; but, after making some inquiries, he was so well satisfied that she was well treated that he left her in the asylum. He said that, after making personal investigation and inspection, he did not place much credence in the reports, which, however, had occasioned both himself and his family great mental distress (6519-6521). His daughter seemed very excitable when he visited her (6522). His daughter was now perfectly cured. His daughter made complaints about being put in the Government end of the asylum and other matters, but he was satisfied with the treatment she received at Bayview Asylum. In fact, it would be very hard for him to come to any other conclusion, because his daughter might be wrong in her statements to him. He knew that when she was there she was not capable of looking after herself, and he knows now that she is as well as ever she was (6555-7). In reply to a question by Dr. Vause (6567), witness stated that his daughter certainly recovered, and Dr. Vause's was the only treatment she had undergone.

The Finding.

90. The Commissioners believe that there can be no doubt with regard to the ignorance displayed in the charges made in this case. The excellent recovery of the patient under the treatment adopted, and the satisfaction of the friends with the means employed, are sufficient evidence of the groundlessness of the charges made in this case.

Seclusion and Restraint.

91. It was very evident from the nature of the evidence given not only in regard to Major-General Richardson's case, but relative to other patients placed in the isolation rooms on the Government side of the Bayview Asylum, that there is some ground for difference of opinion as to the meaning of certain words in the Lunacy Act. The words referred to will be found in clause 71, which provides that inquiries must be made by the Inspector-General and the official visitors to asylums—"as to whether any patient is under restraint or in seclusion, and why." This provision must have been specially considered by the Legislature when the Act was passed, inasmuch as in Schedule 9, which exhibits the form of the medical journal, special columns are printed—one for males, and the other for females—under the heading "Patients who are, or since the last entry have been, under restraint or in seclusion, when and for what period and reasons, and, in cases of restraint, by what means." There is no interpretation of the meaning of the term seclusion, either in the Act passed by the Parliament of this country, or in the English Act, from which, no doubt, the Act of New South Wales was framed. In the examination of the official visitors appointed by Government, the Commissioners found a considerable divergence of opinion as to the real significance and meaning of the term. The interpretation laid down by Sir Alfred Roberts, who has been Chairman of the Visiting Board for thirty years (7653), was that which would be probably adopted by any ordinary person having no specific or technical knowledge of lunacy, and was to the effect that it was intended that a record should be kept of all patients, male or female, requiring seclusion in consequence of an outbreak of violence or for some such satisfactory reason, whether the outbreak occurred during the day or night (7701, 7703, 7829). He thought it would appear as necessary to record such a departure from ordinary treatment on its occurrence during night-time as during the day, and for some reasons it might be even more important, as a matter of record of the history of the case, to note in the official journal for the information of the official visitors such an occurrence taking place at night. A very proper distinction was drawn by Sir Alfred Roberts between the necessity for a record of the continuous placing of an old

old chronic dement in seclusion as a matter of ordinary treatment and the deprivation of personal liberty on the occurrence of an outbreak in a case of acute mania during the night-time (7829, 7830, 7837, 7867).

92. The evidence of Mr. N. Robertson, one of the official visitors, and a member of the legal profession, was to the effect that he recognised no distinction as to the necessity for a record in the official journal of cases requiring seclusion between those occurring in the day or night time (7963 to 7967, 7980, 7981, 7986, 7992, 7994, 7997, 7999, 8015).

93. The evidence given by Dr. Huxtable, who stated that he had had certain British experience (8160), was to the effect that he accepted the definition adopted by the Scotch and English Commission in Lunacy (8067), whereby seclusion was regarded as isolation by day under certain circumstances. Although it would be possible to keep a record of cases requiring seclusion at night (8071), he thought it was unnecessary, because a universal practice had been adopted (8073). He further thought that no record of cases occurring at night was necessary (8077). When the attention of the witness was directed to the fact that one of the original objects of the provision for the record of seclusion was in order to prevent its too frequent use in asylums (8079) where it had become the common practice from motives of economy and insufficient number of attendants (8074), he thought that if the outbreak were accompanied by any unusual circumstances it might be reported. This witness further stated that even if a patient were placed night after night in seclusion because he had frequent outbreaks of violence, he did not think that this fact should be recorded in the official journal (8081), because it would not be in accordance with practice (8082), and would interfere with an understanding and an arrangement universally adopted. When asked how, under such circumstances, the official visitors could become acquainted with the occurrence of such cases, he thought he would look for them in the case-book (8086).

94. On the other hand, Dr. Cox, the present (8213) Chairman of the Board of Official Visitors, stated that, although well aware of the practice adopted in consequence of the limited interpretation of the term seclusion as referring to the day-time only, he had prepared a series of definitions of the various terms employed in connection with this subject (8279), and that the official visitors had a form drawn up so that records of all the persons locked up in these rooms should be made, which, however, had not been adopted. He was of opinion (8264) that if a serious outbreak occurred during the night-time, requiring seclusion, it should be reported in the Journal in the same manner as any case of seclusion occurring during the day. Personally, he desired that a record should be kept, but, according to the usages of the lunatic asylums and the requirements of the Lunacy Acts, it did not appear to be legally necessary to keep such a record.

95. Dr. Sinclair, Medical Superintendent of Gladesville Asylum, stated that he was well acquainted with the (8540) definition of the term "seclusion," as adopted by the English and Scotch Lunacy Commissioners, and approved of the practice. The chief reason for noting cases of seclusion in the Journal was for the purpose of enabling the authorities to compare one institution with another as to the results of treatment (8553), and to see that to no objectionable degree this mode of treatment is carried out to an extent that might be prejudicial to the patient (8555). If the number of persons in single rooms at night were recorded it would be of no value, inasmuch as no one then would be able to distinguish the real amount of seclusion (8563). In cases where a patient is taken out of the dormitory at night and placed in a single room, the occurrence is always noted by the night attendant (8549), and such reports are filed and accessible to the official visitors (8571). Further entries are often made in the case-books, showing that certain patients under certain conditions have occupied single rooms (8582), in order to show the different stages of the disease (8583). He further added that, if seclusion were resorted to by night, the matter would be recorded in some way (8585). With regard to the night attendants' reports already referred to, Dr. Sinclair stated that if of sufficient value they were recorded in the case-book (8588), and that the official visitors occasionally looked at these records (8589). He stated further that the original intention in regard to the proper use of seclusion was to prevent it being used as a means of punishment, and to keep patients from being deprived of association with others, or from exercise in the open air (8593), and to prevent abuses (8594). In the case of a patient placed in a single room for treatment,

treatment, against his will, for month after month, the fact should be recorded (8598). He was of opinion that if a patient were placed in a single room at 5 p.m. the fact ought to be recorded in the Journal (8603 $\frac{1}{4}$), but that seclusion in the Act meant that the record should be inserted in the Journal in cases between 6 a.m. to 6 p.m., or rather from the time patients get up in the morning till they went to bed at night.

96. The evidence given by the Inspector-General of the Insane was to the effect that, as a matter of general practice, seclusion was recorded in the official Journal only when employed in the day-time, and he quoted a number of authorities in support of this view (8740). He pointed out, however, that in regard to the term restraint, a special regulation had been made by the English Commission on Lunacy on the Lunacy Act of 1890 coming into operation, whereby no limitation was allowed, and its employment, whether by day or night, is entered in the Medical Journal, and he stated that, in regard to this matter, this course had been adopted in New South Wales under his direction. The Inspector-General would be satisfied if the removal of patients from a dormitory to a single cell in the night-time, from any cause, was made known to the Medical Superintendent in the morning. The necessity for seclusion must be judged of mainly by the Medical Superintendent, and if his views as to the amount of seclusion were not approved of, and he was using it more than seemed necessary, or than was used elsewhere, the official visitors could call upon him to give an account of the practice (8744). He was aware that the object of the Legislature in making special provision for recording cases of seclusion and restraint in a special column, and under a particular heading in the Journal, was not only for purposes of comparison, but also to prevent abuses, and if he found at one institution too many people in seclusion, or restraint applied to too large a number of cases, he did not inquire into individual cases, but asked the Medical Superintendent the reason of such an occurrence, and if the explanation was unsatisfactory he very often removed a certain number of cases from one asylum to another to try what could be done by such a change.

97. It appears that almost immediately after the removal of Major-General Richardson from Bayview House, the Inspector-General of Insane gave instructions that a note should be made in the Medical Journal at Bayview Asylum, under the heading of "General Observations," of every occasion in which a patient slept in one of the isolated rooms. This is an addition on the practice formerly adopted.

98. The importance of this question of seclusion, affecting as it does the personal liberty of the patients in lunatic asylums, has induced the Commissioners to make a very searching inquiry into the subject, and the evidence now summarised exhibits the very adverse views held on the subject by experienced persons. There can be no doubt that the original object of the Legislature in making provision for the due record of seclusion and restraint was to prevent a number of abuses that at one time occurred in the management of lunatic asylums. It would appear that the authorities who administer the Lunacy Acts, in order to make comparative investigation as to results of treatment, and for other reasons, adopted a technical definition of the term seclusion, making it refer only to deprivation of personal liberty during the day-time, and this definition seems to be universally employed by the officials of the lunatic asylums of Great Britain, America, and this country.

99. The Commissioners believe that the adoption of this technical definition opens the door to abuses. It is true that outbreaks at night requiring seclusion are reported by the night attendants to the Medical Superintendents, and at their discretion entered into the case-books; but the Commissioners have it in evidence that frequently the case-books at Bayview Asylum were not made up for some days after the occurrence of events in connection with the cases, and in the interval such reports might be overlooked, and it is possible that a similar practice occurs in other institutions.

100. A further difficulty occurs in connection with the distinction drawn between the terms day and night. When does the day end and the night commence? Dr. Sinclair stated (8603 $\frac{1}{2}$) that he regarded night as extending from 6 p.m. to 6 a.m., and then pointed out that different patients went to bed at different hours, and night-time in this case, doubtless, would be calculated from the time of going to bed to the time when the patient rose in the morning. He stated also that a case of violence requiring seclusion occurring at 5 p.m. should be recorded in the Journal, while, on the other hand, Dr. Vause (9195 to 9204) stated, with regard to a case of outbreak of violence occurring in the summer time, at 5 p.m., and placed in a single cell, that the case was not recorded in the Journal, because it took place after tea-time, and, therefore, at night.

101. As a record of a special treatment, the Commissioners consider that a case of violence occurring at night, and requiring seclusion, ought to be stated for the inspection of the Official Visitors, in the Journal, and some of the Official Visitors are of the same opinion. By such a procedure the statement in the Journal would be made to harmonise with the recent regulation of the English and Scotch Commissioners in Lunacy (which the Inspector-General of the Insane proposes to adopt in this country), whereby a record of all cases requiring restraint during the night time is to be made in the Journal. As is well known, the employment of the single room for seclusion purposes is only a more merciful form of the restraint formerly in use in Lunatic Asylums, and the record of its employment would appear to be as desirable in one case as in the other. The Commissioners cannot believe that the public interest would be conserved, or the views of the Legislature be carried out, by an optional record in the case book by the Medical Superintendent, after report by night attendants; in fact, the Inspector-General of the Insane, by his direction to have a record made of all cases placed in the specially isolated rooms at night at Bayview Asylum, has indicated that something more than an adherence to the technical definition of seclusion is desirable. The lengthened experience of Dr. Cox undoubtedly trends in the same direction. And while the Commission are aware that additional clerical labour would be occasioned by keeping a full record of all cases of seclusion, they are of opinion that it is absolutely necessary for the protection of the inmates of the lunatic asylums that a fuller record than that at present adopted should be made. They would suggest, for the consideration of the Government, that it might be submitted for the opinion of the Inspector-General of Insane and the Official Visitors, whether there should not be made a statement in the Journal of the total number of cases placed in single rooms at night, as well as a record of the cases requiring seclusion at night, in consequence of outbursts of violence or from other causes, as well as of those occurring during the daytime. In order that the comparative statistics of the various asylums regarding seclusion, according to the technical definition, may be still maintained, cases of seclusion occurring during the day could be separately recorded as heretofore.

102. This subject is regarded by the Commission as of very great importance, as the neglect of the course of procedure now recommended has been a leading factor in occasioning the necessity for this Royal Commission. If a record of General Richardson's case, who was placed in seclusion from night to night for months together, had been known to the Inspector-General of the Insane or the Official Visitors, doubtless steps would have been taken by those officials in the discharge of their duty to make themselves acquainted with the long continued course of treatment of this kind adopted in this case, and, as the evidence shows, would have suggested other arrangements in connection with the matter.

103. From the evidence given on the subject your Commissioners are led to ^{The Finding.} believe that in the absence of the plan of record now suggested, similar cases to that of General Richardson's may occur in the lunatic asylums, quite unknown to the Official Visitors, who have no means of becoming acquainted with such matters except by observing some casual report of the head Superintendent, which he has considered worthy of being copied from the night attendants' reports.

Complaints regarding General Management of Bayview Asylum, including certain individual cases of ill-treatment.

104. In addition to the cases already referred to, a number of complaints were made with regard to the general management of Bayview Asylum, and, in illustration of these complaints, reference was made to various patients who, it was alleged, had suffered ill-treatment in consequence of these circumstances. The Commissioners found that these complaints originated chiefly from dismissed servants of the institution, and while there was some diversity in regard to the evidence given concerning the particulars, there was a remarkable similarity as to the complaints themselves. The witness who enlarged most fully in regard to complaints of a general nature was Maggie Macleod, whose connection with the institution commenced on 22nd November, 1893, and extended over a period of eleven months (1473), during the last six months of which time she was head nurse over the patients in No. 2 ward sent by Govern-
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ment. According to her own statement, she was discharged by Dr. Vause in consequence of having given information to persons outside, and especially to a former warder, Mackenzie, a cousin of her own, about the management of the asylum (1488). This was denied by Dr. Vause, who stated that he dismissed her for striking a fellow nurse, and for unsatisfactory conduct generally (8930). During her term of office, Macleod, who had had no previous experience of similar work, was placed under a matron named Bridget Morrisey and an acting matron, Jessie Fuller, from whom she received instructions (1483-4). The various charges made by this witness comprised a great number of details, and contained the most important statements condemnatory of the general management; in fact, this witness may be regarded as the accuser-in-chief of the institution in the female division. Her evidence had reference to neglect in regard to the management of the single rooms for the isolation of patients; the absence of provision for nursing at night and for a supply of medical and other comforts for patients or the nurses; deceptive practices and neglect with regard to the bedding, the clothing, the food, and similar matters. This witness also stated that there was private notice given to the attendants when official and other visitors arrived at the institution, and that the patients were re-dressed and otherwise put in good order for the purpose of deceiving the visitors as to their usual condition, and mentioned the cases of several patients, illustrating the results of the neglect manifested in the management, were cited by the witness. It will thus be seen that the evidence given by this witness travelled over nearly every form of complaint that could be made against such an institution as the Bayview Asylum. More or less fully her evidence was corroborated by some other witnesses, also discharged servants, and the points brought out in the evidence of these witnesses evinced a remarkable degree of similarity. On the other hand, the evidence of the attendants at present in the institution, and of a number of professional and other witnesses, more or less discredited the statements thus made. In view of these circumstances, the Commissioners find it necessary to summarise under the various points of importance the evidence given on these matters. The charges may be classified under the following heads:—(1) Neglect with regard to the cleanliness of the patients, and cases of ill-treatment and cruelty; (2) Abuse of medicines; and (3) Infrequency of visits to patients by the Medical Superintendent.

1. *Neglect in respect of the personal cleanliness of the patients, and ill-treatment and cruelty.*

105. Maggie Macleod stated that the asylum was full of vermin (1493), which infested the beds and everywhere else (1496). From the very first day she entered the institution she was in a state of misery on account of the bugs (1494). She complained to the matron on the subject (1497), but she said it was of no use complaining as she could not get the doctor to do anything (1498), and Macleod said she could not speak to the doctor as she only saw him when he came about the place on his rounds (1499) just before dinner time (1500). A patient named Mrs. H. was much neglected, her body being frequently covered with vermin (1553 to 1555). This patient was often exposed to the rain. She used to lie in the yard, and sometimes on the verandah, in all kinds of weather. She was left to roll about as she liked in her own dirt, although she was a private patient. On one occasion when her daughter visited her, a silk dress was put on over her dirty clothes, and her daughter (1561, 1562) complained of the state of her underclothing (1540, 1541). The witness complained that a patient named Mrs. W. injured herself and was bruised very much (1634, 1666), and that a Mrs. N. was neglected (1684). If any complaint was made to Dr. Vause the nurses' complaining were sent about their business (1557 to 1559).

106. Josephine Mackay stated that the patients were much neglected—that there was vermin in their heads (2255). Speaking in general terms as to whether the patients were treated properly, this witness stated the treatment may have been the kind suited for the insane, but she should not like to be subjected to it, nor to see any of her friends treated in the same way (2257). She never, however, complained to the doctor or the Government Visitors on the subject (2259, 2385, 2270), but she wrote a letter to Rev. Father O'Callaghan after he had written to the papers commending the institution (2263), and to Mr. N. Robertson, one of the visitors (2268), but these letters appear to have been anonymous (2483 to 2489). She was on duty
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as a sick nurse in the case of Mrs. N., and in her case there was no provision for sick comforts at night (2398 and 2406). On the subject of bathing the patients, this witness stated that all the patients were bathed on Saturday afternoon as a general rule, but dirty patients were bathed when the case required it (2241, 2242). When asked if she had ever seen any nurse behave cruelly to a patient she charged Nurse McBride with having hit a patient on the back with a boot (2300). She had never heard of a scrubbing-brush being used on patients, although she thought she had heard of one patient scrubbing another (2301).

107. The only complaint on this subject contained in Annie Marshall's evidence was to the effect that she never saw a nurse strike a patient, but that one patient named M. M. was scrubbed by another patient whilst in her bath (2099).

108. On the other hand, Bridget Morrissey, late matron of the asylum, stated that she had heard Maggie Macleod speaking of Mrs. H. having been left out in the rain, and having her body covered with vermin, but denied the truth of this statement, and said it could not have occurred without her knowledge (3376 to 3382). No patients were covered with vermin, but she was aware there were some very difficult to keep clean and a lotion was used for that purpose (3383). There were bugs in the place and kerosene was used to keep them down (3384). With regard to Mrs. W.'s case, she had bathed her on her admission, and then she found her bruised in places, and black about the hips; she was a very violent patient (3408 to 3411). She had never heard of a nurse having being discharged for making a justifiable complaint, and Dr. Vause always listened to all complaints, and endeavoured to rectify them (3428 to 3434). This witness gave an emphatic denial to all the charges made by Macleod, and also to her statement that she had made complaints to her (3544, 3545). She said the asylum was conducted in a comfortable and homelike manner (3455). Dr. Vause and the attendants were careful and considerate in dealing with the patients (3456), and the attendants never abused the power reposed in them (3457), or treated the patients inhumanly (3458).

109. Lizzie Verity stated that the patients were bathed once a week, as a rule, but others were bathed, if circumstances required it, at any time (1989). Similar evidence was given by Rose McMahan (1845 to 1847). Rachel Kelly had never heard of any complaint of the cruel treatment of patients (2587 to 2589, 2626). This witness, like several others, had never heard of M. M. being scrubbed (2589, 5519). Nellie McBride denied that she had ever heard or known of a patient being treated cruelly by a nurse (4431 to 4435). There were bugs in the asylum, but nothing unusual (4455). With regard to Mrs. H.'s case, this witness contradicted in every respect the evidence given by Macleod as to the vermin and the exposure, and stated that Mrs. H. was an excitable patient who received every possible attention (4511 to 4529). Mrs. W. received every possible attention during her illness (4570 to 4586). She had heard Macleod state that the patients were too well looked after and had too much of their own way (4561, 4562).

110. Jessie Urquhart stated that the only cases of cruelty known to her occurred in the case of M. A. C., who was scrubbed with a broom by Maggie Macleod, which witness had seen done herself (6292 to 6307), and the case of M. M., similarly treated. She spoke to her about the matter, and Macleod said there ought to be other brushes in the bath-room. Both these patients were dirty and troublesome (6308 to 6313 and 6328 to 6331).

111. Ada Simpson knew Mrs. H., who is at present in the asylum; never heard of the complaints made by Macleod. The patient was generally a most clean patient (7443 to 7445). Some witnesses having stated that E. H. continuously for long periods wore muffs, this witness stated that she wore strong dresses and muffs occasionally—nearly every week; the muffs were always taken off at meals and at night time (7519 to 7524). With regard to Mrs. N.'s case, she remembered that she was subject to fits, and could take very little food—only milk. This witness contradicted Macleod's evidence point blank, and stated that she always got plenty of milk for this patient, and arrowroot (7486 to 7490).

112. Mrs. Gilchrist contradicted the complaints made as already cited. Maggie Macleod never complained to her; the only expression she heard her use in regard to the patients was that she thought they were really too well treated. She had heard her make the remark more than once (6626). Macleod's statements as to Mrs. H.'s case were read over to and contradicted by this witness (6638 to 6646).

113. Dr. Vause denied the statements made as to vermin and neglect of patients (9926 to 9937).

114. An architect, who lived at Bayview Asylum in 1887, saw no unkindness on the part of the nurses to the patients (6159).

115. Mr. H. M. Watt, a former attendant, stated that the patients were always well treated in every respect (6214, 6221). In the case of the patient Williams, who was a positively dirty and leaky patient, every attention was paid. He received a warm bath the first thing every morning, then he was put into a chair and wheeled about, and all due precautions were taken to keep him clean and dry (6256-6266).

116. A medical practitioner, who had special opportunities of making himself familiar with the internal working and management of the asylum (6428) as well as other similar institutions (6432), was satisfied with the care given to the patients.

117. Mr. J. H. has a relative in the asylum who has been there more than eight years (6044 to 6047), and although prejudiced at first against the institution (6062) had changed his opinion, and is satisfied with the treatment of his relative. The patient, too, speaks very highly of his treatment when he is comparatively sane (6063). Other persons also have confirmed this opinion (6064). Witness never had a single fault to find with the treatment (6065).

118. Catherine Elinor Perrin, an attendant at No. 2 Ladies' Private Room, was satisfied that everything is carried on at the asylum in a satisfactory manner for the comfort and treatment of the patients (7314). She has seen no vermin, and in this respect there was nothing more than was usual in a large establishment of the kind (7315, 7316).

The Finding.

119. With respect to these charges the Commissioners believe that suitable provision was made for the purpose of the personal cleanliness of the patients. The Commissioners are aware that in all large institutions, and more especially in lunatic asylums, from the nature of the case it must frequently be a matter of difficulty to prevent the occurrence of the results of want of personal cleanliness, but it would appear that care and attention were bestowed on those matters in the Bayview Asylum. The evidence in rebuttal of the charges of illtreatment and cruelty must be regarded as quite as reliable as that given by the accusing witnesses. In the case of Mrs. W., for example, complaint was made that her body was bruised, and the statement was made in such a way as to lead to the opinion that this was the result of neglect or violence, whereas the evidence clearly shows that the lady in question, in consequence of her violence, occasioned by her mental disease, was marked with bruises before her admission to the asylum, where she remained after her admission for only a short time, her condition being very serious. In like manner the continuous wearing of muffs by E. H. was discredited by various witnesses, and more especially by the evidence of the Official Visitors. Taken as the whole the Commissioners therefore disbelieve the evidence in support of these charges.

2. Abuse of Medicines.

120. Several of the witnesses stated that drugs had been administered wrongfully to stupefy the patients, and that they had been deceitfully administered in their food and drink.

121. Maggie Macleod stated that she had administered some sleeping draughts to the patients herself (1696) which she had received from the matron (1697). The patients did not like to take them because they had an idea that they did them no good, and witness thought it was not the right thing that they should take them. Some of the patients used to complain that they felt very ill after taking them (1698 to 1700). Josephine Mackay stated that draughts containing bromide of potassium were given at night to make the noisy patients sleep (2319). In one case a patient, Mrs. D., had got an overdose of this drug, and had been poisoned, and after this event the medicines were administered by the matron only (2410-2412). When patients were noisy in the single rooms the matron and some of the attendants would get up and give the patients a sleeping draught (6993, 6994).

The Finding.

122. The Commissioners have referred to this subject because on several occasions it was mentioned by various witnesses, but in their opinion, with the exception of the case of poisoning, regarding which an inquest was held, the administration of medicines was carried out in the manner usually adopted elsewhere. The Commissioners have examined the case-books of the Government Asylums

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as well as of Bayview Asylum, and have also examined a number of expert witnesses as regards the medical treatment of the patients at Bayview Asylum, and they believe that nothing unusual was adopted in this respect, that drugs were not used in excessive quantities or in improper methods, and that the suspicions aroused in the minds of some of the witnesses with regard to this matter arose simply from their inexperience.

3. *Infrequency of visits by the Medical Superintendent.*

123. The witness, Macleod, stated that Dr. Vause never spoke to the nurses so that they might make complaints to him (1614), and also that he never came round the wards after 2 o'clock (1615). He never made any unexpected visits (1618), and in witness' experience he never came to see any of the patients on special occasions; he merely made his proper rounds, and these were the only times he would see the patients (1691, 1798, 1799), and yet in the case of Miss H., who had a broken arm, witness states that Dr. Vause, when sent for, came without delay (1796, 1797), and in cases of emergency came as quickly as he could and paid the necessary care and attention to them (1802).

124. On the other hand Josephine Mackay stated that Dr. Vause always made his daily visit (2249) and came through the institution every day at dinner time, and on any other occasion when he was wanted (2250).

125. Bridget Morrisey stated that Dr. Vause always took a great interest in his patients, and he used to go in and out at different times besides making his ordinary rounds, and if there were any patients sick he was always very attentive (3420, 3421). He always wanted a very clear explanation about everything (3428), and was very particular in seeing that the work was properly carried on, and that the rules and regulations of the institution were strictly obeyed (3429). Any complaint against nurses, if of justifiable character, meant instant dismissal (3430-3432), because he was most punctilious in the matter of the discharge of duty (3431 to 3434).

126. Lizzie Verity stated that Dr. Vause made his daily round at noon, and occasionally visited the patients at other times (2012, 2013), and otherwise was attentive to the patients (2014).

127. Rose McMahan gave similar evidence (1899, 1900). On a few occasions she had seen him go round at night (1893).

128. Rachel Kelly gave similar evidence (2584, 2585, 2533, 2614 to 2616), and various nurses now employed at Bayview Asylum, confirm the statements thus made. In addition, the opinions of the Inspector-General of the Insane, and numerous medical gentlemen who have visited the Bayview Asylum, have universally the same tendency.

129. On the male side of the institution—evidence was given by several attendants on this subject. A. Mackenzie stated that Dr. Vause made a general round daily about dinner-time (894). A. Robinson, who was engaged in the asylum for some years, and left in February, 1890, stated that Dr. Vause did not make a daily round, and that he had heard patients say that they had not seen him for a week (1403), and he confirmed this statement (1404). Witness stated that he had complained to the Inspector-General that Dr. Vause did not make a daily inspection (1458). John Doherty, at present senior attendant at Bayview Asylum, where he has been employed since June, 1893 (2675), stated that Dr. Vause made his daily round at dinner-time unfailingly (3017). He might come in at 7 in the morning, and sometimes he would drop in about 7 in the evening (3018). He made no special evening visit, although he was liable to come in at any minute, and always came when sent for (3019). J. O'Brien, who has been an attendant for the last eighteen months, affirmed that he had seen Dr. Vause go through the institution as many as three or four times daily, but his regular time was about noon (3214). H. M. Watt stated that Dr. Vause made his round regularly once a day, and in the latter part of his time it was about lunch-time that he made this round. Formerly, he made his round sometimes in the morning and sometimes in the afternoon. He made his round always once a day, and sometimes twice (6276). A medical practitioner stated that he had seen Dr. Vause making his round at night.

130. The Commissioners are satisfied generally with regard to the performance of his duties by Dr. Vause as Medical Superintendent. The evidence clearly bears out the statements of those witnesses, who affirm that Dr. Vause has always been attentive, The Finding.

attentive to the patients, and regular in his visits to the wards; but the Commissioners feel bound to say that while they have no complaint to make as to Dr. Vause's treatment or instructions, they have been impressed with the feeling that he trusted too much to his leading subordinates, and that more unexpected visits, especially at night, would have been an improvement in the management.

Complaints with regard to Food supplied.

131. The witness Mackenzie was the first amongst the male attendants to generally condemn the food at Bayview House, and his condemnation was couched in most specific terms. He stated (912-914) that the meat was not what it should be, the milk was sour, and neither commodity was fit for human consumption. These definitions applied to the food given to private patients, and that supplied to attendants was little better, for "oftentimes they went a week without tasting good meat." Breakfast "mostly always consisted (1145 *et seq.*) of a sort of stewed steak, bread and butter, and sometimes chops." The meat was "high" from being kept too long—"kept until it became unfit to eat"—and after several complaints were made to the head attendant, the only response elicited was "he could not give any more, and that they could not get anything else."

132. Alexander Robinson, a former attendant at the asylum, was another complainant against the general food supply, he saying (1368) very often the steak was tough and insufficient in quantity, "the tea was like ink and not fit to drink," and when he made complaints in the kitchen he was snubbed for his trouble. He reported the dissatisfaction he felt to Dr. Vause (1448) and was told he had better leave.

133. Other attendants on the male side gave evidence which was flatly contradictory. Senior-attendant Doherty (2776 *et seq.*) stated that the food supplied was always good in quality and well cooked. As an attendant he received, perhaps occasionally not quite so good, but usually precisely the same kind of food as the patients, some of the patients having more variety than the attendants. For breakfast the dietary scale was chops three or four mornings a week, steak, bread and butter, and jam. The diet was changed daily for most meals. He had meat three times a day; there were always two kinds of vegetables as well as soup, pudding, and an ample supply of bread, butter, and jam preserves. Attendant Watt (6215), who left the institution some time ago, also deposed to the food being of good quality, and Mr. Martin, who for nine years was an employé at Bayview House, stated very tersely (7213) "there was plenty of everything, with cleanliness and comfort." Mr. V., stated that the food was of good quality and well cooked, and Dr. Creed, who had been at the establishment during meal-times (6083), applied a precisely similar description to the food he saw consumed. Indirectly, on this subject the evidence of the Hon. Ed. Greville, M.L.C., had some bearing when he said (4367) that as attorney for Dr. Vause while he was absent from the Colony he gave both Dr. Elliott and Dr. Hetherington a free hand as far as minor expenditure was concerned. These medical gentlemen were not stinted in the management of the institution, and the same remark would apply with truth to the patients.

134. In her evidence Maggie Macleod stated that the food supplied to the inmates of the asylum was very common (1519), and on more particular examination she stated that the patients got for breakfast chops badly cooked on one day, and a rough meat stew on the following day (1520), tea, such as it was, being also supplied (1521). The Government patients were supplied with bread and treacle or dripping, and for the fifty-two patients at that end of the asylum only 2 lb. of butter weekly was allowed (1522). Necks of mutton and soup, poor in quality, formed the dinner (1525, 1526), and at tea-time the patients had bread and treacle or dripping—nothing else (1527). She stated that she had never seen joints of meat (1529), and there was no change from roast to boiled meat. There was no dietary scale in the rooms of the institution showing what food the patients were to have each day (1530), nor any systematic arrangement for the proper feeding of the patients and attendants (1531). The supply of food, she said, was insufficient (1532). It was not nourishing. The milk was half water, and sometimes there was no such thing as fresh milk to be had. Condensed milk was used every day (1688).

135. Josephine Mackay, on the other hand, stated that the animal portion of the food was sufficient in quantity and quality (2220), but the bread was not often sufficient (2221); however, she thought the patients had enough to eat (2223). The fault of the food was, she stated, in the cooking, but beyond that there was not sufficient vegetable food (2368).

136. Annie Marshall stated that the food supplied was rather poor, and always the same over and over again. The meat, she said, was good, but it was spoilt in the cooking (2068).

137. Bridget Morrissey stated that she had no fault to find with the food; that it was fairly well cooked (3344). She had the same kind of food as the patients (3346) and the supply was always sufficient in quantity (3348); in fact, there was generally food left remaining after the patients had had their meals (3519, 3520, 3521). The supply of vegetables was sufficient, and consisted of potatoes, and sometimes parsnips, carrots, and other varieties (3524).

138. Lizzie Verity stated that she did not think the food supplied to the Government patients was sufficient in quantity (1983).

139. Rose McMahan was in charge of the dining-room eighteen months and she was of opinion that the food was fairly good (1836), that there was a regular and sufficient change (1838). The attendants sometimes provided little extras for themselves (1844). The patients sometimes made complaints about the food, but she believed they had no grounds for so doing (1842). This witness stated that when the visiting doctors, or the Inspector-General stayed to dinner there was a larger supply of meat and potatoes, and of better quality (1954), so that the patients remarked that they wished the doctor would come oftener, as they then got a better dinner (1955); but according to Bridget Morrissey's statement on cross examination it was not a better meal—the extra was pickles (3623).

140. Rachel Kelly, who was twelve months in charge of the Government patients, stated that the food was sound, and of good quality, and was well cooked.

141. Kate Brennan, who was attendant in the Government patients' dining-room, and has been at Bayview for two years, stated that she had heard some of the nurses grumbling about the food. The food was well cooked and of good quality, and the same food was supplied to both patients and attendants (5385 to 5390). There was more than an adequate supply. The excess was sent back to the kitchen and the scraps put in the waste-box.

142. Nellie McBride, who is still in the employ of Dr. Vause, gave similar testimony (4498 to 4501). Johanna Dwyer stated that the food was at all times sufficient and good in quality (5692), both the attendants and the patients having the same kind of food as Dr. Vause had at his own table (5693). There was always enough and to spare (5718 to 5722).

143. Mary Doherty, for some time past and at present engaged as cook at Bayview Asylum, denied that she had ever heard any complaints as to the cooking of the food (3690). The food was always of good quality (3691), and fresh meat was supplied every morning (3692). There was a fixed arrangement as to the supplies according to the dietary. Besides roast and boiled mutton, there was haricot. On the days there was no soup there were two vegetables; on Thursday corned beef, and dumplings, and mutton or fish on Friday and so on (3693, 3694). No nurse ever complained to her of the cooking of the food.

144. Mr. Alfred Barden gave evidence to the effect that he bought meat on commission for Dr. Vause for the consumption of the patients at Bayview (5619). The supplies were obtained from various sources, and he always made a personal inspection of the meat before purchase (5622), his object being, in accordance with his instructions from Dr. Vause, to obtain the best meat possible. Mr. Barden stated that he was paid a commission (5623). The supply was about 200 lb. daily, mutton and beef being purchased alternately (5624). The beef was purchased by the quarter and mutton by the sheep, and when a larger quantity than was necessary for consumption in one day was bought, the excess was returned to the freezing-house. On further examination, this witness stated that he got his commission on the cost of the quantity he bought, and therefore had no interest in getting the meat at a cheap price (5630); in fact, he always got the best meat he could obtain in the market, no matter at what price.

145. Mrs. Gilchrist, Lady Superintendent, stated that the food was good, well cooked, and more than ample in supply, the excess after meals being returned to the kitchen, some of it put aside for future use and the rest sent to the refuse box.

146. Dr. Ramsay, who was acting Superintendent of the Asylum during a period when Dr. Vause met with an accident, stated that the food was ample, of good quality, and well cooked (5954 to 5957).

147. Dr. Hetherington stated that the food supplied to the patients was the same as he had himself, and that he went to the dining-room for the express purpose of seeing the patients at their meals (5749).

148. Dr. Beeston stated that the food was excellent, well prepared, and of good quality (6434). Dr. E. P. Sinclair, who attended the Asylum for Dr. Vause, stated that during the five weeks he acted as Medical Superintendent he had every opportunity of observing the food, and he noted that it was adequate, well cooked, and sufficient in every way for an institution like Bayview Asylum (5069 to 5074).

149. As an official visitor The Hon. Dr. MacLaurin saw the food supplied to the inmates, and found it satisfactory, and the dietary scale adequate (5019 to 5021).

150. Sir Alfred Roberts, late Chairman of the Official Visitors, had been present at dinner and sometimes at tea (7691), as also had Mr. Robertson, an Official Visitor. The latter stated that the food was not only sufficient in quantity, but there were many patients who were sufficiently reasonable and sane to understand the surroundings of their position, and who would be most ready to complain if there was anything wrong with the food, and he remembered only one case in which such a complaint was made (7925). He had seen the meals frequently, and he thought the food was as good and as well cooked as it possibly could be in such large quantities.

151. The Inspector-General of the Insane stated that he had been present occasionally when meals were being taken by the patients. The food supplied had always been, as far as he had observed, good in quality and abundant in quantity. Compared with the food in the Government asylums he thought that the supply, especially of meat, was decidedly more ample and the dinners altogether better. Whenever he had been present at dinner-time with the Government patients at Bayview Asylum the supply had been unnecessarily abundant so far as meat was concerned; but he was always given to understand that any surplus was taken back to the kitchen and re-used as stews or hashes, as is done in private households. There was usually soup and sometimes pudding. The vegetables and bread were always sufficient, and the former varied in kinds. This witness stated that it was absolutely impossible that any special preparations could have been made at his visits. Neither Dr. Vause, the matron, nor the nurses ever knew, nor did he himself know, when he should see the dinners five minutes beforehand. This would depend on his general arrangements and his convenience. He further stated that he had in his journal the record of twelve occasions during the last three or four years when he had seen the dinners served in the Government division. He went less frequently into the dining-room for private patients, for obvious reasons. He had frequently seen the dinners in course of preparation in the kitchen. The cooking, although it has varied at different times and under different cooks, has in his experience been objected to only by two patients, who for special reasons raised objections; but as both patients left the institution after having gained in weight, he attached little importance to their complaints. The dietary of the asylum has been greatly improved since it was first agreed to, and particularly as to variety in food, and as to the increase in butter and the substitution of this in part for dripping, and of jam for treacle, changes made by Dr. Vause (8754).

152. In his evidence, Dr. Vause denied the charges made against the dietary of the Asylum (9946). He said that it was impossible to make special arrangements in connection with the meals when the official visitors arrived at the asylum (9948). He inspected the food personally every day, before and after cooking (9950). He stated that it would not pay him to starve the patients, as his object was to get them to eat as much as possible (9954). As regards the tea complained of, there had never been two classes of tea used, and the kind supplied to the patients was that used by himself and his visitors (9958). The milk supplied was obtained from five or six cows kept in the grounds and was obtained fresh twice daily (9959 to 9965). Dr. Vause had heard no complaints from Captain N. as to the food (9969). There was a dietary scale hanging in the kitchen (10034), which is strictly adhered to and contains improvements introduced by him as the result of his experience (10041).

153. The Commissioners are of opinion that the complaints made with regard ^{The Finding.} to the food supplied to the inmates of Bayview Asylum are frivolous, and that the statements made by some of the witnesses are untrue. It is possible that on some occasions the food supplied may have been below standard, and that the fixed dietary scale may have been altered, but the Commissioners are satisfied that every reasonable precaution has been taken to make satisfactory provision in this respect for the requirements of the institution.

Absence of a proper supply of Food and Comforts for night use in the Female Division.

154. In addition to the charges made with regard to the food supplies for the ordinary dietary, complaint was made that there was no provision for the proper supply of food and comforts, such as cocoa, tea, and the like, for the refreshment of nurses on night duty or patients who might require such sustenance and comforts.

155. Maggie Macleod stated that if she had required a cup of tea, cocoa, or warm milk for herself or for a patient, she could not get it (1594), as there was no convenience for that purpose, even if she had provided the tea. There was no fire or gas by which she could make anything warm either for the patients or the nurses (1595, 1596). Josephine Mackay, when asked whether there was any provision for obtaining a cup of tea, cocoa, or other refreshment at night, stated that there was none (2239), and that she had never seen any such provision (2240). She had been on night duty with sick patients on a few occasions only (2396), but she knew of no provision for hot coffee or such comforts (2339-2340). The kitchen was locked at night (2401). When asked why she sat up with a sick patient under such circumstances, she replied that the nurses sat up with the patients in case they should die in the night (2402). She was sure there were no stimulants provided (2404). Annie Marshall similarly stated that at night if she required it, she could get neither a cup of tea nor coffee for herself, nor hot water nor warm drink of any kind (2097, 2098).

156. Bridget Morrissey, a matron for some years at Bayview Asylum, when asked whether there was any provision for supplying patients with nourishment at night, stated that there was always a supply of tea and milk, and cocoa, and such things (3308), and if a patient were sick there was always a night nurse to administer these comforts (3309). She further stated that these supplies of comforts could only be obtained by waking up some official (3461, 3462). She could go round to the kitchen, although locked on the female side, and get hot water (3463). When cross-examined by Dr. Vause on this subject this witness became very confused. She then stated that there were stores, such as tea, sugar, and the like, in cupboards in No. 1 and No. 2 dining-rooms, and that milk was always obtainable (3559-3566). In order to gain access to the kitchen, she would require to waken the cook (3567), but that she could light a fire if required in either No. 1 or No. 2 dining-rooms (3568). She did not remember the provision of a kerosene stove for cooking at night if required (3569).

157. Lizzie Verity confirmed the statements as to the absence of the provision for supplying the patients at night with comforts (1981, 1982).

158. Rose McMahon gave similar evidence (1883, 1884), and stated that if she wanted a warm drink or a cordial, in case of emergency at night, she would require to ask for the key of the kitchen in order to get it (1885), as there was no provision for these things at night (1927-1929).

159. Rachael Kelly stated that she had been on sick duty, and the only provision for comforts, especially hot drinks, was a fire in the dining-room, which required to be lighted (2539-2543). The materials for a cup of cocoa or coffee were kept in a cupboard in the dining-room, but the key was in possession of the nurse in charge of the room, who would require to be knocked up to gain access to the room, a thing she had never done (2544-2548).

160. Kate Brennan stated that there was always a night nurse on duty if a patient was sick (5458). When she was on night duty she could get a cup of tea or cocoa in No. 1 dining-room (5460), where the materials for making these warm drinks had been kept ever since she had been at the institution—for the last two years (5461). She believed there was a fire always kept burning in this room, and the articles could be obtained without difficulty. The witnesses who stated that it was impossible to get these things must be mistaken, as she had had personal experience in the matter (5462-5465).

161. Nellie McBride, who has been employed for the last seventeen months at Bayview Asylum, confirmed Kate Brennan's evidence in every particular, and stated that the other nurses knew where these provisions were kept. Although she had seen these stores, she had never known a nurse to require them (4325-4337).

162. Johanna Dwyer, who six years ago was an attendant in both the Government and the private sides, stated that in her time there was ample provision for night comforts, and a nurse to attend on a sick patient (5655, 5656). The special place in which these supplies were kept on the female side was a large cupboard in No. 2 dining-room, where there was a fire available. She had never known any patient suffering from want of nourishment during the night (5657-5660).

163. Mary Doherty, the cook at Bayview Asylum, stated that an attendant could get into the kitchen on the male side at night, but not on the female side (3703), because there was a cross-lock on the door, which shut off the female side (3704), but the supplies for night use were kept in the dining-rooms, where the attendants could always get bread, butter, tea, milk, sugar, etc. (3705-3708). The attendants on the female side could make a cup of tea or a warm drink without awaking her or going to the kitchen, because there was always a fire in the dining-room with provision for refreshments (3709-3712).

164. This evidence was confirmed by Maggie Kennedy in every respect (5610-5612).

165. Catherine Perrin, who has been employed for the last ten months as an attendant at Bayview Asylum, when asked whether her experience as to the absence of provision for warm drinks and nourishments at night was the same as Macleod's already cited, denied the statement, and affirmed that there was always a fire and nourishment in No. 1 dining-room (7353), and this evidence was supported by that of Jessie Urquhart (6348-6353).

166. Mrs. Gilchrist, lady superintendent, gave similar evidence as to the ample provision in every respect for sick nursing and comforts (6732-6737).

167. Dr. Vause was very minutely examined on this subject, and contradicted the evidence given by witnesses Mackay, McMahon, and others, who stated that there was no provision for comforts and warm drinks at night (10042). He informed the Commissioners that there were stores—apart from special provision made for sick patients—which were always available, and, apart from what the nurses must have had for themselves, there was an abundance of tea, sugar, and milk during the night, inasmuch as the stores were taken from the principal store-room after breakfast every morning, in sufficient quantity to last till the next morning at the same hour (10043). When asked whether there would be sufficient stores allowed to meet the requirements of the night, he said he thought there would be sufficient for any emergency. Dealing with 130 patients only, it would be impossible to tell how many would require nourishment during the night—perhaps not one in a month. Where the occurrences were regular, he made special provision every day for night supplies. From his personal observation he could say that there was always a sufficient supply of stores for night use (10044, 10045, 10046). He further added that all the nurses could not get at these stores, but if anything in the way of nourishment was required it could be obtained in the night-time. Stores would not be left at the mercy of the nurses indiscriminately, so that she or they could make a cup of tea for themselves whenever they liked. There were three separate departments for stores, namely, for No. 1 ladies, No. 2 ladies, and stores on the Government side. The stores were under the control of the matron, who would give them out; and, in case of a sick person, stores would be left out for the nurse in charge. In case of emergency, at night the nurse would not have the stores herself, but could get them without difficulty from the matron (10047-10055).

The Finding

168. From the evidence, your Commissioners have arrived at the conclusion that there was a proper supply of provisions for night use available, but either wilfully or through ignorance, as inexplicable as it is unpardonable, some of the nurses did not appear to be aware of this fact. The established rule at lunatic asylums is that nurses will not perform night duties unless an adequate supply of nourishment is provided for their consumption at intervals throughout the night, and it is therefore reasonable to suppose supplies would be equally available for the patients. It was proved by medical gentlemen temporarily in charge of the institution, by the evidence of Dr. Vause himself, and by nurses and attendants, that articles of diet for night use were available if required, although frequently it would be necessary to wake up a nurse or matron and obtain the key. *Insufficient*

Insufficient Supply of Clothing.

169. In connection with the charges made by several of the witnesses as to the insufficient supply of clothing for the patients paid for by the Government, a statement is made by some of the female attendants that shortly after the removal of Major-General Richardson from Bayview Asylum large quantities of clothing material were obtained to remedy the defect. It was also stated that the supply of bed-linen was insufficient, and that the sheets on the beds were frequently removed at night.

170. Margaret Macleod stated that under ordinary circumstances the dress supplied to the patients was insufficient, and that, as a rule, patients had only a gown on (1545). When asked if the ordinary dress supplied to the patients was clean and suitable clothing, she said that it was not. She stated that there were some dirty persons, and if the soiled clothes were taken off them there was nothing to put on them; they would have to go about naked (1546). The supply of clothing was inadequate (1547). She stated in the case of Government and private patients the nurses changed the clothes about. If Government patients had no clothes, they would be taken from private patients and put on the Government patients (1548). There was supposed to be a room in which the surplus clothing of patients was kept, but there were only a few common print gowns in it, and they were mainly kept for show (1549). In the absence of a change of clothing the dirty patients were left just as they were (1550-1552). This witness further stated that the Government patients were not properly dressed, except on special occasions (1710). Further, that Government patients—at least the majority of them—had no stockings to put on (1711). And some of them wore stockings without feet. Such patients would try to stick the tongues of their boots in the openings so as to hide their bare feet (1712-1714). She complained to the matron on this matter (1715). The witness also stated that the women never slept in sheets, and during the whole time she was there, two only were supplied with sheets (1597). When asked if the sheets were kept only for show, she averred that she always took the sheets off at night; they were folded up and put away. They were put on again in the morning, but never used at night. If they had been used at night, they could not have been used for long, as they were not in sufficient number for a change (1591). When asked what covering the patients used, she said they used anything they could get, a small blanket if there was one, but very often there was only a bit of one, and they covered themselves with anything they could get hold of (1601). The patients did not sleep in night-dresses, for there were none in her time (1602, 1603). The witness had fourteen women in her ward, and there was only one possessed of a night-dress until some were made lately. Some coarse brown calico was bought, and was made up for use (1605.) While this was true of the Government patients, the private patients had things of their own, and some very few things were supplied by the asylum. As a result, the patients often complained of the cold (1606-1608). The witness added that before she left the asylum a lot of new sheets were made (1757), as well as new clothes for the patients (1758), and speaking generally matters at the asylum were very different now to what they were before Major-General Richardson's removal.

171. Josephine Mackay stated that she had observed that the supply of clothing to the Government patients was scanty, especially in the winter time (2209-2214). If there was a supply of extra clothing in the storeroom, she had not seen it (2115). The clothing was of poor quality, as were the stockings, which were often ragged (2217-2219). According to this witness, the patients in her ward had in summer a straw mattress, or, as she used to call it, a bag made of canvas and filled with straw, a pair of sheets, a kind of under-blanket, a pair of other blankets, and a counterpane (2353-2354). She stated that it was not the practice in her ward to do as last witness had described, *i.e.*, to fold up the sheets in the afternoon, and put them away, but there were a few dirty patients, and their sheets were folded up and put away; but it was not the general custom to remove the sheets from the beds (2355), and women of cleanly habits were allowed to have sheets at night, and in the winter-time there were extra blankets. There were twelve extra blankets given out at the Government end. The matron ordered them to take them off the beds in the day-time, to fold them up, but to put them on again at night (2356). This witness did not think any sheets or blankets were put on the beds in the day time

time merely for show purposes and taken away at night; but there were some patients whose dirty habits required this to be done (2358). Some patients got more warm clothing than others, and some (who did not make complaints for the purpose) got insufficient bed-clothing, and suffered from cold (2359-2365). In the winter-time those patients who had or could get warm flannel petticoats wore them, and the noisy and complaining patients were best served in this respect (2366, 2367). The matron referred to by this witness was Bridget Morrissey (2430).

172. Annie Marshall stated that the clothing was insufficient, and was changed from one patient to another. She spoke to Mrs. Gilchrist on the subject, but she paid no attention (2070-2073).

173. Bridget Morrissey's evidence on this subject was to the following effect:— She stated that there was an ample supply of clothing, but sometimes they ran short for a few days, but not very often (3349). Sometimes the Government patients might run a little short of underclothing, the supply in the store having run out (3350-3353). It was nothing unusual to find those patients without stockings, for sometimes they would pull them off and tear them up. The quieter patients would be better dressed than the destructive ones (3354). A large number of dresses were made in a general way and were sometimes used to put on patients, and the fit was of little importance if the patient was made clean and presentable (3357, 3358). On this point she further stated that she cut up the material for making gowns and a lot were made at one time, but no special suits. While these gowns remained in the store they were available for the patients when they were wanted (3371). She had known the case of Mrs. H. as one in which a private patient had been clothed in Government clothes, but she afterwards became a Government patient. There was no other such case (3372-3374). She had never heard of patients being without clothes and allowed to remain dirty for days (3375). She had very seldom heard the patients complain of cold in the winter time (3480). She had never heard any complaint about the want of sufficient bed-clothing at night (3481, 3484, 3485). It was the duty of the nurses to complain to her if they thought the patients had not sufficient bed-clothes (3486), but they never had done so (3487). Sometimes there was a little delay when things were reported as being required, but everything was got eventually (3489, 3490, 3515, 3516, 3577, 3578); the delay occurred especially in chemises and underclothing (3517). This witness contradicted the evidence of Macleod as to women sleeping without sheets (3546), and also as to her having made complaints that the patients were suffering from cold (3547). As regards sheets the witness stated that it was the usual practice for the female patients to have sheets, and there was only one from whom they had to be taken on account of dirty habits during the years she was at Bayview Asylum (3470). She had never given any authority to fold up the sheets and take them off the beds, and they were only taken off the beds of dirty patients (3471, 3472, 3473). Such a thing could not have been done without her order or her knowledge (3474-3476).

174. Lizzie Verity stated that there was a store in which the clothing was kept (1990), and she was able to get clothing for the destructive patients, when there was any supply there; and when there was none there she went to the laundry and got them. There were times when there was no store of clothing. Latterly a larger supply of clothing was kept in the store (1991). Matters had greatly improved since General Richardson was removed; blankets and rugs had been supplied, and new sheets and clothes had come in. Before that time the matron refused extra clothing when applied for, but since then the matron informed her that anything in reason she asked for would be supplied (1992, 1993, 2046). She had seen numbers of the patients wearing stockings without feet, but she did not take much notice of that matter, for some of the patients would not keep their stockings on (2049). This witness confirmed the statement that the patients in the associated dormitories never slept in sheets, and that the blankets were taken off the beds, and the patients complained of cold at night (2050). The sheets were taken off because there was not a sufficient number, although they were supposed to be put on the bed (2051, 2052).

175. Rose McMahon stated that patients did not complain of cold, but she did not consider the canvas rugs with which they were supplied to be sufficient bed covering (1895), as they consisted of only two pieces of canvas sewn together (1896), and sometimes having the blanket sewn on to them, but these latter were only used for show purposes (1897, 1898). When she made complaints to the matron of the
insufficiency

insufficiency of the clothing, she would supply her with clothing from the store, if there was any there; if not, from the laundry (1848-1853). Speaking generally, she did not think there was a sufficient supply of clothing (1854-1857).

176. Rachel Kelly, on the other hand, stated that the clothing was always sufficient and clean, and was ragged only when torn by the patients (2503-2505). She stated the clothing was never taken off some patients and put on others about to be visited by their friends, (2506-2510). She stated that Josephine Mackay never had complained to her of an insufficiency of clothing for the patients (2621) or that they had no bed-clothes at night (2622). This witness stated that she had never put a clean dress over a dirty one on a patient; all she did was to make the patients presentable by straightening their bonnets, and putting them in order. There were no dirty patients, for as soon as a patient was found in a dirty condition she was changed at once (2644, 2645). Sheets were supplied for the beds in the dormitories at night. They were not taken off the beds in the afternoon, folded up, and put away, with the exception of two patients, who were dirty and destructive. In all other cases sheets were used at night. It was not true that good mattresses and bed-clothing were displayed merely for show purposes in the daytime, and not used at night (2606-2613).

177. Kate Brennan, in the dormitory under her charge, did not make any change in the sheets, but she believed it had been done last winter (5393) by nurse Maggie Macleod, who used to make the change referred to (5396). When visitors came the patient's dress was tidied up and a specially untidy dress might be removed (5402, 5403). She never had taken off the clothes from one patient to put them on another, and had never seen it done (5404). There was always a good supply of clothing for the use of the patients, and everything required, including stockings, could be obtained from the laundry (5405, 5406). In reply to questions, this witness stated that Maggie Macleod, when she took the sheets off the beds at night, told her that she acted thus because she could not obtain sheets from the laundry, and it was not necessary to leave them on the beds. No order was given to Macleod to act in this manner (5451-5453), and she never knew any one but Macleod to do it (5533, 5534). The bedding at night was exactly the same as shown to visitors during the day, except in the case of dirty patients (5466-5469).

178. Nellie McBride (who has been a nurse for seventeen months at Bayview Asylum and in attendance on the Government patients) stated that there were plenty of sheets, blankets, and counterpanes in the dormitories (4313-4316), and that the patients had plenty of stockings (4317). It was part of her duty as a nurse to repair the clothing and torn stockings during every afternoon (4567). She had never known any patients permitted to wear stockings without feet (4568). There was always an ample supply of clothing for the patients in the dormitories (4338), and the patients were always kept clean in every way (4339). There was an ample supply of linen in the laundry available for use (4353). Regarding nurse Macleod's evidence, she was satisfied she was not a truthful person, as on many occasions she had had opportunities of arriving at such a conclusion. For example, Macleod had often told witness that she had put stockings on patients when she had never done so, and when her attention was called to this neglect she told witness to mind her own business, and this kind of occurrence had taken place frequently (4354-4361). Macleod's evidence, already stated, on the subject of sheets for the beds, was read over to this witness, and she stated that whatever Macleod stated in this respect was exactly the reverse of her experience and her practice (4372-4382). Patients in the single rooms were supplied with sufficient bed-clothing, only those who invariably destroyed their clothing and ripped up their bedding being put naked into them. Two persons only were so treated. The sheets and blankets supplied to the patients in the single rooms were only changed for stronger coverings when lighter things had been destroyed. This witness had never heard of a patient suffering from cold while in a single room (4468-4479). This witness was asked if she remembered the removal of General Richardson from the asylum, and whether shortly after that time there was a larger supply of linen brought into the asylum, and she stated that she had observed nothing unusual in that respect (4363-4365).

179. Johanna Dwyer, who was a nurse six years ago, gave evidence as to the practice in her time, and stated that the sheets were never taken off the beds at night, after being used for show during the daytime (5687, 5688). The supply of clothing was sufficient, and it could always be obtained when the attendants went for it (5689, 5690, 5691).

180.

180. Jessie Urquhart stated that when patients were put to bed at night they had everything necessary in the way of bedding and night-clothing (6336). She had removed the sheets from some of the beds, under the matron's instructions, because the patients were very dirty (6337-6344). This witness contradicted the evidence of Macleod on the subject of the supply of night-dresses and the practice as regards the removal of the sheets from the beds, and stated that if Macleod had wished to get more clothing for night use she could have done so equally as well as herself (6357-6372). The witness did not remember that any great extra supply of linen and clothing material had been brought to the asylum to be made up for the patients (6354 to 6356), and no extra work of making up had been engaged in other than what was usual (6415-6424).

181. Ada Simpson, who had been over a year employed at Bayview Asylum, stated that an ample supply of bedding was provided for the single rooms, consisting of blankets; mattress—sometimes a single mattress, but always large ones when the patient was troublesome—rugs, pillows, and sheets (7398). Maggie Macleod and this witness were employed at the same time at the asylum (7416). The various points referred to by Macleod in her evidence were all severally cited to witness, and she categorically denied each of them, stating that Macleod was very untruthful and always grumbling (7419, 7420). The denial of the truth of Macleod's statements extended not only to the matter of clothing but to other points of complaint stated by Macleod and to cases of neglect cited by Macleod. The sheets were not removed from the beds of patients in the dormitories except in the case of dirty patients. In these cases, four or five in number, the bottom sheets were removed, and they were replaced with waterproof sheets and a double blanket (7446). The sheets were never taken off for the purpose of saving washing or for preserving the sheets (7447).

182. Eliza Hunter stated that she had been laundress at Bayview Asylum for the last thirteen months (4217). There was always an adequate supply of linen for the use of the patients (4218-4220). She had had no extra amount of work to do since the removal of General Richardson (4221-4228), nor any larger supply of clothing coming to and going from the laundry (4235, 4236, 4260). Macleod's statement on this subject was untrue (4235); in fact, she was very untruthful (4238). Macleod used to keep back the soiled linen, and tried to induce other nurses to do the same, and thus led to great confusion (4240-4245). Macleod's statements as regards sheets not being used was also untrue (4262-4273).

183. Catherine Perrin's evidence was to the effect that Macleod's evidence was false in every respect, as far as she had observed, and that Macleod was an untruthful person (7337-7339). There was an adequate supply of clothing and bedding, and no larger supply than usual of clothing was brought to the asylum shortly after General Richardson's removal (7354-7362). This witness had never heard, in the course of her experience at the institution, that the clothing of some patients was put on others to make them presentable when taken to visitors (7363).

184. Mrs. Gilchrist, the lady superintendent of Bayview Asylum, said she had the control of the housekeeping and the domestic arrangements (6570). She had no recollection of an extra supply of clothing of unusual character being obtained soon after the removal of General Richardson from Bayview Asylum, although she made the requisition list for such articles (6583-6586). The usual practice is to regulate the supply according to the season (6587, 6588). There is always an ample stock of clothing kept in the store-room, from whence it is issued to the matron (6589, 6590). No complaints as to short supplies of clothing had been made to her, and every request made by her for supplies had been at once complied with (6592). The witness denied that the patients were either imperfectly clothed, or dirty, or deficient in stockings (6594-6596). She was aware that Maggie Macleod had removed sheets from the beds of the patients in the dormitory under her charge, but when this matter came to her knowledge she spoke to the matron, and the practice was stopped at once (6610-6615, 6617-6625). When Macleod stated that she had complained to this witness about the making up of the beds and making the best of everything, as she did not approve of these things, she made an utterly false statement. She never did so (6627). Witness never saw or heard of new dresses being put over old ones when the visiting doctors came (6628, 6629). Macleod's evidence, already cited, was read over to this witness, and she positively denied each of the charges of neglect made by Macleod as regards clothing and individual cases of neglect (6638-6664, 6755-6758). Witness never had heard

heard of the patients complaining of cold, and the supplies of blankets and bedding were adequate and adapted to the particular case, both in the dormitories and in the single rooms (6664 to 6670). The evidence of Verity was contradicted by witness (6671 to 6681). The statements of Annie Marshall that she had complained of the insufficiency of the clothing to witness was absolutely false (6681 $\frac{1}{2}$, 6682). Josephine M'Kay's statements with regard to the patients in the single cells being always put in in a nude condition at night was untrue; only those who tore everything off were so treated (6685, 6686).

185. Sir Alfred Roberts was satisfied, from personal examination, that the clothing of the patients was sufficient (7713-7717). On one occasion the visitors criticised adversely the bedding in regard to that supplied to the single rooms on the female side (7712). He approved generally of the provision made for patients in the single rooms (7788-7802). The practice adopted with regard to dirty patients when sheets were removed was not harmful (7817-7818).

186. The evidence of the other official visitors was very similar to that of Sir Alfred Roberts.

187. The Inspector-General of the Insane, when asked whether he was satisfied with the clothing supplied to the Government patients, stated that (8755) it had to his mind always been ample in quantity, but he had occasionally to criticise it in some particulars. He had considered that the dresses were at times not sufficiently light for the summer weather, that the quality of the material was poor, and that the dresses were sometimes worn to a very shabby condition, and he had at times, and when necessary, expressed his opinion on those points. He had never seen patients underclad, considering the time of year, nor in any way suffering from cold. The supply of petticoats had always appeared ample, and it was very easy to a practised inspector to see this. He had never had complaints from patients as to insufficiency of clothing. Other complaints were not unfrequently made. These for the most part had been as to the kind of material, the want of new and lighter boots, and as to little matters of collars, ribbons, etc. On such points he had occasionally asked the doctor or matron to humour the whims of the patients, and at his next visit he had been shown the article specially got. Scarcely a visit passed without some minor complaint of that kind, but he had heard no such grievance as to clothing, and seen none. It was most difficult to keep certain classes of patients, or certain patients, in particular phases of their malady clean or tidy. They were careless, destructive, dirty, and indecent, and it was almost impossible to keep them clean or tidy. It was necessary to employ canvas jumpers or overalls in some of the cases, and in some cases those jumpers were all the patient had on except, perhaps, some torn underclothing. For such patients it was not at all uncommon, indeed it was necessary and right, in the public asylums, to give the cast-off clothing of the better-class patients to the other patients so long as it was sufficiently warm and clean. It was only delaying by a few days or even a few hours the passage of these garments to the rag bag and making them serve a useful purpose in the meantime. Those patients who were almost always partially unclad, and whose persons were exposed when a nurse was for a moment away, did not appear to suffer cold. Their activity and constant movement kept them warm generally; there was a singular insensitiveness in others, and strange to say, colds, bronchitis, inflammation of the lungs, and other similar ailments were almost unknown among this class. Even infectious diseases seemed to attack them less, and the influenza when prevalent in hospitals for the insane, for the most part, if not entirely, passed them by. At his visits of inspection he had at times examined the bedding, removing it from one or two beds taken at random in the dormitories, with the special object of seeing if the sheets were clean and dry. At these times he had seen the bed and the blankets, and always considered the latter sufficient for the time of year; sometimes they were more than sufficient, and it had been explained to him that the extra blankets were left on at the wish of individual patients. He had never had a complaint made of insufficient clothing at night. The clothing for private patients was mostly supplied by friends, but sometimes it was left to Dr. Vause to supply, and was then, so far as he had seen, suitable and sufficiently varied. Questioned relative to the statement (8756) that private clothing had been worn by Government patients, he stated that he knew nothing to this effect, though he could easily imagine that discarded pieces of finery, or cast-off dresses of private patients, had been so appropriated, especially as they would in some cases be accepted with pleasure and worn with

with much satisfaction. As to the clothing of Government patients, or of the kind supplied to Government patients, being occasionally used for private patients, he was aware that it had been done, and with, in his opinion, perfect propriety.

188. Dr. Vause denied that there was any foundation for the charges made by the witnesses Mackay, Macleod, Verity, and McMahon as regarded clothing (10070). As far as he was aware there was always an ample supply (10071, 10072). He stated that he had used the same dress material for private patients that he used for Government patients when the friends of the patient had not supplied sufficient clothing (10073, 10074). This clothing so supplied is witness' own property, not the Government's (10077, 10078). Some of the patients made up their own dresses when witness supplied the material (10080, 10084). Under-clothing was amply supplied to the patients, and its absence would have been easily detected (10091, 10094). It was only on very rare occasions that the matron had to wait any unreasonable length of time for supplies (10096 to 10101). While trivial alterations were made in the clothing when visitors arrived, the changing of clothing to deceive was denied (10102, 10103), and he thought there was not time for this purpose (10104). Numbers of dresses were made in sizes and kept in stock for use, but not for slipping over dirty clothing when visitors came (10105 to 10110). Macleod's evidence as to the removal of the sheets placed on the beds during the day when patients were put to bed at night was utterly false, and if such a practice occurred it was caused by her neglect of duty (10423 to 10116). The witness explained that in the single rooms the bedding for destructive patients was a canvas tick, filled with straw, and rugs, two or more, for a covering. The other patients were provided with ordinary bedding, blankets, sheets, &c. Some had iron bedsteads. Loose straw was used in the case of one patient only, who persistently refused to sleep in anything else, and destroyed the ticks when supplied (10130 to 10131½). The patients were not placed in those rooms naked as a rule; there was only one case where this treatment was usual. In other cases, occasionally for a short time, patients became destructive, but as soon as they could use bed clothing it was supplied. The evidence of Mackay, Marshall, Verity, and Macleod on this subject was utterly false. The clothing was supplied in those cases, but was withdrawn if found to be a source of danger—in fact, the customary treatment of those cases was adopted (10133 to 10141). With reference to the charge that an unusually large quantity of clothing had been obtained shortly after Major-General Richardson had been removed from Bayview Asylum, the Commissioners, in addition to the evidence already given, obtained the services of an accountant to examine Dr. Vause's books with the result that the relative expenditure during the year 1893 and 1894, as well as the expenditure during the months of June to December, 1893 and 1894, showed that contrary to the statements made by some of the witnesses, a less amount was expended for clothing, &c., during 1894 than during 1893. (Appendix .)

The Finding.

189. The Commissioners, after giving careful consideration to the large amount of evidence forthcoming for and against this charge, find that the balance of testimony is largely in favour of an ample supply of clothing being available at Bayview House. If patients were allowed to remain insufficiently clothed, it was not owing to the absence of clothing from the establishment, but due to the negligence of those nurses whose duty it was to see that patients did not suffer inconvenience or harm in this respect. Private patients were clothed at the instance of friends and relatives, upon whom rested the responsibility of an ample and suitable supply of wearing apparel. The Government patients were seen at frequent intervals by the Inspector-General of Insane, whose special duty it is to insist on these unfortunate persons being adequately clothed. Evidence given by the Official Visitors, by medical officers who had charge of the institution during the absence of Dr. Vause, and by Dr. Vause, supports the Commissioners in finding that this charge is without foundation, and that the practice of preparing the patients for the visits of their friends followed at Bayview House was similar to universal custom in this branch of the treatment of the insane. They further believe that there can be no doubt, from the general evidence as well as from the examination of the accounts of the asylum, that no unusual expenditure for clothing occurred shortly after Major-General Richardson's removal, as was stated by some of the attendants.

Single Rooms.

190. In the Female Department, on what was termed the Government side of Bayview Asylum, were eleven single rooms for the isolation of patients, and at either end was a sleeping-room for nurses who were supposed to have the oversight at night of the inmates.

191. Macleod's evidence as to these rooms was to the effect that the patients were placed in them at from 5:30 to 6 p.m., and that they remained there till 6 o'clock next morning (1503) without any provision of any kind for attendance or for visitation during the night (1504). She stated that there was no observation hole in the door to make inspection (1505); that there was no night patrol, but that after Major-General Richardson was taken away provision was made for that purpose (1509), by arranging for the nurses to take the duty in turns (1510). The patients were not supplied with comfortable bedding; they were put in on straw; they were stripped of their clothing, put in these rooms, and a bag of straw would be put in with them. She stated that the women were stripped naked (1586, 1651), and were not supplied with sheets, blankets, or any other bedding (1515). She further stated that these women were placed in these rooms in this way to save trouble and expense (1573). No utensils were provided for their use (1653) while she was there, but lately, she believed, some had been placed there (1654, 1655, 1657). There was no covering provided for the convenience of the patients (1658). As particular cases of improper incarceration in the single rooms, the case of Miss C was mentioned (1564, 1739). She was neither a violent nor an excitable patient (1740), and Macleod stated that she would not have been frightened to sleep with her. Miss C. slept on the same kind of mattress, with straw, already described (1743). Mrs. W., a private patient, had only a straw mattress (1644) without any covering, and objected to go into the room. This patient, she stated, used to knock herself about terribly, making herself black and blue, both in the night and in the day time (1666, 1667). Some of the nurses intended to write to the Inspector-General of Insane about this patient on the very night she died (1668). Mrs. N. also died, witness stated, in one of these rooms (1683), when she was nursed by Josephine Mackay (1686). Miss H., placed in one of the single rooms (1766), had her arm broken (1719-1730), and a departmental inquiry was made (1731-1734), at which Macleod gave evidence (1771), when she had the opportunity to make complaint on these subjects (1771), but she did not do so (1772); and, in answer to inquiries, stated that she did not know why she did not avail herself of the opportunity. Such a series of charges made on oath by this witness impressed the Commission with the absolute necessity for the closest investigation of all the available evidence attainable. Josephine Mackay, who was an assistant nurse, and engaged in domestic duties for fifteen months, from April, 1893, to January, 1894, and who was dismissed because she allowed a patient under her charge to escape from this asylum, stated that the patients were placed in the single rooms after being undressed, and a kind of mattress made of straw was put in the room with them (2226), without any under-clothing, and quite naked (2227, 2228, 2229), with one exception, who was provided with night-clothes (2231). Afterwards, in cross-examination, she added that an old rug was given to the naked patients for covering (2271). She stated that there were observation holes in the doors (2276). The nurses only looked through these holes when there was an unusual noise and patients were heard knocking themselves about (2278). The mattresses put in during the day were taken out at night, and the bag of straw supplied (2281). She had seen one utensil in use (2288). On the whole, it was necessary to put some of these cases in single rooms (2350). As regards particular cases, this witness stated that Mrs. W. used to knock herself about very much (2252) during the week or fortnight that she was ill (2254), and, as she attended on her during the last three days of her life, she saw some bruises on her stomach (2291). In the case of Miss C., her father, when he visited her, was not shown the room in which she slept, but another bedroom altogether (2313-2318). Annie Marshall was engaged in the asylum for six months, from 3rd March, 1894, but was only six weeks among the patients, the rest of the time being spent in Dr. Vause's private residence. This witness resigned her connection with the asylum in consequence of a disagreement with the lady superintendent. She had seen the patients put into the single rooms, but regarded the absence of clothing as a necessary procedure in consequence of their destructive character (2088,

(2088, 2089). The matron visited these patients at 7 o'clock. Rose McMahon was employed for eighteen months at Bayview Asylum, from 1892 to February, 1893, and was dismissed. She had charge of the dining-room among the Government patients. She saw the patients placed in these rooms, when their clothing was removed (1866). Her evidence differed from that of previous witnesses. She saw placed in all these single rooms straw mattresses and a kind of canvas rug, one patient only being placed in loose straw (1868). One or two of the patients had night-dresses (1873). There were only two of the rooms supplied with utensils (1874-1876). No attendance was given during the night unless the patients made a noise (1878), when the nurse who was sufficiently near (1881) would go to the room. The canvas rugs with blankets were used for show (1897); those used at night were simply canvas, but the beds were put in clean at night (1894). Lizzie Verity was engaged as an attendant from January to September, 1894, when she was dismissed. She had put patients into these rooms (1970). There was no night attendant to look after their requirements (1973), and the patients were stripped, no night-dresses being supplied (1976, 1977, 1978). The bedding supplied depended on the character of the patient, either a straw mattress or straw only being supplied. She thought that five utensils were supplied to the rooms (1999-2002). Coverlets were supplied (2017), and the patients never complained of cold (2023). Bridget Morrissey acted first as nurse and afterwards as matron at Bayview Asylum. She left the asylum in November, 1893, in consequence of the accidental poisoning of a patient (3292). She received a good character from Dr. Vause, and certified, in the book kept for that purpose, that everything possible had been done, during her experience, for the comfort of the patients (3296). This witness stated that the patients placed in these rooms were dressed at night according to the nature of the case; some would have clothes on, but those who were violent or suicidal would be left naked (3304). The patients had beds and rugs, and the private patients took their own clothes in from the dormitory (3312). A nurse slept at each end of the rooms, but there was no special night-nurse. One patient tore up everything, and could only be placed in straw (3338). There were four or five india-rubber utensils. It would have been unsafe to give them to some of the patients (3540, 3541, 3542), as they would probably use them to attack the nurses. This witness thought there was no economy occasioned by placing the patients in the single rooms (3398). On emergency, she would put violent cases in at once and report to the superintendent (3388, 3465, 3466, 3467, 3468). Although she had conversations with Macleod (3448), and they agreed upon some points (3449), she denied Macleod's statements as to her complaints about putting the patients naked into the rooms (3544). This witness denied that the beds were changed at night, and stated they were always clean and fresh (3604, 3605, 3606). Only one woman slept in straw (3621). Five only were put in naked, and in two of the rooms there were bedsteads (3620). As regards Mrs. W.'s case, this witness stated that she bathed her on her arrival at Bayview Asylum, and that she had been much knocked about and was black and blue in places. She was a very violent patient, and was always throwing herself about. The priest was fetched by Josephine Mackay at the time of her death.

192. On the other hand, Mrs. Gilchrist, lady superintendent since 1st January, 1894, stated that the patients were not put into the rooms, as Macleod had stated, to save expense (6658). Two of the rooms were occupied by patients denuded of clothing (6710, 6711, 6712) as a matter of necessity. The nurses in the adjoining rooms could hear and attend to these cases (6738), and visited them when necessary at night (6739). A night nurse was now on duty, appointed since last June (6743), in consequence of a new arrangement of the duty (6744). Referring to the case of Miss C., Mrs. Gilchrist contradicted the statement of Macleod, that although a private patient she never slept in the private patients' department till her father came to see her. Witness stated that in the early part of her illness she was only fit to be kept in a single room (6649), and therefore it was compulsory to put her in an isolation room on the Government side (6650). Macleod had never made any complaint to her (6656); on the contrary, Macleod said the patients were too much humoured (6656). Two patients only were necessarily denuded of their clothing. When Mr. C. came to see his daughter, witness showed him the room in which she was sleeping at the time of the visit (6814). Miss C. was tried in the dormitory, in the hospital, and in a single room, according to the development of her disorder (6816, 6817, 6818).

193. Johanna Dwyer, who six years ago was an attendant on both the Government and the private side of the asylum, and who had previous experience at Parkside Lunatic Asylum (5634), stated that patients were placed in these single rooms under authority of the doctor or matron (5647), and were supplied with everything necessary (5649), but when destructive were deprived of clothing and allowed to remain in straw (5650, 5705). The watching of the nurses at either end of the corridor was ample. Any disturbance could be heard and attended to (5653), and there was no necessity for a night nurse on patrol (5654).

194. Kate Brennan was in charge of the Government patients' dining-room at Bayview Asylum, where she has been employed for the last two years. She knew one patient who is put into the rooms naked and slept in straw (5390), but she was a most destructive patient. Each room was supplied with a utensil (5441). She stated that Miss C. always had a night-gown on in the room (5524).

195. Nelly McBride had been seventeen months at Bayview Asylum, and had been employed amongst the Government patients. She had placed patients in the single rooms (4319). When dormitory patients they had their own bedding, of which there was plenty. The other patients would have a bed and a pillow, a coarse linen ticking filled with straw, and two rugs (4320) made of canvas on one side and a blanket sewn on the other (4321). When patients were taken out in the morning some would have their night-dresses on and others would not (4346), but the night-dresses were always put on at night (4347). Seven or eight utensils were used, and they were given whenever a patient would use them (4348, 4349, 4350, 4351, 4352). This witness denied that it was customary to put women into the rooms at night in a nude condition (4436). She had never used a scrubbing-brush to clean a patient, nor had been guilty of cruelty (4431 to 4435). Miss C. was only put into a single room when very troublesome (4419), and then she had night-dresses and plenty of blankets (4420). This witness also stated that she had heard Macleod say the patients were too well looked after, and had too much of their own way (4562). She remembered Mrs. W's case, and was present when she died in the associated dormitory (4854).

196. Rachel Kelly was employed at Bayview Asylum from 28th February, 1893, to 29th January, 1894, in charge of the Government patients (2500). She stated that she had had opportunities for observing the condition of the patients put to sleep in the rooms (2521), and was of opinion that, as a rule, they were dirty, troublesome, and destructive (2522). The articles of bedding supplied consisted of a straw mattress and canvas rugs lined with blanket. One or two patients were put in naked. These patients could not be kept in the dormitories (2602) on account of their noisiness or their destructive habits. If not destructive, night-dresses were supplied (2646). Two india-rubber utensils were supplied (2560), and the witness thought that the patients who had no night utensils would have destroyed them if they had been put into the room. This witness remembered Mrs. W. as a patient. When Mrs. W. was put in the single room witness stated that she was very excited (2649), and that it would have been dangerous not to have placed her there.

197. Jessie Urquhart has been an attendant on the Government patients since 16th April, 1894. She stated that according to her observation a night-dress was supplied to all the patients placed in the single rooms (6396).

198. Ada Simpson, employed since November, 1893, among the Government patients, stated that she had personal knowledge of the mode of dealing with the patients placed in the single rooms, and explained the system adopted in case of outbreaks of violence during the daytime (7388 to 7394). The matron was always present when patients were put in the rooms at night (7395). The rooms were kept clean and tidy, and were cleaned every time the patients left them (7397). The bedding supplied consisted of blankets, mattress—sometimes a single mattress, but always large ones when the patient was troublesome—also rugs, pillows, sheets, and sometimes an india-rubber utensil (7398); of utensils, there was an ample supply (7401). The only patient she had seen put in naked was E. H., a very destructive patient (7405). In the case of Miss C., she had a night-dress, and two double mattresses were placed in her room, because she would not stay in bed.

199. The Inspector-General for the Insane gave evidence that, in his opinion, there was a sufficiency of attendants both for day and night duty (8716). He stated that he was satisfied with the night nursing. He was aware that there was no regular night patrol, and with the attendants and nurses sleeping in the dormitories
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he did not think this to be required. So far as the single rooms were concerned, the patients, except occasionally, when night attendance was required, were eight or ten chronic cases of insanity, isolated by reason of noise, violence, dirty or destructive habits, and in robust health—nothing could have been done for them at night; they would have been in no way benefited by visitation, and, indeed, in the majority of cases it would have been quite impossible or dangerous for any single nurse to have opened the doors. Some of the cases referred to as a matter of complaint by some of the witnesses, had occupied single rooms for years, both at Bayview Asylum and Callan Park Asylum (8724). He did not regard the night patrol as an absolute necessity for visiting the patients, but rather as a safeguard in regard to outbreaks of fire in the building (8726). He had not advised the provision (8728), and, except in cases in the acute stage, or if patients were suffering from any unusual mental or bodily sickness at Bayview, there was always a night nurse in attendance (8852). As regards the special cases, that of Miss H. had been inquired into by himself and two of the official visitors, and the accident which had occurred had been occasioned by placing an epileptic and restless patient in a single room with a bedstead, which had been done in ignorance of the history of the case (8707).

200. Referring to the single rooms in the female side, Dr. Vause stated that while a canvas tick filled with straw formed the bedding in the case of destructive patients (10130), there were other patients who of their own accord requested to sleep in them. While the destructive patients were supplied with the canvas tick with straw and two or more rugs for covering, those non-destructive were provided with ordinary bedding, blankets, sheets, etc. In one or two instances, when the rooms have been occupied for a long time, the patients slept on iron bedsteads (10132). Macleod's statement that these patients had only straw to lie on was true of one case only, a patient who persistently refuses to sleep on anything but straw (10132½). Dr. Vause stated that, as a rule, the patients were not put in the rooms naked; he knew, however, of one exception (10133). The evidence of Josephine Mackay to the effect that the patients were always put in these rooms naked at night, that of Marshall to the same effect, that of Verity that all the patients were stripped and had no night-dresses or chemises, and that of Macleod that the patients were stripped and put to bed quite naked with a bag of straw, was positively contradicted by Dr. Vause (10135). He added, that no patients were put naked into these rooms if they would wear clothing (10136), and the clothing was withdrawn if he found it a source of danger or injury (10137). This was in the interest of the patients (10138), and not from any desire for personal profit (10138). In pursuing this course, he followed the customary mode of treatment (10140).

201. Dr. Vause forwarded a written statement with regard to the various charges made against his management of Bayview Asylum, and referred to the individual charges of bad treatment made by the female witnesses already cited, and made certain explanations (minutes of evidence, p. 255). He stated that the private patients, who have from time to time been treated on the Government side of the house, had been such as required seclusion during the day; such as required a single room to sleep in at night; such as requested to be allowed to occupy a single room at night, and for whom a bedstead would be provided, as in the case of Mrs. H. and others.

The Findings.

202. Without entering further into details, it may be affirmed that with regard to the evidence furnished to the Commissioners it was apparent, not only from the nature of the statements made by the several witnesses, but also from their manner when being examined, that many of them were persons very unsuited for the positions they had filled. The majority of them had had no previous experience of the peculiar kind of work entailed on those in charge of lunatics. Dr. Vause explained to the Commissioners that it was his usual practice to prefer inexperienced persons, and to train them according to his own method for their work, graduating the various spheres of responsibility. The Commissioners are of opinion that, however theoretically correct this practice may have appeared to him, it has proved most unfortunate in numerous respects as regards many of the persons employed by him who have appeared as witnesses before the Commissioners. The absence of all experience, even in the common elements of nursing, and more especially the profound ignorance displayed with regard to the special treatment of lunatic patients, have led many of those who were employed as attendants at Bayview Asylum to make statements and give information and form opinions, which even a slight acquaintance with the general and necessary practice in lunatic asylums would have considerably modified. 203.

203. It will be observed that the principal gravamen of the charge in connection with the single rooms was that patients were often placed in them to save the expense of an adequate staff of attendants and the provision of the usual comforts of a bedroom, and that in consequence many persons were thus dealt with who should have received other treatment. As to the adequacy of the nursing staff at Bayview Asylum, the Commissioners are satisfied that as regards numbers there could be no doubt on the subject. The opinions of the nurses as to the suitability of this form of treatment may be dismissed summarily, inasmuch as the Commissioners cannot regard them as competent witnesses on the subject. The discrepancies already recorded as to the number of patients placed in these rooms from night to night prove clearly that, with the exception of two or three cases, which were those treated for long periods, the witnesses explained their personal experiences as much from their feelings towards the asylum as from their remembrance of numbers and cases, and this was very clearly shown in the evidence relating to the night clothing and bedding supplied to the patients in these rooms. On this point the Commissioners consider the evidence given by Macleod as generally unworthy of credence. It is only variously supported in its details by other witnesses, and is contradicted by a large number of those who may be regarded as giving evidence on the same lines as herself. It would be needless to enter into details on this subject, as the statements already recorded from the evidence furnish the proof.

204. The Commissioners believe that the evidence shows that the practice adopted at Bayview Asylum was similar to that employed elsewhere in lunatic asylums. In the presence of the head attendant and matron, and in accordance with the instructions of the Medical Superintendent, cases requiring seclusion were placed in the single room. Patients of a destructive tendency were denuded of clothing and placed on mattresses of straw, with canvas rugs for covering. Patients of other classes were provided with suitable night garments and bedding. There is no reliable evidence that these patients suffered from cold. The discrepancies with regard to the number of utensils supplied is, the Commissioners believe, explained by the fact that many of the patients destroy them, while others use them as weapons. The Commissioners entirely disbelieve, and the weight of evidence is altogether against, the statement that no utensils were supplied at night. It would seem that a varying number was given from time to time according to the nature of the case. This form of treatment in single rooms is now universally adopted in lunatic asylums, and its purpose is to do away with the methods of mechanical restraint at one time adopted. Patients requiring this form of treatment are no longer amenable to the usual conditions of ordinary life, and it is universally allowed by all the authorities that the quietude and rest provided are indispensable to successful treatment. The only case brought under the attention of the Commissioners, where an accident had occurred to a patient while in these rooms, was the one in which an epileptic patient was improperly placed in a room where there was an iron bedstead, and who sustained a fracture of the arm, in all probability in consequence of a fall on the bed-frame while in a fit. As stated elsewhere, a departmental inquiry was held in this case.

205. Reviewing the whole of the evidence on this subject, the Commissioners are of opinion that any shortcomings or laxity that may have occurred in connection with these single rooms have occurred in consequence of the want of professional knowledge and skill on the part of the nurses. Weighing the evidence as a whole, they believe that these single rooms, which have been continuously subjected to official inspection, have answered their purpose as well as could be expected in a temporary building.

206. The provisions made for the lighting of these rooms by the windows recently opened over the doors undoubtedly added to their usefulness. The night patrol, also introduced within the last few months, the Commissioners consider to be of great value, not only on account of the better attendance thus supplied to the patients in the rooms than when sole dependence was placed on the day-nurses sleeping at either end of the corridor in which the rooms were placed, but also because by this means precaution was taken against accidents by fire. On this latter point the Commissioners cannot agree with Dr. Vause as to the absence of risk, in view of the inflammable nature of the buildings, and the character of the patients locked up in these rooms.

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The Mingling of Private with Government Patients.

207. In Bayview Asylum a distinction was necessarily drawn between the private portion of the establishment and that allotted to the patients paid for by the Government. Some witnesses gave evidence to the effect that this arrangement was not always maintained.

208. Maggie Macleod stated that it was a frequent occurrence for private patients to be mixed up with Government patients at all times (1568). The case of Miss C. was instanced as one of a private patient who slept in the Government end (1566). As this case has already been disposed of, it may be here stated that satisfactory explanation has been given to the effect that this patient required treatment in the single rooms, which were at the Government end of the building, and hence the reason she was placed there. The witness stated that Miss D. L. and Mrs. M'L., both private patients, were put in amongst the Government patients (1567).

209. With regard to the case of Miss D. L., Mrs. Gilchrist stated that the lady was not always fit to be put among the private patients, as she upset the tranquility of other patients. The patient always slept in the associated dormitories (6654). With regard to the case of Mrs. M'L., witness stated that, although a private patient, she was put on the Government side, and sleeps in the nurses' room, because the nurses paid her some personal attention during the night (6655). Miss D. L. frequently spent days together in the Government dining-room, in order to enable her to work off a large amount of superabundant energy without annoying anyone, but she invariably occupied a private patient's dormitory at night, with only a few rare exceptions (9941).

210. Mrs. M'L. was originally a Government patient, but some years ago, when the Government directed her removal to Gladesville, her friends agreed to pay at the Government rates on condition of her remaining at the Bayview Asylum.

211. Dr. Vause explained the nature of Miss D. L.'s case, both in his principal statement and in his evidence. Subject to various delusions, at times she becomes very excited and aggressive, and, therefore, Dr. Vause thought it better to place her in the large dining-room, where she could walk about and exhaust her excitement (9941--9944). Her meals, however, were supplied in the private side, where, under ordinary circumstances, she remained and slept (9945).

The Finding.

212. The Commissioners find that the private patients named in connection with this charge were in their own interest removed from the private wards to other parts of the institution, not only to place them in surroundings more conducive to an improvement in their condition, but also to put them where they would not be a source of annoyance and excitement to others.

Alleged preparation for Official Visits and the Visits of Friends and Relations.

213. A charge was made by several witnesses to the effect that a sufficiently long notice was given to the attendants, so that they were enabled to cover any defects in dress, cleanliness, and other matters from the observation of the Official Visitors or of the friends of the patients. It was stated that it was not merely a tidying up of the patients that occurred under these circumstances, but that a sufficient interval transpired between the arrival of the Official Visitors at the asylum and their examination of the patients in the wards or yards to permit of notice being given to the attendants to enable them to clean up and, in many cases, dress patients who were in a state of disorder or uncleanness.

214. Referring, in the first place, to the visits of the Inspector-General for the Insane and the Official Visitors, the Commissioners received the following evidence:—Margaret Macleod stated that notice was given to the attendants when the official visitors or visiting doctors had arrived at the asylum (1615), about twenty minutes or half an hour before they came to see the patients (1616), and that the visiting doctors never dropped on them suddenly (1617). When these gentlemen reached the institution the nurses went to extra trouble to make things more presentable (1679), and that instructions to that effect were given by the matron, so that the beds were made up, the patients' clothes changed, and the best was made of everything (1677). Further, this witness stated that she was quite certain that on no occasion while she was connected with the institution did either the visiting doctors or the Inspector-General of the Insane come straight into the wards and see the patients

patients without being announced in the manner described (1788). In other words, this witness stated that the place was thus fully prepared (1789), the beds were put in order, sheets were put on, to be afterwards taken off (1790).

215. Similar evidence was given by Josephine Mackay, who stated that the information of the arrival of the visitors was notified by the matron or the nurse who admitted them, and then the patients were undressed and dressed again in more suitable clothes for the inspection (2302-2309). This witness stated that about ten minutes or a quarter of an hour would be required to get the patients ready, and then the doctors would come through the wards and inspect (2328).

216. Annie Marshall, who was chiefly employed in Dr. Vause's private house, stated that when the Government visitors arrived to make their official inspection they called first at the doctor's residence, and then she ran across and told the other nurses of their arrival (2080). This was done so that they might get the patients and the place in proper order (2081). Neither Dr. Vause nor the matron had asked her to let the nurses know of the visit; she had done so on her own authority (2082). When she first arrived at the asylum Dr. Vause had once asked her to inform the nurses, and she had afterwards done so without being instructed (2082, 2083). She further stated that the official visitors always went to Dr. Vause's house before they saw the patients (2085). She never remembered them to have gone to the patients first and Dr. Vause's house afterwards (2086).

217. Bridget Morrissey stated that the nurses always knew when the Official Visitors came to the asylum (3359, 3417, 3418), and that thus they had a few minutes to get the patients ready (3360). The nurses all helped each other in this matter. Fresh dresses were put on the bad patients (3362). The witness stated that the notice was never a long one, sometimes only a few minutes (3524). The nurses never knew which way the visitors would go; sometimes they would go to the building, at other to the male division first (3525), and sometimes five minutes and sometimes half an hour would elapse after the arrival of the visitors before they reached the female division (3525, 3526). A great many of the patients were changed, but some were not (3527).

218. Lizzie Verity gave similar evidence. She had not known an Official Visitor to have gone straight to the wards. About a quarter of an hour elapsed between the time of their arrival and their inspection of the patients (2002-2006).

219. Rose McMahon stated that a quarter of an hour's notice was given when the Official Visitors came (1859). Dr. Vause sent the notice through one of the nurses or the matron (1860, 1861). The visiting doctors never came on them unawares (1862). This witness had heard that a notice written on paper was once sent so that the patients might be got in order (1863, 1864).

220. Rachael Kelly stated that there was no notification of the visit of the Government visitors. Dr. Vause went round with them. The matron used to say generally when visitors had come. She would send word so that they could get the patients together, as sometimes they were scattered about. About a quarter of an hour or twenty minutes elapsed between the arrival of the visitors and their entrance into the wards, and the patients were tidied and got ready in that time (2514-2517).

221. Kate Brennan stated that there was no special warning when the Official Visitors came to the asylum. The nurses never knew more than ten minutes or a quarter of an hour before the arrival of the visitors before they saw them in the wards. Not much could be done in making the patients ready in that time. They were only tidied, just as was done when Dr. Vause made his rounds (5402). Sometimes if a patient had a specially untidy dress it would be changed. The clothes were never taken off one patient and put on another (5403, 5404).

222. Nellie McBride had never heard that intimation of the arrival of the Official Visitors was sent to the nurses (4309, 4310, 4417). They often arrived in the dining-rooms and the wards before she was aware they were in the asylum (4416, 4298).

223. Johanna Dwyer gave similar evidence to last witness (5713-5717).

224. Jessie Urquhart stated that sometimes the nurses had about ten minutes notice, and at others they never knew when the Inspector-General of Insane or the visiting doctors were there till they saw them in the ward (6386). When notice was received one of the nurses gave it (6387). When they had ten minutes notice they would put clean things on some of the patients (6388).

225. Mrs. Gilchrist stated that, as a rule, the visiting doctors went first to Dr. Vause's office (6727), but occasionally they go directly to the wards. Usually the matron is sent for and accompanies the visitors and Dr. Vause; in such cases there may be an interval of ten or fifteen minutes, but no notification in this interval is sent to the nurses (6726-6730). Sometimes the Official Visitors go directly through the main building, without waiting for any one to accompany them (6782-6786).

226. Esther Allen, a housemaid at Bayview Asylum, who has been there for about eighteen months, stated that when the Official Visitors came they sometimes went to the office and sometimes to the house on arrival (7593, 7594). She answered the door, announced the arrival to the matron, who then takes the visitors to the wards (7595). No special message was sent to the nurses, and the witness had never heard that this was done (7596, 7597) in order to get the patients ready (7598). She had never heard of a piece of paper containing a written instruction to this effect being sent to the nurses immediately after the arrival of the visitors (7600). She positively denied the truth of Josephine Mackay's statement that such a notice was given, but said she had told Mackay as she was passing through that the visitors had arrived (7602), after she had seen and informed the matron (7603), and this was done only in a casual sort of way (7604, 7610), and without any particular object (7605). The witness was seriously cautioned as to the nature of the evidence she was giving, but stated that her evidence was true (7607). She positively denied the evidence of Verity, on the subject, when it was read over to her (7608), and affirmed that the only instruction she received from the Medical Superintendent was that she should inform the matron so that she might accompany the visitors through the wards (7609).

227. Hon. Dr. MacLaurin, who was formerly one of the Official Visitors to Bayview Asylum, stated that he considered that it would be a proper thing to announce the arrival of the Official Visitors so that the patients could be properly dressed and put in order. If he had the management of an institution of this kind he would send a message to the nurses to say the Official Visitors had come, in order that the performance of their duties might be facilitated as much as possible (5022).

228. Sir Alfred Roberts, in his evidence regarding this matter, stated that as Chairman of the Board of Visitors it was his duty to fix the day and hour of the visit, and he never apprised either the Medical Superintendent or anybody at Bayview Asylum when the visits were to be made (7692), and this was a universal rule (7693). When the Official Visitors arrived at the institution they went to the main building first (7694), and, as a rule, went to the female division first (7696). He did not believe the patients, between the time of the arrival of the Official Visitors and their visits to the ward, could be dressed in fresh, clean clothes, in order to make them appear in the eyes of the visitors clean and tidy and altogether different to what they were under ordinary circumstances before the arrival of the visitors (7718). There was barely time sufficient to get the patients together and put them on seats so that the visitors in their passage through the institution could see them properly. Certainly there was not time to change their clothing, except, perhaps, to arrange a shawl upon the shoulders or put a collar round the neck (7719). It would not be possible to make the changes described in the clothing, in the way of putting on fresh dresses, in the space of ten minutes or a quarter of an hour (7720). In some cases there would not be time enough to take the dress off one patient and put it on another (7721). There would certainly not be time to obtain clean dresses from the store and then put them on patients (7722). He believed that if such a process were gone through, some of the patients would have made loud complaint on the subject (7724, 7725).

229. Mr. N. A. Robertson, as one of the Official Visitors, confirmed the evidence of Sir Alfred Roberts (7911-7914). He stated that very frequently not so much as ten minutes elapsed after their arrival before they were in the wards (7915), and a quarter of an hour would be the longest interval (7916, 7917).

230. Dr. Huxtable gave evidence of a similar character (8036, 8037). He described the interval between the arrival at Bayview Asylum and the entrance into the wards as being only a few minutes, and on no occasion did it extend to half an hour (8038, 8039). On several visits the visitors went with the matron straight into the building (8038). He could not believe it possible that patients could be dressed in the manner described by some witnesses in the interval between the arrival of the visitors and their entrance into the ward.

231. Dr. Cox's evidence on this subject was very full. He said (8200 *et seq.*) that twenty-five minutes elapsed between the time of his arrival and his entrance into the wards. A longer interval would elapse before the visitors would reach the female ward if the male side was first visited—perhaps as much as three quarters of an hour (8361).

232. The Inspector-General of Insane gave the following information on the subject:—The arrangements in connection with his official visits to Bayview Asylum had been as follow: He had never given the slightest notice except on the rare occasions when visited to hold some special inquiry, and desired Dr. Vause or some one else from whom he required information to be at hand. He had always travelled by cab, arrived at irregular times, and his ten or eleven visits annually had been sometimes paid near together, and sometimes with rather long intervals. Officially, or rather by Statute, he was only bound to visit once in six months. He had never paid less than ten visits annually. As a rule, he would go to the office first at the main building, some four or five times in fifteen years, not more, and these chiefly during Dr. Vause's illness, and when he could not accompany him through the wards, and it was desirable and necessary for him to obtain information as to certain patients before going to the wards, he had gone to Dr. Vause's house first, and he might state, in justice to Dr. Vause, that his relations with him had always been friendly, though on an official basis; that he felt very sincere sympathy for him when the assault was made on him by a patient, especially as the mental shock was very severe and dangerous; that he then visited him on several occasions without going to the asylum at all, but that he had never then, before, nor since taken a meal in his house. He sometimes examined the statutory book first—and this, perhaps, took him less time than it did the official visitors, for he was officially notified of all admissions and discharges beforehand, and copies of all the admission papers were sent to him within forty-eight hours of each admission—and sometimes go straight to the wards. He generally saw the private female patients first, but sometimes he commenced at the Government ward, and sometimes with the male private patients. He had never been kept waiting, and was always admitted as soon as he asked. He would start sometimes without the matron or doctor, and they followed soon after. He considered it quite right that certain minor preparations should be made when official visitors were coming, such preparations as putting away towels and dish-cloths, tidying the dresses of patients, seeing that they were not in indecent positions or exposed, and if at the moment wet or dirty, that they were changed. Such preparations were only right and seemly. They were made, or should be made, in every institution, and they deceive nobody who had the least experience. It was impossible to put an institution which is in bad order into good order in ten or fifteen minutes, and he defied nurses to make many changes in the dress of insane patients without the inspecting officers being made aware of it by their own observation, or of the remarks of the patients themselves, or of others. There were always patients in such institutions who delighted in detailing to official visitors any shortcomings or shifts of the management or of the nurses, and to flaunt the information in the faces of the Superintendent or staff. He always made his official visits alone, except on occasions when there might be special matters to inquire into, and then occasionally he invited one or more of the official visitors to assist (8719).

233. Dr. Vause denied that he had ever received any notice of the intended visits of the Official Visitors, and as to preparing the patients for them after their arrival at the establishment, it would be quite impossible to do more than collect them together for convenience of inspection, to straighten a shawl or a bonnet, or some such simple arrangement. He had never suggested more than this to nurse nor matron, but he certainly expected this to be done, both on the occasion of official visits and on his own rounds. No message was sent to this effect that he knew of, but both matron and senior attendant ought to be notified of the arrival of Official Visitors, so that they themselves might be presentable and ready to answer questions if required. He did not believe that more than this was done, but he stated that he could quite understand that an inexperienced nurse or attendant, especially if of a suspicious temperament, should, on noting these slight preparations, jump to the conclusion that they were done to deceive, whereas the experienced visitor knew quite the contrary, and would have no difficulty in distinguishing between the thorough cleanliness of an institution and a make-shift attempt at it. (Page 255, evidence.)

234. Referring now to the practices stated to be adopted when relatives or friends visited the female patients in Bayview Asylum, Maggie Macleod, in her evidence before the Commissioners, complained that when the female patients were visited by their friends, the friends were not taken to the dormitories or the ordinary rooms (1536), but into a nice room near the office; and sometimes they would be taken into the new house, upstairs, to one of the nice new rooms (1537). The patients were specially dressed in their best clothes always (1538), their clothing being changed for the purpose (1542, 1675, 1676, 1677).

235. Josephine Mackay stated that the patients were made tidy and presentable after notice of the visit, because they very often disarranged their clothes, and were not in a state to see anyone at times (2324). She had seen the clothing of one patient taken for the use of another, to make her presentable when her friends came to see her (2325).

236. Bridget Morrisey stated that it was only on some occasions when in a hurry, and if the stock was low, that one patient's dress was put on another in order to make her presentable to her friends (3355-3357). A large number of dresses were made in a general way, and used for these purposes when necessary (3358). This witness stated that many of the patients were sufficiently intelligent on many points to discuss them with their friends (3403), and could make complaints if they wished (3404). The patients were allowed to speak in private to their friends, without the presence of an attendant (3405, 3406). She had no doubt that frequently the nurses would laugh when the patients told falsehoods or absurd stories to their friends, and then they would explain the matter (3407).

237. Lizzie Verity stated that when patients were taken to their friends, the dress was changed, and if the patient had none, better clothing would be taken off one of the other patients for her use for the time (2001).

238. Rachel Kelly stated that the only provision made when friends visited the patients was to make them tidy (2506, 2507), and clean dresses were put on them (2508), but she never knew of a case where the clothing was taken off one patient and put on another about to be visited by her friends.

239. Nellie McBride stated that the patients were always as clean and as well-clothed as they were at the visit of the Commissioners (4293). The only special arrangement that was made for visits of friends was that the boots were laced and neckties tied (4294, 4295). New dresses were never put on dirty patients on such occasions (4296).

240. Miss Bessie Anne Simpson, the matron at Gladesville Hospital for the Insane, who has occupied that position for thirteen years, stated that with even twenty minutes' notice of the arrival of Official Visitors (5175, *et seq.*), not much preparation could be made in the direction of changing the dresses of patients. It might be possible to obtain a clean dress, but the difficulty would be experienced in inducing a patient to wear it. It would be impossible to change the dresses of fifty patients, and tidy them up generally in the time. At Gladesville the strict rule was (6010) to make the patients tidy when they were visited by their friends, and quiet patients were not only pleased to be so prepared, but when well enough they took pleasure in making themselves presentable.

241. Not to cite other evidence, the Inspector-General of the Insane stated that it was his decided opinion that patients should be dressed tidily when taken to see their friends, and he knew that the patients at Bayview Asylum were always dressed decently when taken to the visiting-room to see friends. This practice was adopted at all well-regulated asylums (8730). The attention thus paid to clothing was an aid to decency in some cases. The patients on these occasions pulled themselves together, as it were, and behaved very well (8731).

242. Dr. Vause denied that anything was attempted to mislead the friends of the patients, but that it was the case these patients were made presentable when receiving the visits of their friends. He denied that any changing of the clothing takes place to mislead or deceive the visitors.

The Finding.

243. The Commissioners determine that the practice usually adopted in lunatic asylums in this respect was followed at Bayview House. Undoubtedly the patients were made tidy and presentable, a course which receives the approval of the Commissioners, inasmuch as it has a tendency to elevate the tone and create within the patients a desire to appear neat and clean before their friends. From personal inspection of the patients at the various institutions, as well as from inquiries made from

from attendants and nurses, irrespective of the evidence in the foregoing pages of this Report, the Commissioners are of opinion that it was practically impossible, within the limited period between the arrival of official visitors at Bayview House and their passage through the wards, to make the changes in the clothing of patients to the extent and in the manner described by some of the witnesses.

Duties of Official Visitors.

244. One of the most important means of protecting the interests of the patients provided by the Legislature is the Official Visitation. The Act provides: "The Governor in Council may appoint for every hospital for the insane or the criminal insane licensed reception-house or other place where patients certified to be insane or persons so found by inquisition are detained two or more Official Visitors one of whom shall be a Medical Practitioner and one a Police Magistrate or a Barrister-at-Law any two or more of whom one being a Medical Practitioner shall visit the place to which they are appointed visitors once at least every month with or without any previous notice and at such hours of the day or night and for such length of time as they shall think fit and also at such other times as the Colonial Secretary may direct, and such official visitors when visiting such hospital licensed house reception-house or other place shall so far as practicable inspect every part of the same and every out-house and building communicating therewith or detached therefrom and every part of the grounds or appurtenances held or occupied therewith and see every patient confined therein and make such inquiries examinations and inspections as are set forth in section seventy-one of this Act and enter in the Inspector-General's Book a minute of the then condition of the said hospital licensed house reception-house or other place and of the patients confined therein and such other remarks as they may deem proper and shall after every visit transmit to the Colonial Secretary a statement of the number of patients admitted and discharged since the date of the last visitation together with a copy of the entry made by them in the Inspector-General's Book and any other information that they may consider necessary Any or all of the official visitors may be appointed to two or more hospitals for the insane or the criminal insane licensed houses reception-houses or other places where patients certified to be insane are detained."

245. In view of the various complaints made by several of the witnesses, the Commissioners thought it proper to enquire as to whether these complaints had been brought under the notice of the Official Visitors. In the evidence adduced at this inquiry, various witnesses referred to the official visits of the gentlemen appointed by the Government for that purpose, and the Official Visitors themselves stated to the Commissioners their opinions with regard to the asylum and the performance of the duties of their office. It would appear from the evidence of some of the witnesses, who appeared before the Commissioners, that the official function was not regarded in a very serious light.

246. Maggie Macleod stated that on the occasion of the visiting officials attending the asylum no opportunity of speaking to them was given (1775, 1776). The visitors simply went through the different wards without speaking to the nurses (1777). They used to shake hands with the patients, pat them on the shoulder, pass an ordinary compliment, and then walk on (1778). She had never heard any of the patients make complaints to the visiting doctors (1779, 1780). Witness was well aware that the object of the official inspection was to see that all things were going on well, and to examine into complaints (1781), but she was not aware of the opportunity being availed of by the patients (1782), and the nurses were afraid to do so (1783 to 1785).

247. Josephine Mackay was asked whether she had not had an opportunity of speaking to the Official Visitors, and replied that that was the case, but the visitors never gave any encouragement to the nurses to speak (2382, 2383), never asked any questions about the patients (2384), and although she was in charge and accompanied the Official Visitors on their rounds of inspection, she never spoke to them. She thought their visit was only a matter of form, if she might be allowed to express an opinion (2385). She had never heard the Official Visitors ask questions about the patients from the nurses (2386).

248. Bridget Morrissey, a former matron, stated that, with the exception of the Inspector-General of Insane, the Official Visitors never examined the dresses of the patients (3363). They were sometimes accompanied by Dr. Vause, but when that was not the case the visitors never asked for her report on the patients (3364, 3365). She remembered one occasion on which Sir Alfred Roberts had spoken to her about the patients, but that was an unusual thing (3366). They never examined the dresses of patients, or anything else, as far as she was aware (3367). They may have received reports on these matters from the official in charge (3368). They sometimes asked the names of patients when they went round with her instead of the Superintendent (3529), and they always checked off their names in a book (3530). On examination on this point by the Inspector-General of Insane, witness stated that the visitors sometimes spoke to the nurses, but more frequently they would speak to the matron (3531). Replying to questions by Dr. Vause the witness stated she had seen Mr. Nugent Robertson going round as an Official Visitor (3598). She did not remember him pulling the beds down and looking at the mattresses (3599). She had seen him turn up the corner and pull the bed on one side (3600) to see if the bed was clean and all right (3601). She could not say she had seen him do this several times. He would just put his hand on it and feel it, but sometimes he would catch hold of the corner of a sheet, look at it, and put it back (3602). He would do the same with the single-room beds (3603).

249. Lizzic Verity stated that when the Official Visitors came round they never spoke to her or any of the attendants (2007) about the clothing or anything else (2008). When making their inspection they merely walked through the wards and along the verandah (2009).

250. Rose McMahon stated that when the visiting doctors came round they never asked questions of the nurses relative to the condition of the patients or the working of the institution (1923). The only opportunity she had of speaking to them was when she took the matron's place (1924, 1925), and then she never had called attention to anything she thought was wrong (1926).

251. Nelly McBride knew the Official Visitors, but had not taken particular notice as to whether they carefully examined the patients (4303). They had never spoken to her about them (4304), except that she thought she might have been asked a special question about a special patient (4305). It was the usual custom for the patients to be sitting down or standing in a group, and for the Official Visitors to pass through them (4306), and that was all they did (4307). When examined by Dr. Vause, this witness stated that she believed the visitors examined the beds, because, although she did not see them do so, she made the beds up again after the visits (4543 to 4547).

252. Rachel Kelly had seen but had never spoken to the Official Visitors (2511, 2512). They had never asked her any questions as to how the patients under her charge were cared for, and so on (2513).

253. Ada Simpson stated that she was not asked any questions about the patients by the Official Visitors (7408), but the attendants reported to the matron, and she told all that was told about the cases (7409).

254. Miss Baldwin, the present matron, who has had a large experience and possesses high qualifications (6821 to 6828), but has been only a short time in the Bayview Asylum (since 27th October, 1894), gives a high character to the institution generally (6829). When asked if the Official Visitors had called at the asylum since her appointment stated that Dr. Huxtable and Mr. Nugent Robertson had done so (6839). She accompanied them on their rounds (6340). They spoke generally about the patients. They did not examine the beds very particularly. They passed through the wards quickly and seemed in a hurry (6842); in fact, they simply passed through the dormitories. They came between 11 and 12 in the morning; all the beds were made and the patients were clean and tidy.

255. Mrs. Gilchrist, the present lady superintendent, stated, in reply to Dr. Vause, that the Official Visitors went through rather quickly (6787). She had seen them pull down all the bedding in the dormitories and in the single rooms (6788-6791).

256. J. Doherty, senior attendant, when asked if, when the Official Visitors came round the institution, they ever asked him how the patients were progressing, or entered into any conversation of that character, said, "No, not much" (2774). They were accompanied by Dr. Vause, and if the doctor could not explain any matter, he would refer to me (2775).

257. Dr. Vause stated that the Official Visitors made twelve visits annually (10181). These visits occupied not less than half an hour, and frequently they might occupy more time between the arrival at and the departure from the institution (10182). The visitors invariably went through all the departments (10183), and they always examined the books and records of the institution, and very frequently they held private conversations with the patients (10184). They had recommended improvements from time to time (10185 to 10187). The Official Visitors had never discharged a single patient (10188). They had not inquired very specially into the causes of seclusion or seen the patients themselves (10189). In cases of restraint, they had examined the records, inquired particulars, and seen the patients (10190 to 10192). Dr. Vause thought the position of Official Visitor a very useful one (10194). It was not a mere question of oversight and supervision. It was important that they had no pecuniary interest in the institution, and their powers of investigation into complaints and into the various records and reports should be of public advantage (10195). He thought the present system of visitation provided a fair and reasonable guarantee of the efficient management of lunatic asylums. He did not think a too inquisitorial system of visitation would be beneficial (10198). Generally speaking he thought the examination by the visitors was sufficient (10199). When asked if he thought it was a sufficient examination when General Richardson's case was not found out for months by the Official Visitors, he stated that he did not see that there was anything to find out in the case (10201), and when reminded that Dr. Cox, one of the Official Visitors, expressed astonishment and surprise that the fact was not reported, and that a vigorous examination might have resulted in its earlier discovery, he said that he thought if a medical superintendent was fit to occupy his position he should have the full confidence of the Official Visitors to treat cases properly. He had never hidden, by evasion or otherwise, from the Official Visitors the fact that General Richardson was sleeping in a single room (10202 to 10210).

258. Dr. Cox described the duties of an Official Visitor (8225-8231) in these terms:—"We go through the asylum after we have inspected the books. In the books we see the number of admissions, and then we examine the papers on which the patients have been admitted. This we have to do in accordance with the Act. We have to see whether they are properly signed, and that they are correct in all their details, also in accordance with the Act. Then we have to see what number of deaths have occurred, to ascertain the causes of death, and to note the number of discharges. We also examine the grounds and the appurtenances of the institution. Then we have to examine the case-book and the Medical Journal." Continuing his evidence, he said he was never led to think (8300-8305) patients placed in isolation at night were not sufficiently attended, but on the other hand he was under the impression that a person went round regularly at Bayview House every two hours during the night. He would be surprised to hear there was no night patrol. Was unaware that a nurse slept at each end of the single rooms in lieu thereof.

259. Sir Alfred Roberts, in reply to questions (7819-7824) stated that he never made any request to Dr. Vause to have a night patrol, because latterly the Official Visitors understood the single rooms on the female were not occupied at night. If he did not have a patrol on the male side he was not breaking any rule, for the matter of night attendance was entirely at his own discretion. If the Commissioners had been informed that these rooms on the Government side, or at least five of them, were used every night, all he could say was that the fact did not appear in the Medical Journal. Had he known that half a dozen rooms were so tenanted he would have recommended a night patrol. The Official Visitors would find fault very strongly if the occupancy of these rooms was not notified in the Medical Journal. Cross-examined by Dr. Vause (7871-7878), Sir Alfred said he had seen beds in nearly all the single rooms in the female division, but he did not notice any entries in the Medical Journal stating that the rooms were occupied at night. As an Official Visitor who had visited Bayview Asylum since it was first licensed, he had not reported or objected to the omission from the Journal of entries announcing that patients slept in these rooms. He was not objecting now, but stating that he considered it better for permanent cases to sleep in isolation. He understood that the occupants of the single rooms at night were chronic cases, continually placed in those rooms for sleeping purposes, and as such he did not expect to find the fact recorded in the Medical Journal.

The Finding.

260. The Commissioners regret that they are unable to express satisfaction with the system at present adopted in regard to the visitations at lunatic asylums by the Official Board. It is true that the powers conferred on them by their Commission have reference only to the Bayview Asylum, but they have had opportunities of visiting and examining the records and management of the Public Hospitals for the Insane, and whilst the conclusion at which they arrive has reference more particularly to Bayview House, they do not hesitate to express their opinion that it is more or less applicable to all institutions for the accommodation of the insane. From the evidence submitted to the Commissioners, they are led to believe that the object intended by the Legislature when provision was made for the appointment of Official Visitors has not been fully attained. The contradictory evidence given by the Official Visitors themselves on the subject of seclusion, which must be regarded as one of primary importance in the treatment of lunatics, and regarding which uniform ideas should exist in the minds of those officially inspecting these institutions, and which has already been referred to under the heading of "seclusion and restraint" in a former part of this Report, is conclusive on this point.

261. The Commissioners recommend that, in the interest of the unfortunate inmates of lunatic asylums, steps should be taken without unnecessary delay to provide more frequent and more thorough investigation as regards the management of these institutions. The system of appointment to the position of Official Visitor, the rate of remuneration for services rendered in that capacity, the method of visitation to each institution, and a number of similar matters, are all subjects which demand the attention of the Government.

General Management and Results of Treatment.

262. On this subject the Commissioners received a large amount of evidence. The specific charges affecting the details of management of the asylum have already been considered, but independently of the evidence obtained in connection with this view of the subject, that of a large number of witnesses, consisting of former patients of the asylum who had recovered under treatment therein, of friends of such patients, as well as of medical gentlemen and others who had sent patients into the institution for treatment, was also received. The evidence of Mr. R. H. was to the effect that his sister was far happier at Bayview than when she was at large. Nothing could be kinder than the treatment she received, and this, when in a good frame of mind, she admitted (4144). Mr. H.'s evidence with regard to his satisfaction with the treatment of his nephew has already been quoted. Mr. H. Copeland, M.P. in occasional visits to the asylum, was pleased with the manner in which it was conducted, the patients were always clean and tidy, and he was very favourably impressed with the institution (4953-4955). Mr. F. Gannon, solicitor, had visited the asylum very frequently, and had full opportunity of observing the way in which it was conducted, and the whole of the arrangements of the place have always met with his admiration, and he had the highest opinion of the humanity and skill of Dr. Vause (4722-4729). Dr. Williams, Principal Medical Officer of the Military Forces of New South Wales, stated that during the time Major-General Richardson was under treatment at Bayview Asylum he had the free run of the whole place, and was at the time quite satisfied with the arrangements (4961). Hon. Dr. MacLaurin was formerly one of the official visitors, and, as far as he saw when inspecting Bayview Asylum, he was satisfied with the general arrangements of the place, the treatment of the patients, and the performance of his duties by Dr. Vause (5004-5009). Dr. Edward Petrie Sinclair, Dr. Hetherington, and Dr. Ramsay, who had acted as *locum tenentes* for Dr. Vause at various times, all bore testimony to the excellent general management of the asylum. A number of medical gentlemen who had sent patients to Bayview Asylum, and who had visited them there, bore testimony to the excellence of the administration. The clergymen who officially attended the asylum—one of whom had held a similar office at Callan Park—gave the highest possible character to the orderly manner in which the institution was conducted. The official visitors, whilst pointing out that from time to time they had made suggestions for the improvement of the details of management, gave Dr. Vause credit for a sincere desire]

desire to carry out all such suggestions promptly and willingly. The Inspector-General of the Insane for New South Wales stated that Dr. Vause had always been ready to make any improvements suggested in connection with the buildings and the general sanitary arrangements of the institution (8722). For Government patients he had always regarded Bayview Asylum as only a temporary makeshift, but he had regarded the asylum also as a permanent home for private patients (8723). Generally he had visited the asylum alone, but on two occasions he had made special inquiries in conjunction with the Official Visitors. The first of these was a case of accidental poisoning, which occurred some years ago in consequence of defective management; and the other was a case of fractured arm, occurring in an epileptic placed in a single room containing a bedstead (8718-8721). One other matter was inquired into during the time Dr. Hetherington was in charge, when neither the Official Visitors nor he himself felt satisfied with the attention paid to the bedding—a matter which was remedied, and steps were taken to prevent its recurrence. In the official annual reports of the Inspector-General, submitted for the consideration of the Government, there is a uniform statement of approval of the cleanliness, good order, and government of the asylum, as well as the absence of complaints. In his report for the year 1892 the Inspector-General of the Insane stated, when referring to Bayview House, that “the institution has been well conducted, and considerable care taken to meet the special requirements of individual patients. The chaplains have been very regular in attendance, and Dr. Vause appears desirous of affording change and recreation to the patients whenever practicable. With this in view, a cottage at Narrabeen has been fitted and worked in connection with the main establishment, and to it patients have been sent for a change, under the provisions of section 82 of the Lunacy Act. This section has also been taken advantage of to give leave of absence on trial under the charge of friends, and in seventeen cases patients have been absent from the institution for considerable periods, and five of those who were discharged recovered whilst on leave. Fifty of the patients are maintained at the Government expense, owing to the want of room in Government establishments.” On page 18 in the report for the year 1893, he also says:—“At my visits I made the inquiries prescribed by statute, and was careful to see all the patients, especially those recently admitted, and to make inquiries as to their fitness for care and treatment in an institution for the insane. I have investigated all complaints made to me which were not obviously due to delusions, and have, when necessary, seen patients alone. I have on all occasions found the rooms everywhere clean and orderly, and consider the general management of the institution satisfactory.” “Very considerable addition has been made to the institution by the purchase of an adjoining property, the house on which has been repaired and greatly altered and rooms set apart for nine patients and the necessary attendants. These rooms have been very nicely furnished and give excellent accommodation for private cases. The alterations were approved by the Chief Secretary, under the provisions of section 27 of the Lunacy Act, on October 13, and the building now forms part of the licensed house.” “The number of Government patients has been kept at fifty during the year, vacancies by death being filled by transfer of others from the hospitals. The quarters of these patients have been rendered more comfortable by the addition of a large covered and enclosed verandah, which serves as an additional day-room.” The Inspector-General further said, in answer to questions 8732-8739, that “The general health of the Government patients at Bayview House compared favourably with that of patients in the Government institutions, and the death-rate was lower. The death-rate among the Government patients during the last ten years had averaged 4·40, or less than 4½ per cent. (22 deaths, with an average of 50 patients), whilst the death-rate among women in the Hospitals for the Insane has been 6·16 per cent. for the same period. He handed in three returns, the first of which showed the percentage of recoveries, the percentage of relieved, and the percentage of deaths at Bayview House for ten years, 1884 to 1893 inclusive; the second showed the percentage at the Government Hospitals for the Insane during the same period, and the third, which was taken from his report for 1893, similar percentages for both the Government Hospitals and Bayview taken together. These show that, whilst the recovery-rate at the hospitals had averaged 42·95 for the ten years, that at Bayview had averaged 47·92; that the percentage relieved at the Government Hospitals had averaged for the ten years 4·63, the percentages of those relieved at

at Bayview for the same period had been 14·28; and that the death-rate at Government Hospitals for ten years has been 7·00 and at Bayview for the same period 5·82. These returns included both males and females. Perhaps the figures were scarcely decisive, considering the large number of patients in the public institutions and the small number at Bayview House, but still the figures covered a period of ten years. The Government patients at Bayview House were nearly all chronic cases, and during the decade the recoveries had been nil. This result was anticipated from the character of the cases sent, they being to a large extent hopeless, as the Medical Superintendents at public asylums did not wish Dr. Vause to score recoveries where there was a possible chance of these gentlemen scoring recoveries for themselves. Perhaps conduct of this nature was unfair to Dr. Vause, but on the other hand he had always been anxious to send hopeless cases to the public institutions."

The Finding.

263. The Commissioners, in view of the evidence given by these witnesses, are satisfied, subject to the criticisms elsewhere in this Report, that, as far as the general management of Bayview Asylum is concerned, every reasonable effort was made to give satisfaction to the patients and their friends. The absence of complaints of a serious character from the friends of the patients during the long period the asylum has been carried on is, in their opinion, a strong endorsement of this conclusion, which is not seriously affected by the doubtful evidence of some of the attendants, who, after a few months employment in Bayview Asylum, without any previous experience of the mode of treatment of patients (whether hospital or lunatic), and whose previous career had in no way qualified them for the purpose, had no hesitation in expressing their opinion on subjects requiring expert knowledge and experience. The evidence given as to the successful results of treatment, in such cases as admitted of probable cure, may also be regarded as satisfactory. Evidence was given that Dr. Vause, in order to promote the happiness and the recovery of his patients, had provided a temporary home for such of them as could be sent to it, at Manly and Narrabeen, under the provisions made for that purpose by the Lunacy Act, and in other respects had endeavoured to add to the comfort of the patients.

Mr. Gearey's connection with the Charges.

264. From the general character of the evidence, it was patent to the Commissioners that the complaints made against the management of Bayview Asylum and the abuses alleged to have existed, originated with certain witnesses, who on examination were found to have held communication on this subject. Your Commissioners therefore feel bound, under these peculiar conditions, to make some reference to these witnesses, and especially to the part played by Mr. Henry Gearey, whose name so frequently occurred throughout the investigation. Mr. Gearey stated to the Commissioners that the disclosures were made in a purely accidental way (135) in his own house while "having a general talk over a few glasses of grog." Mr. Gearey, however, failed to explain how this peculiar meeting, which subsequently was to be pregnant of so much result, was brought about or who were present on the occasion. In this general talk statements were made and a letter was produced. According to Mr. Gearey's own evidence the first person to speak to him on the subject was a transit officer, who had obtained information from Alexander Mackenzie, who for three months and a half was in the male division at Bayview House as an attendant, was a cousin of Margaret Macleod, a nurse in the female division of the same institution, and who was discharged from Bayview House for what Dr. Vause regarded as insubordination and impudent behaviour towards a superior officer. On the strength of this information Mr. Gearey (201) began and carried on a system of detective tactics which eventually ended in the surprise visit to the institution, and the removal of the patient to a Government asylum. In following this course of action, Gearey admitted that he had met with many obstacles, and it was conspicuously evident to your Commissioners that his task must have involved a vast amount of time and trouble. His own confession is (223) that he risked his official position as an employee of the Sydney Municipality by championing the cause of a patient supposed to be inhumanly treated, as (224) if Dr. Vause had discovered "that a visit was to be made on the morning of 20th May, the Major-General might have been moved into the room he was supposed to occupy." He would then have been
unable

unable to prove his case, and "would have been regarded, on making his visit, if unable to prove what was desired, as nothing less than a meddling fool." With this risk, calculated before taking action, staring him in the face, the question naturally arising is,—What was Mr. Gearey's motive? He told the Commission (128) "that he was most decidedly interested in Major-General Richardson, who was a very old friend of his, and when he heard he was brutally treated he wished to know the truth or otherwise of the statement." It was purely in the interests and welfare of Major-General Richardson that he took action, together (8501) with a desire to serve the interests of the public. No feeling of malice against Dr. Vause ever entered his mind. He, however, informed Mr. Jeanneret that he took a great interest in the Major-General (5), "because of a very long-standing friendship, and felt himself under some obligation to him for kindness rendered years ago." On a subsequent occasion, when under cross-examination, Mr. Gearey answering questions (8530 to 8539) first declined to say how he became acquainted with the Major-General. Accepting the advice of the President he altered his mind and told Dr. Vause "that he met the Major-General at a ball at Sydney Town Hall; that he shook hands with him once; that he had seen the Major-General two or three times, the last occasion being publicly in the streets; that he never visited the Major-General's house; that he was not on terms of intimacy with him; and that he had never received any benefit at the Major-General's hands." With this contradictory evidence before them, your Commissioners cannot pretend to state the motive which prompted Mr. Gearey in his action in this matter.

265. It is proved beyond question that Mr. Gearey was in communication with servants previously employed at Bayview House, disaffected and otherwise, and that on their assertions he relied to prove some of the sensational statements which gained currency. It has been proved that many of these statements are either gross exaggerations or utterly at variance with truth. One of the first avowals of Mackenzie was that he wrote to Gearey (1064) something to the effect "that he knew Major-General Richardson was not getting justice, and to see that he got it would be far sweeter to him than any other form of revenge," and the same witness (1222 *et seq.*) admitted having been in communication with Mr. Gearey from April, 1894; expressed the belief that the names of attendants and nurses in the institution were supplied to him, and was cognizant of the fact that Gearey was in communication with the persons whose names had been supplied. That Gearey was in direct communication with the witness Macleod is also proved beyond doubt, as this witness (1503 to 1802) said she first visited Gearey's private residence while she was in the service of Dr. Vause. On this occasion she must have designedly gone with the purpose of making some statement relative to the institution, as she took the precaution to have as a companion Nurse Urquhart as a witness to all that was said. Macleod, however, did not see Gearey on this occasion, but remained to tea with Mrs. Gearey, and talked over Bayview Asylum affairs. In July, 1894, Macleod received from Mr. Gearey a letter asking for a personal interview at his house, mentioning that he would be at home during certain hours, and would keep any appointment made. She received this letter before she left the institution, but after the removal of Major-General Richardson to Callan Park she acquainted Dr. Vause of that fact. Two days after leaving Bayview House she called at Mr. Gearey's residence, and gave him much the same information she afforded the Commissioners. The witness, Josephine Mackay (2438 to 2456), said she first made Mr. Gearey's acquaintance some five weeks previous to her examination before the Commissioners. He called on her, and by appointment she subsequently visited him, and from him understood she could be compelled by Government to give evidence "and that she had better tell him all she knew about the matter." She had the impression that Mr. Gearey was one of the Commissioners appointed to investigate matters connected with Bayview House, "or else he was a detective or something of that sort." She supplied the name and address of Rachel Kelly, a former attendant at the asylum, whose opinion about its management was the same as her own; she was shown a type-written copy of Dr. Vause's report, but she did not see the evidence of any other witness. By the witness Macleod she was informed that efforts were being made to prevent Dr. Manning from sitting on the Royal Commission, also that the influence of gentlemen engaged on the Commission would be sufficient to obtain for her (Mackay) some situation. Gearey said nothing to that effect to induce her to give evidence, and the conversation which took place was only

only loose talk between herself and Macleod. The witness Rachel Kelly, referred to by Josephine Mackay, when under examination (2632 to 2637), said she received the following letter from Mackay;—

My dear Rae,

Paddington, 2 Zulu-terrace, Thorne-street.

I would have written long ago but I lost your address. There is a Royal Committee formed to inquire into the Bayview House, composed of the most influential men in Sydney, and we are all giving information against it. I hope you are still in sympathy with the patients, if so, it will be greatly to your advantage, but you must be quick, as the inquiry commences on Saturday or Monday. You will meet us all again, Jessie Fuller, Margaret M'Leod, Bridget, Rose, Alice, and Lizzie Verity. The only friends the Dr. has is Kitty and Nelly. Go at once and see Mr. Gearey, the clerk, or if you come out to me I will take you; do not delay. I am going to-night, and our evidence is printed in type. If you come out to me take the tram to Waverley right to the terminus, cross through the Council Chambers gate just at the terminus, and anyone will show the house right opposite the Council Chambers—a little cottage. All our expenses will be well paid, and we will be able to secure the best billets afterwards through the interests of the Committee. They are knocking Dr. Manning off the list; they think he is in favour of Bayview.

Ever your loving friend,

JOSEPHINE.

Wire when you come out. If you do not come they can compel you; there is no court-house business; just appear in the Town Hall before the Committee privately; 6s. a day expense paid. Call at Gearey's at once.—JOSEY.

This communication caused her surprise, many of the statements therein contained being the exact reverse of her experience of the institution. She handed the letter to her employer, who gave it to the Inspector-General of the Insane, who in turn passed it on to Dr. Vause during the examination of Mackay. She also was the recipient of a letter from Gearey asking her to call on him in reference to Bayview House affairs. She thought he informed her there was to be an official inquiry, and that it might be to her advantage to see him. To that letter she made no reply, neither had she seen Gearey. Bridget Morrisey (3435 *et seq.*) said that on October 30th, 1894, she received a letter from Mr. Gearey, after he had called to see her, while residing at Dr. M'Carthy's, in Elizabeth-street, requesting her to meet him at his house. On the following Saturday the appointment, as desired, was kept, and in the course of conversation he told her it was her bounden duty to give evidence before the Commission. Something was said about it being to her advantage to do so, and that it was only the proper thing to do. She replied that her desire was to have nothing to do or say in the matter, and when he discovered that she did not care to give evidence he did not press her for information. Macleod was not present at any interview between Gearey and herself, but on several occasions she and Macleod had conversed on the subject and agreed as to evidence on certain points. She could not remember Gearey having told her she would be paid to give evidence, but as an inducement he said, "Supposing Miss H. or Mrs. W. were released, as a result of the inquiry, she might get something to do looking after them." Kate Brennan, a nurse at Bayview Asylum (5551 *et seq.*), stated that Macleod wrote to Gearey while she was at Bayview House, and Nurse Kennedy posted the letter. Jessie Urquhart informed her, too, that Macleod visited Gearey while she was still in the employ of Dr. Vause. Macleod also told her that Gearey had promised to get her a Government situation. In further cross-examination (5566) Miss Brennan stated that she knew Mackenzie wrote to Macleod, for Annie Marshall gave her a letter, which she handed to Macleod, who said it was from Mackenzie at Goulburn, and that it said Gearey would get her a good billet. Maggie Kennedy, the nurse referred to, was called, and she (5594) told the Commissioners that Macleod had given her letters to post which bore Mr. Gearey's address. Mrs. Johanna Dwyer, who six years ago was a nurse at Bayview, said, in answer to questions 5667 *et seq.*, that Mr. Gearey found her at the "Native Rose Hotel," Darling Harbour, of which her husband is the licensee, gave her his card, and then proceeded to put questions relative to Bayview House and its management. He wanted her to give evidence before the Commissioners, but she not having seen Dr. Vause for six years, said to Gearey, "I have nothing to say either for or against him," and that, in her opinion, Dr. Vause was always extremely kind to the patients. Gearey also informed her that Alexander Robinson, a former attendant at Bayview Asylum had said she could give certain information which would substantiate accusations made about the place. Their talk during the interview was a general conversation, Mr. Gearey at first being persistent in his endeavour to find out anything he could about Bayview House; but when he discovered that she was favourably inclined towards Dr. Vause and the management, he did not appear to want to hear any more. From the nature of his conversation, she thought, at
the

the time, that he was prejudiced against the institution. Jessie Urquhart, the nurse who accompanied Macleod to Gearey's residence, described what took place there on that occasion, in answer to questions 6315 *et seq.*, by saying that one evening last August Macleod asked her to go. She consented, visited Gearey's House in Oxford-street, and saw Mrs. Gearey only, as Mr. Gearey was not at home. While she and Macleod were there, the witness Alex. Mackenzie arrived on the scene, and a general conversation, in which Macleod and Mackenzie were the chief participants, took place, Macleod telling Mrs. Gearey "things about the asylum, and how patients were treated there," and Mackenzie, talking to his cousin, Maggie Macleod, claimed the credit of having been the cause of Major-General Richardson's removal. They were present at Gearey's house from 7 o'clock to a quarter to 9, and had a long conversation about the treatment of patients, during which she had not much to say, as "Maggie Macleod did the talking to Mrs. Gearey." She personally neither visited, saw, nor had any communication with Mr. Gearey. The reason why she accompanied Maggie Macleod was that she was asked and consented (6735), not knowing whom she was about to see. Hearing what Macleod said at Gearey's residence about Bayview House, caused her surprise, and while not remonstrating with Macleod for her untruthfulness, she reported the circumstances of the visit to Mrs. Gilchrist, the lady superintendent.

266. The witness S.H., in answer to Questions 3977 to 3984, informed the Commissioners that some of the attendants reported to him on his sister's position and state in the asylum. In the next sentence he asserted that he only obtained information through Mr. Gearey, who seemed to know everything that was going on in connection with Bayview House. For instance, if he went to him in the morning and said, "I want to know what has happened in regard to my sister during the day," he would tell him to come again at four o'clock, and then he would let him know everything that was going on. Although Gearey was a comparative stranger to him, and one with whom he had had conversations only "now and again," he could tell witness all he desired to know of the history of every event in connection with the asylum within twenty-four hours of it happening.

267. A former attendant, Henry M. Watt, testified (6209 *et seq.*) that the witness Robinson already referred to, who was discharged from Bayview House in 1890, visited him at Kogarah, to ascertain if he could find the address of the widow of a former patient, in the hope of extracting information which he might use before the Commissioners to damage the institution and its management. The conversation, however, was of such little interest to him that he left Robinson to talk to himself.

268. Mr. Gearey, when recalled on 4th January, denied (8447 *et seq.*) having made, during his inquiries into the case, any promise to any of the witnesses that if they would give evidence against Bayview House he would secure for them a Government position. He did not make the promise to any one, as it would have been absurd for a man in his position to have done so. If any witness had written a letter to another, saying that, as a reward for giving evidence, she would obtain a Government billet through his influence, such a statement was incorrect. Knowing, however, that everyone who saw him would speedily be in the position of discharged servants, made him sorry to be a source of injury to these girls, and he interested himself in one, "inasmuch as he went to see Mr. Munro in the hope of getting a position for one of the girls as stewardess on board one of the ships trading along the coast." Passing to another point, Gearey told the President that he considered he had not received fair play at the hands of the Commissioners, and when asked why, he answered (8479), that he considered while Dr. Manning sat as a member, and heard the evidence of his (Gearey's) witnesses, he could not get fair play, because the presence of the Inspector-General amounted to intimidation, for this reason, "that a number of his witnesses must be drawn from those who had been attendants at Bayview, or who were attendants at the moment. Those who had been attendants, or many of them, were now looking for other situations; those still at the institution would not give evidence while Dr. Manning was there, for fear of results." He was not certain that the Commissioners would give fair play to everybody concerned (8480 *et seq.*). There were witnesses who should have been brought forward, who would not come, but when asked if he knew of any witness or witnesses, either in Bayview House or who had been there, who desired to give evidence and had been refused the opportunity, he made no answer. When asked what witnesses had been removed he mentioned the name of Copley,

Copley, a former attendant who worked with Mackenzie, and said he did not know he had gone to South Africa, neither did he know of his present whereabouts. He declined to mention any other names, "because they were girls and it might injure them in the way of getting situations." Although the witness, S. H., (8498) might have said he could give him every particular about the working of the institution up to within the previous twenty-four hours, such was hardly the case, but he certainly could tell H. or anyone else a good deal of what was going on. He could hardly tell in the afternoon what had transpired at Bayview House in the morning, but he certainly was posted up as well as he could be, and had a great deal of information. He obtained, after a great deal of trouble, information daily at one time before the investigation by the Commissioners began. He had conversations with the nurses before the 20th of May. He knew about Major-General Richardson in March, and since then information had come out bit by bit.

269. Dr. Vause, examined on this particular subject (9081 *et seq.*), said Gearey's motive in the course of action he took puzzled him. Even if he acted for notoriety it was more than he could understand, and whatever object he had in view was best known to himself. His opinion was that Gearey obtained his information from Macleod, and he disbelieved both Gearey and Macleod when they said there was only one visit paid by Macleod to Gearey before he discharged her from his service. At the same time, he did not believe she furnished him with all the information he obtained.

The Finding.

270. Although much of the evidence Gearey collected was, in our opinion, misleading and untrue, your Commissioners have no reason to doubt his statement to the effect that in prosecuting his inquiries he was actuated by a desire to repay a personal kindness and to perform a public service.

Alleged attempt to influence Mr. Jeanneret.

271. Towards the close of the inquiry a statement was made by Mr. Jeanneret that an attempt was made to influence him with regard to his procedure in connection with the course of action he had taken with regard to Bayview Asylum in Parliament, and that a Mr. Twine, whom he had known for a month or two previously (10512), and of whose character he had a good opinion (10513), stated that Mr. Young, the accountant at Bayview Asylum, wanted to see him to know if he could prevent things going any further, for if he could it would be worth a thousand pounds to him. Mr. Jeanneret had not at any time spoken to Young himself (10510), and he could not say that Young had authorised Twine to make any such offer (10511). The suggested offer was made in such a way as to lead witness to believe that there was a good deal of money in it, and that probably he could get a thousand pounds if he stayed his proceedings (10514). On further examination, Mr. Jeanneret stated that he was fully satisfied that Twine said to him that there was a thousand pounds in the matter if he took no further action (10529).

272. Dr. Vause, examined regarding this matter, stated that until he heard the evidence of Mr. Jeanneret he was quite unaware of such a proposal (10597), and if any overture of the kind had been made by Young or anyone else, it was entirely without his knowledge (10596), and that he had never heard of such a proposal before (10599). Mr. Young stated that he knew Mr. Jeanneret by sight but had never spoken to him (10603). He denied that he had ever had conversation with Twine to the effect that it would be desirable to cease further inquiry with regard to affairs at Bayview Asylum (10607). He had never induced Mr. Twine on any occasion to suppose that money might be given to Mr. Jeanneret, or to any other person, to prevent further inquiry into the management and other affairs at Bayview Asylum; in fact, such an idea never entered into his head (10608 to 10611). He was not aware that there was any occasion to make such an offer (10612), and he was positive that he knew nothing of such a suggestion (10613). Witness asserted that Twine had offered, if it were necessary, in the event of the Government taking over Bayview Asylum, to get an introduction to Mr. Jeanneret, who was supposed to have some weight with Dr. Manning, the Inspector-General of the Insane. As the accountant to Bayview Asylum, witness thought it was possible, if the Government took over the place, that he might, through Dr. Manning, retain that position (10625).

273. Alfred Fletcher Twine stated that he knew Mr. Jeanneret, with whom he had had several conversations about Bayview Asylum (10691). Mr. Jeanneret's statements

statements already cited were read over to this witness, and he positively contradicted them. He had never suggested to Mr. Jeanneret that it might be to his interest not to make public certain matters known to him in connection with Bayview Asylum (10693). He denied that he had ever said that it would not only be worth his while, but worth a thousand pounds to Mr. Jeanneret, if he would not make public certain disclosures in connection with Bayview House (10695), and he never, in any shape or form, told Mr. Jeanneret that it would be to his pecuniary advantage to withhold from the public certain information about Bayview House (10694). Mr. Jeanneret was unquestionably mistaken and under a misapprehension altogether (10697). Witness stated that he believed he could clear up this matter by an explanation. About a fortnight before Mr. Jeanneret moved the adjournment of the House and made certain disclosures (10702), he informed witness confidentially of the course of action he intended to take, and as Mr. Young, the accountant at the asylum, was an intimate friend of his brother-in-law, although not of his own, he thought Young's position might be jeopardised if something did occur, and in a friendly way he told him something was to be disclosed in connection with the asylum which might affect him, and therefore it would be well for him to be on the look out (10700). On subsequent occasions when he met Young, this question cropped up and he said to him, that if anything resulted in the Government taking over the institution he would use his influence to secure the continued employment of Young as an accountant, and that led up to Young wishing to meet Mr. Jeanneret, or wishing him to introduce him to Mr. Jeanneret, to see if he would use his influence to secure a continuance of his employment. But it was not a fact that he had ever referred to or suggested in any way that Mr. Jeanneret would receive any pecuniary benefit (10703). When witness was asked if Mr. Jeanneret expressed reluctance to speak to Young because he thought him to be a kind of go-between in regard to the proposal referred to, he said it was nothing of the kind (10706), and no suggestion of the kind occurred to his mind (10706).

274. The Commissioners believe that this evidence tells its own tale. They cannot avoid expressing their surprise that a charge of so serious a character as that involved in Mr. Jeanneret's statement should have been made by him. He was contradicted by the witness, whom he asserted to have suggested pecuniary advantage to him if he would relax his efforts to expose what he considered to be abuses in the management of Bayview Asylum—a witness of whose character he asserted he had a good opinion—and whom he wanted the Commissioners to examine in order that his own statements might be confirmed. The Commissioners can come to no other conclusion than that an error of judgment, as extraordinary as it is blameworthy, has occurred on the part of Mr. Jeanneret. The Finding.

Necessity for Private Asylums.

275. In the evidence given by the Inspector-General of the Insane, it was stated that in the absence of endowed hospitals private asylums for the insane were valuable institutions (8802), and, while he did not believe in the boarding-out of insane patients, he thought that in a disease like insanity, so different in its degree, so varied in its manifestations, and attacking all sorts and conditions of men, no system or manner of treatment should be altogether set aside. Private asylums have a useful place in any asylum system, especially when there are no endowed hospitals for lunatics, managed by trustees and set apart for paying patients, such as those at Coton Hill, near Stafford; Barnwood House, near Gloucester; and St. Andrew's Hospital, Northampton, in England; or the Royal Hospitals at Montrose, Dundee, and other places in Scotland. Moreover, there are persons who, for various reasons, prefer private to public hospitals, and avail themselves of their provisions when they would not send their relatives and friends elsewhere. Views of the
Inspector-
General of
Insane.

276. The Commissioners concur with these views. They believe that properly regulated private asylums are a desirable adjunct to the institutions provided by the Government. They do not approve, however, of the system of placing patients maintained by the Government in any private asylum, and they have already expressed their surprise that such a system, however excusable in its inception, should have been so long continued at Bayview Asylum. They see no reason why such institutions as the Bayview Asylum should not be continued under satisfactory inspection, and the provisions of the usual Lunacy Acts, as is done in other countries. The Commis-
sioners con-
cur.

The Conclusion.

278. The Commissioners believe that they have now dealt with all the various matters referred to them under their Commission. A longer time than they had originally supposed to be necessary has been occupied in the performance of their duties, but in the interest of the public and of the persons more immediately concerned in the questions submitted to them for consideration, they have deemed it imperative on them to carefully sift these questions, and they have endeavoured in this their Report to give a faithful representation of the evidence so that the reasons for the conclusions they have arrived at may be apparent. They have adopted this course although it has involved very considerable labour and research among the many thousand questions and answers of the various witnesses, inasmuch as they are decidedly of opinion, as they have already stated, that the evidence as a whole should not be published, affecting as it does the dearest interests of many persons, whose private affairs should never, without absolute necessity, be thus publicly paraded. The Commissioners are aware that there may be questions connected with this inquiry overlooked by them, but they believe they have sufficiently and impartially dealt with the subject matter referred to them in their Commission.

ARTHUR RENWICK, President.

F. NORTON MANNING.

ANDREW GARRAN.

JAS. S. T. MCGOWEN.*

* I only endorse this Report in so far as it is not at variance with the separate Report which I append.—J. S. T. MCG.

Dissents to Report of Commission.

DISSENTS to certain particulars in the General Report were made by the Inspector-General of the Insane and Mr. J. S. T. McGowen. They were as follow :—

SECLUSION.

As regards the finding of the Commissioners on the subject of seclusion the Inspector-General of Insane says :—

I dissent from the finding on this particular, on the following grounds :—
 In 1859 the English Commissioners in Lunacy pointed out that “ a question had arisen as to what kind of separation of individual patients from other persons constitutes seclusion within the meaning of the Act,” and decided that “ any amount of compulsory isolation in the day-time, whereby a patient is confined in a room or separated from all associates, should be considered as seclusion, and recorded accordingly.” In their report for 1873, in calling attention to the varying degree in which seclusion was used in public asylums, they stated specially that it applied to isolation *by day only* ; and in the same year the Commissioners for Scotland issued the following circular :—“ As very different interpretations have been given by the superintendents and medical officers of establishments for the insane to the term ‘ seclusion,’ it is found impossible to institute any accurate comparison between the practice adopted in this respect in different houses and recorded in their register of seclusion. I am, therefore, instructed to request that whenever a patient is placed *during the day* in any room or locality, alone and with locked doors, the case may be viewed and recorded as one of seclusion, irrespectively altogether of the question whether seclusion was adopted for purposes of
 medical

medical treatment or for purposes of discipline. The cause of its adoption will, of course, be recorded in the column of the register set apart for the purpose. You will clearly understand that in issuing this instruction the Board do not in the smallest degree express an opinion as to the desirability or undesirability of seclusion. This object is simply to introduce a uniform method of recording the practice and experience of each establishment." As the Lunacy Act for Scotland was passed many years before 1873, the Commissioners for that country appear to have waited and expressed their opinion very deliberately, and neither they nor their English colleagues have thought it necessary to vary the directions once authoritatively given. At no time has isolation by night been regarded as seclusion, and the definition of the English and Scotch Commissioners has been adopted in the United States, Canada, India, the Cape of Good Hope, and in all the Australasian colonies. It is also the official and general definition in France, Germany, and other European countries. In the opinion of all authorities, the isolation of patients by day, whereby they are deprived of air, exercise, and association with their fellows (though possibly used with discretion and for good reasons), is a serious deprivation of liberty, which should be recorded. It has a punitive or coercive aspect, and it may be resorted to by asylum officials as a matter of convenience or economy. The case is very different with regard to isolation by night, as was pointed out by Dr. Huxtable (8074 *et seq.*) and Dr. Sinclair (8540 *et seq.*), the only witnesses examined on this point who had special asylum experience. In the night-time all patients are shut up in their rooms, and the only difference is as to being alone or with others. The inmates of asylums sleeping in a room by themselves differ very little in this respect from the majority of their sane brethren outside, and, like sane people, they, as a rule, prefer to sleep alone rather than in association. They are, therefore, under no punitive or coercive disability, and the question of convenience or economy, so far as the asylum officials are concerned, does not enter into the question. The friends of patients often stipulate for a single room, and offer to pay extra charges to secure it. The patients are almost always anxious to change from the associated dormitories to the quiet and privacy of the single rooms, and it is rare to find a single room in the Government Hospitals for the Insane unoccupied, owing to the desire of the patients to secure what they consider a privilege. There are about 620 of these rooms in the Government Hospitals, variously furnished and fitted according to the mental condition of the patients to whom they are allotted, and all are filled at night. If the number could be doubled they would all find ready occupants, and the increase in number would add to the peace of the institutions and the comfort of the patients. In some hospitals in America a single room is allowed to every patient.

To record the names of all the patients sleeping in the single rooms would lead to no useful result, and would only lead to confusion and difficulty. They are of every class—from the most quiet and orderly convalescent to those lost to all sense of cleanliness and order. Dr. Sinclair states (8544) : "It would be of no value to anyone; no value to us, to you, or anyone else. It would only tend to mix up the people in the institution to such an extent that no one would be able to distinguish the real amount of seclusion." When patients are changed from an associated dormitory to a single room at night, or from one associated dormitory to another, owing to quarrels, excitement, or other causes, these changes are invariably recorded by the night attendants (Dr. Sinclair—8568, 8569, 8570, 8571) on the printed forms for night reports. These forms are filed in the Medical Superintendent's office, are always accessible to the Official Visitors, and should, indeed, be seen by these officers at every visit, since it is only from them that they can obtain at first-hand some of the information they are required by statute to report. The causes which lead to the removal of patients from associated dormitories to single rooms at night are often trivial, as stated by Dr. Huxtable (8074); for the most part very much more trivial than would necessitate seclusion during the day. Minor quarrels which would render advisable the separation of patients sleeping alongside each other in associated dormitories during the night and in the absence of attendants, would necessitate little or no action,
and

and certainly would not lead to seclusion if occurring in the presence of attendants by day, and it is not, therefore, necessary to make a record of these removals beyond that on the night reports above mentioned. When, however, the causes for removal are serious or illustrate the medical or general history of the case and the necessity for special medical treatment, the record is copied into the case-book (8588, 8589, 8590), which is open to the inspection of the Official Visitors, and which they are under statutory obligations to examine. The Medical Superintendents of the Hospitals for the Insane, who are Government officials of standing and experience, and are uninfluenced by any considerations, pecuniary or otherwise, beyond the welfare of their patients and the successful management of the institutions under their care, are the best judges of what cases should be specially recorded in the case-books.

Although some of the Official Visitors have in evidence before this Commission raised the question of recording the cases placed in single rooms during the night, their very diverse and conflicting views show that they could never have previously discussed the question among themselves, and had not fully informed themselves of the existing practice. Whilst Dr. Sinclair (8543, 8544, and 8445) expressly states that though he had frequently discussed the question of seclusion with the Official Visitors, neither as a body nor individually had they ever suggested that the term seclusion should be applied to sleeping in a single room at night.

Dr. Cox stated in his evidence that the Official Visitors had prepared a "form" so that a record of the patients in seclusion might be made, but this form shows on the face of it that a record of the cases occupying single rooms at night was not contemplated, and it does not differ in any material way from the form which has been used by the Official Visitors for the last eight years.

In directing the notation in the Medical Journal at Bayview House of all cases sleeping in the isolated rooms—not under the heading of seclusion, but in a separate column—I had in view (1) the special character and detached position of these rooms at that asylum; (2) the desirability of directing the attention of the Official Visitors to the cases so isolated, since they did not appear to have regularly examined the other official records; (3) the absence of special night attendants except in special cases—the attendants sleeping in the rooms with all ordinary cases—and the necessity, therefore, of ensuring (a) that there should in future be no question as to the presence of night attendants in these special cases, and (b) the examination of their written reports by the Official Visitors; and (4) the reticence of Dr. Vause even when questioned in the case of General Richardson. None of these conditions exist in the Government Hospitals, and I do not, therefore, consider any alteration of the existing methods as either necessary or advisable in these institutions if the duties of the Official Visitors are systematically performed.

The daily repetition in any record of some 620 names, from which it would be impossible for any Official Visitors to distinguish individual patients, would only lead to confusion and difficulty, and tend to diminish the protection to the patients which the present system affords. The statement of the number in single rooms would be an unvarying one, and as all are invariably filled, would correspond with the total number of single rooms at each hospital, whilst the removals from associated dormitories to single rooms during the night on the occasion of disturbance could be more distinctly seen in the night reports, where full particulars and reasons are given.

F. NORTON MANNING.

THE CASE OF MAJOR-GENERAL RICHARDSON.

Mr. McGowen dissented from the decisions signed by the other members of the Commission in regard to the allegations made against the treatment of Major-General Richardson, and submitted the following statement of his opinions on this and minor subjects referred to in the main Report :—

The charge is, that the General was put in a room, really an old stable, with no windows, in perfect darkness, without any attendance between 5 to 6 p.m. until 8 a.m. on the following morning. That his location was kept a secret from his family, the visiting doctors, and Dr. Manning. That his family and visitors were shown another room in which the General was on each occasion of their visits, and were led to believe that this was the room the General occupied.

On the 20th May, 1894, Dr. Anderson Stuart made a surprise visit to the asylum, reaching there at 5.50 a.m., accompanied by Mr. Sager, Henry Gearey, and J. J. O'Brien. At 6.45 a.m. the General was removed from the stable-like building in the presence of Dr. Stuart, Mr. Sager, Henry Gearey, and J. J. O'Brien.

The room is described by Dr. Stuart, Mr. Sager, Gearey, and O'Brien, as being about 12 x 12 x 14, having the appearance of an old stable, no windows, no ventilation, foul smelling, with a stale urinous odour. There was excrement on the floor, which had been smeared as though an attempt had been made to hastily wipe it up. The contents of the room consisted of a roughly-sewn piece of canvas, made to represent a mattress, stuffed with straw, and three pieces of canvas rugs insufficient to cover a human being. Mr. Sager mentions two pieces of canvas. The abovenamed witnesses assume the General was naked, because Gearey and O'Brien watched the door of the room in which the General was confined and saw Doherty and O'Brien (the attendants) carry in the clothes which were on the General when he was taken out. It must be borne in mind that the object of this surprise visit was to locate the room in which the General slept, and which was said to have been kept a secret from the General's family and the visiting doctors. [*Vide* report, Professor Anderson Stuart.] This fact is proved to my mind by the evidence of Dr. Vause, Doherty, O'Brien, Mackenzie, Peet, Farquharson, and others, all of whom swear that the General had occupied that room for six months. Mackenzie swears positively that the General occupied the room nightly, without a single exception, while he (Mackenzie) was employed there.

It is not a question of single-room treatment or the scientific treatment of patients in single rooms. The question is, the condition of the room as seen on the morning of 20th May, 1894, and the surroundings of the General.

It is admitted by all the witnesses that the General was put in daily about 5 p.m. The question then comes as to any night attendance. All the witnesses swear their hours of duty began from 5.30 a.m. and ended at 10.30 p.m. With the exception of Doherty, O'Brien, and Watt, they all swear there was no night attendance. Watt gives evidence in accord with Doherty and O'Brien to a certain extent, although in the main contradictory, inasmuch as he infers that O'Brien only performed the night duty.

Question 6202. Who visited him (the General) during the night? O'Brien would be on night duty.

6203. Was there always an attendant waiting on him? Yes; there were two attendants, one by day and one by night.

6204. Are you perfectly certain on this point? Yes.

Dr. Vause's evidence on this matter is worthless, as he only knows what Doherty told him, and nothing of his own knowledge.

Doherty and O'Brien swear they took it in turns to do night duty, and used to visit the General every two hours. Can anyone believe that a warder, after doing duty from 5.30 a.m. to 10.30 p.m., could then do night duty, and visit the General every two hours.

Mackenzie, who by the way was an unwilling witness, and absolutely refused to give any information until after the General was removed, swears positively that the whole time he was employed there was no night attendance after 10 p.m.

Dickson, in his evidence, says there was no night attendance during his time (501, 504, 505, 507).

Bridget Morrissey (a former matron) said if an attendant was on duty on the male side she would be sure to know it.

Erickson

Erickson (who received a good character from Dr. Vause on leaving Bayview Asylum), states there was no night attendance during his time (722).

Robinson (formerly head attendant) says, "I never saw a night attendant at all during my time." (1380, 1384, 1389.)

Dr. Vause himself admitted the General would not be seen after 10 p.m. till the following morning, to Dr. Stuart, though he afterwards contradicts this in his statement and evidence. These facts apply equally to the female side of the Asylum, as the acknowledgment of Dr. Vause and all his witnesses that there was no night patrol previous to May 20th, 1894, proves conclusively there was no night attendance in the institution at this time.

Then going back to the morning of Dr. Stuart's visit, nearly an hour elapsed before any attendant could be seen, showing clearly to my mind that the evidence of Doherty and O'Brien in this connection is not reliable.

The evidence shows that no surprise visit to Bayview Asylum had ever been made by Dr. Manning, the Inspector-General of the Insane, or the Official Visitors, between the hours of 6 p.m. and 6 a.m., although special provision is made in the Lunacy Act for that very purpose.

The inspection made by Professor Anderson Stuart and party at 5.30 a.m. on the 20th May, 1894, was the only occasion of such visitation. Notwithstanding all that has been said, the fact remains, the party all met and assembled in the vicinity of the room in which Major-General Richardson was confined, without being in any way challenged or seeing an attendant for nearly an hour, although rebutting evidence is brought forward to show that there was an attendant on night duty, who was supposed to visit the General every two hours, this attendant being provided with a couch and a fire in the main building, distant 14 yards from the General's room.

As to the condition in which General Richardson was placed in the stable-like outhouse, Mackenzie says he received definite instructions to leave the General in that room naked, from the head attendant, Doherty, and did so (990-992).

Doherty denies that the General was put in naked, and states some eighteen pairs of pyjamas were supplied to the General during eighteen months, and were usually torn up. Dr. Blaxland states the General tore up 118 shirts in four months at Callan Park. Doherty and O'Brien swear that on the morning of the 20th May, 1894, the General had on pyjamas and singlet and they placed the suit of clothes and flannel shirt over them. Professor Anderson Stuart swears "I felt the body and legs of the patient to see what clothing he had on, and I felt nothing more than the three garments I mentioned, a flannel shirt, a woollen jacket and trousers."

The President: We have it in evidence from the attendants who removed the Major-General, that he had on pyjama trousers and singlet when they entered the room, and that they put the day clothes you saw him wearing over his pyjamas before taking him across the yard.

Professor Stuart: If they did that, those attendants should have been dismissed on the spot. The three rugs and the mattress lying upon the floor were befouled and filthy beyond description. There was excreta and urine on the floor, and do you mean to tell me that finding a patient in these conditions with his pyjamas on, that these articles could be clean and dry, and in such a condition that clean day clothes could be put on over them;—do you believe that possible? I don't.

What then was your impression regarding the Major-General before the attendants put his day clothes on? My impression is that he was in that room absolutely naked.

When we remember that it was the practice on the female side to place wet and dirty and destructive patients (as they contend the General was) in single rooms in a naked condition, it is impossible to come to any other conclusion than that the General was placed naked in this room. In this matter also I consider the evidence of Doherty and O'Brien not reliable.

As regards the condition of the room on the morning of the 24th May, 1894, we have the evidence of Professor Anderson Stuart that it was unfit for a dog to sleep in. That he made a deliberate inspection, and that his inspection was not hurried. That the room in question was a stinking den. That the difference between the single rooms at Callan Park and this room at Bayview Asylum is, comparatively speaking, that of a palace to a den.

The President: We have had it in evidence, both from the attendants at Callan Park and other sources, that the single rooms there, after having been used all night by patients of this class, are in much the same condition as you found the single room at Bayview House on the 20th May. Do you think that is possible? I do not believe it. I cannot imagine such a thing.

The President: But we have had evidence to this effect from not only the attendants at Callan Park, but from the Medical Superintendent at that Institution, Dr. Blaxland (who never saw the room the Major-General occupied at any time).

Professor

Professor Stuart: I do not care. I do not believe it. I myself saw Major-General Richardson and his room at Bayview House, those at Callan Park did not see him there. They did not see this place at that particular time, and if you were to bring down a cloud of angels with statements to the contrary, it would not alter my opinion. I know what I saw on that occasion, and I have seen from short notices appearing in the Press from time to time, who have been examined by this Commission. Their evidence does not shake me in my opinion.

As regards the ventilation on the 20th May, 1894, the means of ventilation were there. They were insufficient on the evidence of Dr. Stuart, Mr. Sager, Henry Gearey, and J. J. O'Brien, all of whom corroborate the statement of Dr. Stuart. Dr. Manning, Inspector-General of the Insane, says in evidence,—“These rooms are not counted in the general accommodation for which the house is licensed.” “The difficulties attending his (General Richardson's) case at night I was not aware of.” As to whether the building was a stable or not is beside the question. Personally I inspected the room on a bright summer day late in the afternoon. The pine floor was then damp and wet, and for that reason totally unfit for any human being to sleep in without a bedstead.

The visiting doctors and Dr. Manning could not have made any very careful inspection of the room in question previous to May 20th, 1894, otherwise they must have found out the General was sleeping there, seeing that he had occupied the room nightly for six months and more.

It is clearly shown from the evidence that Dr. Manning and the official visitors, viz.:—Sir Alfred Roberts, Dr. Cox, and Nugent Robertson, were all ignorant of the treatment to which the General was nightly being subjected. If such treatment was necessary, why was it kept a secret from Dr. Manning, Sir Alfred Roberts, Dr. Cox, Nugent Robinson, Dr. Huxtable, Dr. Skirving, Dr. Williams, Mrs. Richardson, and Sydney Richardson, besides all the visitors who called to see the General?

In addition to this, no record of the fact of General Richardson being placed in seclusion appears in the Medical Journal of Bayview Asylum, an act strongly condemned by a majority of the visiting doctors. The absence of this entry from the Medical Journal is particularly commented on by Sir Alfred Roberts.

To my mind the charges of ill-treatment as regards General Richardson are proved beyond doubt. Dr. Blaxland and other doctors who have given scientific evidence as to the treatment of lunatics, is worthless in this case as they have not seen the room in question, and their knowledge of the General's case is derived from hearsay evidence. After the very strong and unshaken testimony of Professor Anderson Stuart (who went there satisfied that there was no truth in the accusation) borne out by those who were with him (Messrs. Sager, Gearey, and O'Brien) who saw the room on the morning of May 20, 1894, and are, therefore, in my opinion, the only reliable witnesses on the subject, I have no hesitation in arriving at the conclusion that the room which the Major-General occupied for months was totally unfit for a human being to sleep in.

With regard to the treatment of the male patients generally at Bayview Asylum, the evidence discloses to my mind a careless and loose system, aptly described by the witness Gearey as a sort of “go as you please.” The witnesses before the Commission, past and present attendants, have had no experience in lunatic asylums or any knowledge of the most elementary nursing work. Dr. Vause states he prefers men untrained, as he trains them to his own ways. Considering the sample of attendants and the frequent dismissals, the private training of Dr. Vause has been a lamentable failure. These facts lead to the suspicion that the frequent changes of attendants are due to the Medical Superintendent fearing a too-close intimacy with the patients' friends might lead to investigation. Colouring is given to this suspicion by the sudden and mysterious disappearance of three male attendants—James Copley, said to have gone to South Africa; Mick and Pat, said to have gone to the Clarence—all of whom were fully acquainted with the treatment received by Major-General Richardson. In fact all the male attendants, with the exception of Doherty and O'Brien, have been discharged since May 20th, 1894, thereby preventing the possibility of the Commission obtaining their evidence.

In examining the witnesses in this inquiry it was found that those who made accusations against the institution were nearly all dismissed servants, yet on the other hand those who contradicted the accusations or spoke favourably of the institution were nearly all of them, at the time of giving evidence, in the employ of
Dr.

Dr. A. J. Vause, so that the Commission had great difficulty in discriminating between the evidence of those who perhaps had a personal grievance and those who had to criticise the management of their employer.

With regard to the female side of the institution it is clearly proven that the single rooms were occupied nightly by patients. Nine or ten unfortunate women (in some cases perfectly naked) were placed in these rooms, the doors locked, the attendants all in bed. No provision in case of fire. Inflammable material, so much so that one of the Commissioners poked his umbrella through a portion of the wood-work forming the room. This custom may be excused and explained scientifically, but no layman will ever be able to understand the necessity for such treatment.

The case of Miss H., placed in a single cell with an iron bedstead, and found in the morning with a broken arm, is a clear case of proof. One cannot credit a patient breaking an arm without noise or violence. The excuse put forth on this occasion is: "The patient was subject to epileptic fits, and no doubt broke her arm while in a fit; and that a new matron was in charge, and had not been informed she had an epileptic patient to deal with."

Mrs. Dewhurst was accidentally poisoned, an inquest held, and the jury publicly censured Dr. Vause, the Medical Superintendent, for carelessness.

I desire strongly to protest against private lunatic asylums, contending that if there is one thing more than another that the State should take up it is the housing and care of our lunatic people, feeling sure that if these asylums are allowed to be conducted on the principles of profit, the inmates are liable to suffer, the friends to be misled, and the Government, in spite of every precaution that may be taken in the supervision of such places, to be hoodwinked and deceived.

In the case of Bayview Asylum let me specially call the attention of the Government to the following facts:—

A certificate of title was issued in February, 1880, for the whole property, consisting of 31 acres, in the name of George Alfred Joseph Tucker; that on the 31st December, 1885, Mr. Tucker sold the property to Arthur John Vause for £14,500. A mortgage was given to Mr. Tucker by Dr. Vause on the same date for £12,500, payable by instalments—£250 on the first days of April, July, and October, 1886, 1st January, April, July, and October, 1887 and 1888, and 1st January, 1889, and the final instalment of £9,500 on the 1st January, 1894. On the 2nd April, 1894, Dr. Vause seems to have borrowed £9,000 from the Mutual Life Association of Australasia on the whole property, and Mr. Tucker's mortgage was discharged.

The suspicion that enters one's mind is this:—The Bayview Asylum was practically purchased on time payment. These payments had to be made, rigid economy had to be practised, perhaps at the expense of the health and comfort of the patients.

Another argument, and one that has been forced on my mind by the evidence in this case, is the political and extraneous influences that have been made manifest to get Government patients sent to this Asylum, making the Government a wet-nurse to this private institution, at the expense of the Consolidated Revenue. To prove this statement I will simply quote from the official papers of Dr. Manning, the Inspector-General of Insane, and his sworn evidence:—

I have no hesitation in saying that female patients of the chronic class are maintained in the Government Asylums at very considerably less cost than £34 per year, counting all charges and including interest of money as rent of buildings, and cost of repairs of every description. I have made calculations which clearly show this, and yet for patients of this class £56 per year, after all collections are deducted, is paid at Cook's River.

To put the matter briefly, the Government has paid the highest rate for the maintenance of the cheapest kind of lunatic.

So that in twenty years the Government has paid £41,800 to the proprietors of Cook's River in excess of what the Government patients sent there could have been maintained in Government establishments—and to what purpose? The patients would have been as well housed, as well fed, as well clothed, and every way as well if not better cared for in the Government asylums as at Cook's River, and there could scarcely have been fewer recoveries. The excess in cost has certainly not tended to the recovery of the patients since there has not been a single instance of recovery or discharge since 1880.

Dr. Manning, under examination,—

Question 8868.—In your report, as referred to by the President, do you not say there were political and extraneous influences exercised to get and keep patients at Bayview House? Yes, or words to that effect.

8869. Do you know who used, or how these influences were used? I have nothing definite to tell you on that subject.

8870. Can you tell the Commission how or by whom you were informed that this political influence was brought to bear? I know on one occasion that a Government of the day was in difficulties, and I was told that renewing the contract to Bayview House saved the Government from defeat.

8871. What Government was that? Really at this time I do not know for certain. I do not know whether it was Sir Alexander Stuart's Government, or which Government it was. It was some years ago.

8872. As a high public officer having to report to the ministerial head of your Department can you not state the reason you had for forming such an opinion;—will you not admit that it is a sweeping charge to make when you, as Inspector-General of the Insane, say that by the granting of a certain contract a Government was saved? Perhaps it is a sweeping statement, but I had other reasons which led me to this conclusion. It was not difficult for me to see, when I interviewed the Minister in power, that he had advice other than mine.

Such evidence calls for no comment.

I consider the practice of a certificate of death being considered sufficient when given by the Medical Superintendent without any further inquiries is fraught with danger, and may lead to abuses.

The want of experience by the witnesses in the treatment of lunatics has been so strongly commented on by Dr. Vause, inasmuch to this alleged fact all troubles have arisen. It may not be out of place to mention that we have no evidence of the fact of Dr. Vause himself ever having occupied the position of Medical Superintendent of a Lunatic Asylum previous to his appointment as such under Dr. Tucker.

In conclusion, I strongly recommend that the evidence taken in this inquiry should be published.

This opinion of mine is opposed by my fellow Commissioners, who contend that consideration should be shown for the feelings of friends of the patients. If this is the only reason for the suppression of the evidence why not adopt the plan carried out in their Report, viz., substitute initials for names?

Redfern.

JAS. S. MCGOWEN.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

BAYVIEW ASYLUM INQUIRY COMMISSION.
(RETURN SHOWING APPORTIONMENT OF EXPENSE OF.)

Ordered by the Legislative Assembly to be printed, 2 May, 1895.

[Laid upon the Table of the House in answer to Questions Nos. 3 and 4 of 17th April and 1st May, 1895.]

Questions.

- (3.) BAYVIEW ASYLUM INQUIRY COMMISSION:—MR. AFFLECK *asked* THE COLONIAL TREASURER,—
- (1.) Has the Commission appointed to inquire into the Bayview Asylum finished its work?
 - (2.) How long were they at it, and how many hours did they spend at each meeting?
 - (3.) What was the total cost of the inquiry?
 - (4.) How was the amount expended, and to whom paid, distinguishing each person's amount?

- (4.) COST OF BAYVIEW ASYLUM INQUIRY COMMISSION:—MR. AFFLECK *asked* THE COLONIAL TREASURER,—
- (1.) When will he be able to give the names and amounts as distributed from the cost of the Bayview Asylum Commission?
 - (2.) If he can, will he do so?

Answers.

		£	s.	d.
Salaries—				
Secretary and Shorthand-writer (T. D. Elwell)		234	6	8
Messengers—				
Patrick Lyons, from 1st November, 1894, to 14th March, 1895 ...	£48	6	8	
James O'Brien, from 15th March, 1895, to close of Commission ...	10	0	0	
		58	6	8
Fees to the Hon. Dr. Garran, from 14th January to 19th March, inclusive* ...		59	17	0
Type-writing five copies of the whole evidence... ..		93	6	4
Service of summonses and visits of Commission to Hospitals for Insane ...		26	8	0
Witnesses' expenses		15	11	0
Advertising		10	1	4
Investigation of Account Books, &c., Bayview Asylum		5	5	0
Total		£503	2	0

* During this period Dr. Garran was in receipt of no other emolument from the Crown.

1894-5.

NEW SOUTH WALES.

IMMIGRATION.

(REPORT FOR 1894.)

Presented to Parliament by Command.

The Officer in Charge of Immigration to The Principal Under Secretary.

Sir,

Immigration Office, Sydney, 9 January, 1895.

I have the honor to submit, for the information of the Chief Secretary, my report on Immigration for the year ending 31st December, 1894.

Operations under the Regulations have been confined to the nominations of wives and families by husbands and fathers, of good moral and industrial qualifications, being residents in the Colony.

Of the total of 67 immigrants who so arrived all were nominated in the Colony, none were selected by the Agent-General.

They consisted of 41 individuals above 12 years of age and 26 under 12 years of age.

No births or deaths occurred during voyage.

The Appendices herewith annexed give full detailed information relative to Immigrants during the voyage :—

- A.—General Statistical Information.
- B.—Nationality of Immigrants.
- C.—Educational Attainments.
- D.—Religious Persuasions.
- E.—Distribution into Country Districts.

I have, &c.,

FRANK J. JOSEPHSON,

Officer in Charge of Immigration.

APPENDIX A.
RETURN of Assisted Immigrants to New South Wales, 1894.

Name of Vessel	Date of Departure	Date of Arrival	Number of days on voyage	Number landed.				Nominated in the Colony	Selected by the Agent General	Total number of Individuals landed	Equal to statute adults	Contract price per statute adult.	Amount paid for and by Immigrants on account of cost of their passage.	
				Above 12 years of age.		Under 12 years of age							Amount paid in the Colony by Depositors	Amount paid in London to the Agent General.
				M	F	M	F.							
	1894.	1894.										£	£	
S.S. "Ophir"	12 January	23 February .	42	6	10	5	3	24	. . . . .	24	19½	} £15 per statute adult.	74	. . . . .
„ "Oruba"	6 April . . .	18 May	42		2	..	.	2	. . . . .	2	2		17	. . . . .
„ "Ophir"	18 May	30 June . . .	43	1	2	.	1	4	.	4	3		8	. . . . .
„ "Oroya"	15 June . . .	27 July	42	..	5	4	.	9	.	9	7		13	.
„ "Cuzco"	24 August . .	8 October	45	4	3	4	2	13	. . . . .	13	10½		50	.
„ "Ophir"	21 September.	3 November..	43	1	1	3	..	5	. . . . .	5	3½		20	..
„ "Ormuz"	16 November..	31 December..	45	1	5	2	2	10	.	10	8		28	.
			*	13	28	18	8	67	. . . . .	67	53½	210	

* Average length of passage, 43 days

1 Married couple	2
Single men	12
Wives and single women	27
Children under 12 years of age	26
Total	67

Immigration Office,
Sydney, 9th January, 1895.

FRANK J. JOSEPHSON,
Officer in Charge of Immigration.

3

APPENDIX B.

RETURN showing the Native Countries of the Assisted Immigrants who arrived in 1894:—

From England and Wales	48
„ Scotland	9
„ Ireland	8
„ Other Countries	2
	67

Immigration Office,
Sydney, 9th January, 1895.FRANK J. JOSEPHSON,
Officer in Charge of Immigration.

APPENDIX C.

RELIGIOUS PERSUASIONS.

Nationality.	Classification of Religion.						Total.
	Church of England.	Church of Scotland.	Wesleyan Methodists.	Other Protestants.	Roman Catholics.	Jews.	
English	44	1	2	.....	1	.....	48
Scotch .....	.....	7	.....	.....	2	.....	9
Irish .....	.....	3	.....	.....	5	.....	8
Other Countries .....	.....	.....	.....	.....	.....	2	2
	44	11	2	.....	8	2	67

Immigration Office,
Sydney, 9th January, 1895.FRANK J. JOSEPHSON,
Officer in Charge of Immigration.

APPENDIX D.

EDUCATIONAL ATTAINMENTS.

Nationality.	Classification of Education.						Total.
	Under 12 years of age.			12 years and over.			
	Cannot read.	Read and write.	Read only.	Cannot read.	Read and write.	Read only.	
England	10	9	.....	1	27	1	48
Scotland .....	.....	4	.....	.....	5	.....	9
Ireland	2	.....	.....	.....	6	.....	8
Other Countries	1	.....	.....	1	.....	.....	2
	13	13	.....	2	33	1	67

Immigration Office,
Sydney, 9th January, 1895.FRANK J. JOSEPHSON,
Officer in Charge of Immigration.

APPENDIX E.

RETURN showing the Number of Assisted Immigrants who, at their own request, were forwarded to the Country Districts by Rail and Steamboat.

Destination.	Wives.	Families.	Destination.	Wives.	Families.
Coff Harbour	1	6	Moss Vale	1	2
Clifton .....	.....	4	Newcastle	1	2
				3	14
				17	

Immigration Office,
Sydney, 9th January, 1895.FRANK J. JOSEPHSON,
Officer in Charge of Immigration.

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

COLONIAL CONFERENCE AT OTTAWA, CANADA.

REPORT

BY

FRANCIS BATHURST SUTTOR,

DELEGATE FOR NEW SOUTH WALES.

Presented to Parliament by Command.



SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1894.

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COLONIAL CONFERENCE AT OTTAWA, CANADA.

REPORT.

To His Excellency the Right Honorable SIR ROBERT WILLIAM DUFF, a Member of Her Majesty's Most Honorable Privy Council, a Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY:—

Having been appointed by the Executive Council of New South Wales to represent the Government of the Colony at a Conference to be held at Ottawa, Canada, on 21st June, 1894, for the purpose of considering the subjects of trade relations and telegraphic communication between the Dominion of Canada and the Australasian Colonies, I received from your Excellency on 18th May, 1894, a Commission empowering me to act as such representative, with authority to confer and deliberate with the other representatives of colonies assembling at the Conference, and to report fully the proceedings of the Conference; and now I have the honour to submit to your Excellency, for your information and that of the Government of New South Wales, my Report.

Proceedings Preliminary to the Conference.

MINUTE OF THE PRIVY COUNCIL OF CANADA.

UNDER date 8th February, 1894, the Governor-General of Canada forwarded to the Governor of New South Wales a copy of an approved minute of the Privy Council of Canada for the promotion of more extended trade relations and of telegraphic communication between the Dominion of Canada and the Australasian Colonies, and for the holding of a conference of delegates from the Colonies of Australasia and Fiji, with representatives of the Canadian Government, at Ottawa, on 21st June, 1894, to consider these subjects. The propriety of holding this Conference was agreed upon by the Prime Ministers of New South Wales, Queensland, Victoria, and South Australia, during a visit by the Canadian Minister of Trade and Commerce to the Australian Colonies in 1893. The minute recommended, "That the Governments of New South Wales, Queensland, Victoria, South Australia, West Australia, Tasmania, New Zealand, and Fiji be respectfully requested to appoint and send one or more delegates to meet at Ottawa, on Thursday, the 21st day of June, 1894, for the purpose of considering the trade relations existing between Canada and their respective countries, and the best means of extending the same, and of securing the construction of a direct telegraph cable between these Colonies and the Dominion of Canada." It was also recommended that the Government of the Cape of Good Hope and the British Government be invited to take part in the Conference.

TRADE RELATIONS AND TELEGRAPHIC COMMUNICATION.

Trade relations and telegraphic communication between Canada and Australasia have been matters of interest to both countries, and particularly to Canada, for some years past. Canada having constructed the Canadian Pacific Railway, which spans her territory from the seaboard on the east to that on the west, is desirous of securing to the fullest extent the advantages which the railway offers for promoting trade

trade across the Pacific Ocean from and to Vancouver. Naturally an export trade is her chief object, but she is willing to encourage imports as far as may be practicable and consistent with her tariff policy.

Telegraphic communication between the two countries by a direct route is considered essential to an extensive and profitable trade. It is also regarded as of great importance in relation to the defence of trade and shipping in time of war.

Trade between
Canada and
Australasia.

At present direct trade between Canada and Australasia is carried on to only a very limited extent. It has arisen in connection with the line of steamers running between Sydney and Vancouver, a means of communication between the two countries not yet sufficiently long in existence to indicate with definiteness the results which may flow from it. Indirectly there is between Canada and Australia a considerable trade in wool, which, bought in the Australian markets by English and American buyers, is purchased by Canadian manufacturers in England and the United States. The importance of establishing direct trade in all marketable articles of Canadian or Australian production led the Government of Canada to send to Australia last year the Honorable Mackenzie Bowell, Minister of Trade and Commerce, to confer with the Australian Governments on the subject; and since that visit a proposal has been made to increase the number of steamers running between Sydney and Vancouver, and to extend the service to England by means of a corresponding line of steamers across the Atlantic.

THE STEAMSHIP SERVICE.

Subsidies paid
to present
service.

As far back as 1889 the Federal Parliament of Canada passed an Act authorising the granting of a subsidy not exceeding £25,000 per annum to assist in establishing an effective fortnightly steamship service between British Columbia and the Australian Colonies and New Zealand. In 1893 this Act was amended so as to allow of the subsidy being given to a "monthly or more frequent" service, and under this authority the present steamship service was, with the assistance of the subsidy of £10,000 for three years paid by New South Wales, established.

THE PROPOSED CABLE.

Telegraphic
communica-
tion across the
Pacific.

Telegraphic communication over the Pacific, to connect Canada with Australia, was a subject for consideration at the Colonial Conference held in London in 1887. On that occasion it was resolved—

Resolution
passed by
Colonial
Conference
of 1887.

"That the connection of Canada with Australasia by direct submarine telegraph across the Pacific is a project of high importance to the Empire, and every doubt as to its practicability should without delay be set at rest by a thorough and exhaustive survey."

The matter was brought forward by the Canadian representatives, and it was then, and has since been, urged that by the proposed cable commercial intercourse would be stimulated and enlarged, the defence of commerce during war greatly assisted, and the cost of cable messages between Australia and Canada or Australia and America largely reduced.

The Pacific
the only ocean
not traversed
by the
telegraph.

In the correspondence which has taken place on the subject it is pointed out that the Pacific is the only ocean not traversed by the telegraph; that Canada and Australasia, the two largest divisions of the Empire, though actually separated from each other by only the Pacific Ocean, are telegraphically separated by but little short of the whole circumference of the globe; and that for closer commercial relations, or for joint action in any important matter of mutual concern, better telegraphic communication than exists at present is all but an absolute necessity.

ADVANTAGES FROM THE CABLE.

The cable and
British trade.

British shipping, it is stated, very truly, depends largely upon telegraphic advice for its most effective employment, and while this is so the cost of sending telegrams from Canada to Australia, or *vice versa*, is so high as to be practically prohibitive. The reduced charges which would be the result of laying a cable across the Pacific would, it is expected, very quickly bring about increased commercial activity, especially in connection with Australia.

Cable
advantages in
time of war.

The advantages to be derived from the cable in time of war were explained fully by Mr. Sandford Fleming in an address delivered by him before the Congress of Chambers of Commerce of the Empire, in London, in 1892. The highest naval authorities,

authorities, he said, are agreed that in time of war the use of the telegraph would furnish one of the most effective means of giving security to the vast commerce of the Empire. Telegraphic orders sent out confidentially by the Admiralty from time to time would indicate to merchant ships the precise course they should take on both outward and inward voyages, by which means the protecting naval force could be disposed with complete knowledge of the whereabouts of the commerce to be defended, while an enemy would have no such knowledge. To no part of the commerce of the Empire, Mr. Fleming contended, would a complete system of naval protection be so serviceable as to that of Australasia. Without taking into account the new route by way of Canada, which, in an emergency, might be used for commercial purposes—if, he explained, we take into consideration the alternate routes open around Cape Horn and the Cape of Good Hope, and the vast ocean spaces to be traversed, it will be seen that this system of naval protection might give to Australasian trade an almost complete immunity from attack, except in the immediate neighborhood of European waters, where the strongest force would be available for its defence. Among the general advantages to shipping there would be, he pointed out, an enormous saving from reduced risks and insurance charges; but the execution of any effective plan for the protection of maritime commerce depended upon the completeness and security of a national telegraph service around the globe. At present there is no such complete and secure service. England has four possible main lines of connection with the East and Australasia; but for national purposes in time of war it is, in Mr. Fleming's opinion, a fatal defect that they pass through possibly hostile countries, where they would be useless to us, or through shallow seas, where the cables could be easily fished up and destroyed. One line goes by way of Gibraltar, Malta, Egypt, and the Red Sea. Another, passing through France, Italy, and Greece, also goes on to the Red Sea. The third traverses Germany, Austria, Turkey, Russia, and Persia. The fourth crosses Russia to the Pacific, whence it connects to the south with Chinese and Indian lines. A route recently completed around Africa may be mentioned as a fifth alternative route. For issuing instructions to the merchant ships of the southern colonies, or of the eastern dependencies of the Empire, not one of these eastern lines, he said, could in time of war be depended upon for a single day. A line across the Pacific, on the other hand, would not only be far removed from the political storm-centres of the European continent, but would have two other great advantages—first, it would pass entirely, or almost entirely, over British soil; and second, it would pass chiefly through deep sea, where it could only be destroyed with great difficulty. And it would complete the circle of communication around the Empire. From a strategic point of view, therefore, he argued, the value of such a line in time of war would be immeasurable; and it might be fairly urged that even if the line were for a time commercially unprofitable, the Governments of the mother-land and the Colonies would be fully justified in bearing a portion of the expense for the sake of the added guarantee of national security which the cable would give.

SUGGESTED ROUTES.

Four routes have been suggested by Canada, through Mr. Sandford Fleming, for the cable, and in a memorandum dated Sydney, 11th October, 1893, they are described as follows:—

Route 1. Commencing at Vancouver Island, and extending to Fanning Island, and thence to the nearest island of the Fiji group. From Fiji it could run direct to New Zealand, and thence to the Australian continent; or it could go from Fiji to Norfolk Island, and from there bifurcate to the northern part of New Zealand and to a convenient point near the boundary between New South Wales and Queensland. Route 1.

Route 2. From Vancouver Island to Necker Island, a small unoccupied island about 240 miles westward from the Hawaiian group. From Necker Island to Fiji, and thence, as in Route No. 1, to New Zealand and Australia. Route 2.

Route 3. From Vancouver Island to Necker Island, and thence to Onoatua or some one of the eastern islands of the Gilbert group. From the station in the Gilbert group two branches would extend—one to Queensland, and the other to New Zealand. The Queensland branch would touch at San Christoval Island, in the Solomon group, and terminate at Bowen, connecting at that point with the land lines easterly to Brisbane and Sydney, and then going westerly to the Gulf of Carpentaria, Route 3.

Carpentaria, where a connection might be formed with the overland line to Adelaide, leading to Victoria, Tasmania, South and West Australia. The New Zealand branch of this route would find a mid-station on Viti Levu, the southern island of the Fiji group.

Route 4. From Vancouver Island to Necker Island, and thence in a direct line to Bowen, touching at Apamana—a central island of the Gilbert group—and at San Christoval, of the Solomon group. At Bowen, as in the case of Route No. 3, the line could connect with the southern colonies by means of the overland line to Adelaide. This route offers probably the shortest possible line between any part of Canada and any part of the continent of Australia, but it has the disadvantage of excluding from its telegraph service the Fiji Islands and New Zealand. The latter colony could be connected by special cable from Queensland or New South Wales, but the Fiji Islands would remain without a telegraph line by this route.

Distance by each route.

The distance by each of these routes was stated to be:—

Route No. 1. Including both branches from Norfolk Island to New Zealand and Australia..	... ..	7,145 knots.
Route No. 2. Including branches to New Zealand and Australia	... ..	7,175 „
Route No. 3. Including both branches to Queensland and New Zealand from the Gilbert group	... ..	8,264 „
Route No. 4. Vancouver to Bowen	... ..	6,244 „
Route No. 4a. Vancouver to Bowen, with a special cable from the mainland to New Zealand	... ..	7,310 „

Estimated cost by the routes.

The estimated cost of the cable complete by each of these routes was given as follows:—

Route No. 1, estimated cost completed	... ..	£1,678,000
„ „ 2, „ „	... ..	1,585,000
„ „ 3, „ „	... ..	1,825,000
„ „ 4, „ „	... ..	1,380,000
„ „ 4a, „ „	... ..	1,610,000

In this estimate of cost an allowance of 20 per cent. to the ascertained superficial distance is made for “slack,” in order that the cable may be safely laid at all depths and under all conditions likely to arise; and in the case of Route No. 1 a special allowance is made on account of the unusually long section between Vancouver and Fanning Island.

METHODS FOR PROVIDING AND LAYING THE CABLE.

Construction by a company expensive.

Government ownership and control.

Prior to the Conference at Ottawa two methods by which the work of providing and laying the cable might be accomplished were mentioned—one through the agency of a company liberally subsidised, and the other as a public work under Government control. With regard to the first, it was stated that no company had offered to carry out the undertaking for a less subsidy than £75,000 a year, continued for a period of twenty-five years. Under the plan of Government ownership a much smaller annual payment for a very much shorter period, it was asserted, would suffice, and, furthermore, the cable would be public property, controlled by Government for the public benefit. On those grounds it was proposed in Mr. Fleming's memorandum of October, 1893, that Australia, New Zealand, Fiji, and Canada should be joint owners of the cable, and that it should be established and worked as a public undertaking for the common good. This proposal for joint ownership on the part of the colonies named differs from what was originally put forward, in so far that until the publication of the memorandum of 1893 it had been strongly urged that the expenditure incurred in connection with the cable should be shared by Great Britain, the idea being that the British Government might assist in guaranteeing the loan necessary to be raised, in the manner adopted in the case of the railway connecting Quebec and Halifax, which was constructed with capital obtained on the joint guarantee of the Imperial and Canadian Governments. The Imperial Government, however, showed no great interest in the matter, and Mr. Fleming, and through him the Canadian Government, came to the conclusion that in view of the indifference of Great Britain, and to prevent the cable from getting into foreign hands, the only course was for Canada and the other colonies concerned to boldly take the initiative, lay the cable, and control it.

THE

THE EASTERN EXTENSION TELEGRAPH COMPANY AND THE PROPOSAL.

A difficulty appeared from the agreement under which certain of the Australian Governments have to pay to the Eastern Extension Telegraph Company, until May, 1899, an annual subsidy of £32,400, but this, it was considered, might be overcome by providing out of capital an annuity to meet the subsidy as it periodically became due. By such an arrangement, it was argued, the liability of New South Wales, Victoria, South Australia, and West Australia to the Eastern Extension Telegraph Company would be practically removed, and these Colonies would be free to enter with Queensland, New Zealand, Fiji, and Canada into a joint agreement to accomplish the establishment of the Trans-Pacific Telegraph. The annuity provided to extinguish the subsidy of £32,400 a year would be met by profits accruing from the new cable, and meanwhile all liability incurred in the raising of capital would be borne in equitable proportions by the co-operating Governments.

Difficulty in relation to cable subsidy at present paid.

To illustrate this proposal it was assumed that the cable itself, say on Route No. 2, required an expenditure of	£1,600,000
To this capital add the sum needed to purchase an annuity to meet the annual subsidy of £32,400 from May, 1894, to May, 1899, five years	145,000
Total... ..	£1,745,000

This total capital raised on the joint guarantee of the Australasian Colonies, New Zealand, and Canada, could be placed, Mr. Fleming said, at the low rate of 3 per cent., making a total charge of £52,350 per annum. This interest charge, he pointed out, was less than the lowest subsidy asked by a company, and he contended that, unlike a subsidy for a fixed period of twenty-five years, long before the expiry of that period the whole interest would be met by surplus revenue. Charges for transmitting messages would, with the establishment of the cable, be much less than at present, and this should bring a large amount of business. In Mr. Fleming's opinion the rates across the Pacific should be lowered to 2s. per word, immediately on the cable being laid. This would reduce the charges between Australia and England to 3s. 3d., in place of 4s. 9d. per word, as at present; while messages from Australia received at Vancouver would be forwarded to all parts of Canada and the United States for an average charge, not exceeding 2s. 3d. per word, in place of 6s., the present charge.

Reduction in cable charges.

ATTITUDE OF THE IMPERIAL GOVERNMENT.

The question of the proposed cable was considered by the Imperial Government to some extent in 1887, and more fully in 1892, but in relation to routes somewhat different from those suggested by Mr. Sandford Fleming, the British authorities being under the impression that the first landing place for the cable after starting from Vancouver should be either Fanning, Christmas, Palmyra, or Washington Island.

The Hydrographer of the Navy, reporting upon the project in 1887, observed that there were grave drawbacks to it. To minimise the effects of breakdowns on a submarine cable the individual lengths between the landing places should be, he explained, as short as possible, in order that the time lost in bridging over by a steamer until the repairs could be made good should be reduced to a minimum. The proposed line would not only be made up of the longest length of submarine cable known, but the state of trade at the calling places is such that steamers might not be available for temporary service in case of a messenger vessel being required. Further, he stated (1) that very few soundings exist on the actual line proposed; (2) that the soundings near this line show that the depth is unusually great, and therefore unfavourable for repairing; (3) that the probability of sudden inequalities of the bottom is very great in such an island-studded sea, and that such inequality would be also unfavourable to the maintenance of the cable; and (4) it would require a long and minute search by a vessel specially fitted for sounding before the best route could be selected. It is very doubtful, therefore, he concluded, what the ultimate cost of the undertaking might be, and, even at the estimate of £2,000,000, it was more than doubtful whether it could possibly be made to pay. As a single line of submarine telegraph has never yet been found to answer commercially, he observed, it would probably be necessary to duplicate this one, and this would cost about one and a half millions sterling extra.

Grave drawbacks to the project.

The

Route as stated by the Hydrographer of the Navy.

The route of the proposed cable was stated by the Hydrographer as follows:—

Vancouver Island to Fanning or Washington Island	...	3,220	miles
Washington Island to Phoenix Island	... ..	790	„
Phoenix Island to Fiji	... ..	920	„
Fiji to New Zealand	... ..	1,010	„
New Zealand to Sydney	... ..	1,125	„

Total 7,065 miles

Route given by British Postmaster-General.

Writing on 5th July, 1893, the Postmaster-General, London, stated that, for a cable to land only on territory under British protection or belonging to the British Crown, the route selected would probably be:—

Victoria, Vancouver Island, to Fanning Island	... ..	3,298	Distance in knots.
Fanning to Canton Island	... ..	845	
Canton to Fiji	... ..	1,130	
Fiji to the Bay of Islands, New Zealand	... ..	1,080	

Total 6,353

Adding 20 per cent. for "slack" would make the total distance 7,623 knots.

Excessive material and cost in connection with the cable.

The sections between Fanning Island and New Zealand, it was pointed out, might be laid with a cable of which the core would consist of 130 pounds of copper and 130 pounds of gutta percha to the knot, at a cost of about £150 a knot, or say £549,900 for the three sections. But, on the Vancouver-Fanning section, to secure even the moderate working speed of twelve words a minute, the cable would require a core of 940 pounds of copper and 940 pounds of gutta percha to the knot, and the cost of manufacturing and laying such a cable would probably be about £600 per knot, or say £2,374,200. The total cost of the whole line from Vancouver to New Zealand would thus be about £2,924,100.

Doubtful whether one section of the cable could be laid.

There would be no novelty, the letter proceeded to say, in laying or maintaining cables of the type required between Fanning and New Zealand, but a cable like that which would be necessary between Vancouver and Fanning has never yet been laid. The heaviest core in any existing cable contains only 400 pounds of copper and 400 pounds of gutta percha to the knot. It may well be doubted, therefore, whether, with existing appliances, the Vancouver-Fanning section could be either laid or maintained. If it were found possible to establish the communication, it would be necessary to its proper maintenance that a ship specially constructed for the purpose should be stationed in the Pacific, and that depôts of coal, spare submarine cable, and other stores should be established at various points.

Financial aspect of the question difficult to state.

As to the financial aspect of the question, it is not possible, the British Postmaster-General wrote, where everything is so problematical, to prepare a trustworthy statement. If the charges for telegrams to and from Europe were the same as the charges by the existing route, the annual revenue proper to the new line could scarcely at first, or, indeed, for many years, exceed £70,000 a year. Interest at 4 per cent. on the capital of £2,924,100 would be £116,964; a sinking fund at 4 per cent. to replace the capital in 25 years would take £70,200 a year; and the cost of maintenance and working could not well be estimated at less than £40,000 a year. There may thus be an annual expense of £227,164, as compared with a revenue of £70,000, leaving a deficiency of £157,164 to be made good by subsidies.

In this letter it was further stated that if it were not necessary to land the cable in all cases on British territory, a line of communication might be established for a smaller sum by a route which would include the Sandwich or Hawaiian Islands. The first section could be laid from Vancouver (or from San Francisco) to Oahu in the Sandwich Islands, and the core of this section of the cable need not exceed 400 pounds of copper and 400 pounds of gutta percha to the knot.

NEGOTIATIONS FOR A SURVEY.

Action of Canada.

These views of the British authorities on the subject of the cable were communicated to the different Governments interested, and that of Canada urged that a proper nautical survey should be made in order to discover and decide upon the

the best route. In 1887 the British Admiralty was urged by Canada to undertake this work, Canada offering at the time the use of a suitable vessel, and expressing her willingness to pay half the expense of the survey; but no action was taken. In the same year during the sittings in London of the Colonial Conference, the delegates to the Conference requested Her Majesty's Government, through Lord Knutsford, to cause the survey to be made. The letter of the delegates was transmitted to the Admiralty, and the Secretary to the Admiralty, replying, said:—

Request from
the London
Conference.

“ Unless the Secretary of State has reason to believe that a submarine cable is likely to be laid from Vancouver to Australia very shortly, their Lordships would not propose to despatch a surveying vessel for the sole purpose of obtaining soundings over the route, but they will endeavour to arrange that soundings shall be gradually obtained during the next few years in the ordinary course of hydrographic surveys.”

Reply from
the Admi-
rality.

Mr. Sandford Fleming learned from the Hydrographer to the Admiralty that it was expected that in 1888 a surveying vessel would be despatched to Australian waters for purposes other than the proposed survey, and that while there the officers would be instructed, in the ordinary course of their duties, to endeavour to obtain some information which might be useful in connection with the question of laying the cable. It was intended to follow the same course year by year, but no definite idea could be formed as to the time which would be expended before the completion of the work.

On 7th March, 1888, a resolution passed at a Postal Conference held in Sydney, all the Australian Colonies being represented, was telegraphed to Lord Knutsford. The telegram asked that the Admiralty might be moved to make an early survey of a suitable route “ for ocean cable telegraph by way of Pacific Ocean *via* Vancouver Island, the cost to be defrayed by Her Majesty's Government, the Government of Canada, and the Australasian Colonies.” The Colonial Office immediately communicated with the Admiralty, and asked for an approximate estimate of the probable cost of a survey. The Admiralty replied on 4th April, 1888. Their letter stated that H.M.S. “ Egeria ” was on the point of sailing from Sydney to clear up the dangers, and fix the positions of and survey the islands on the route from New Zealand to Vancouver, and that the vessel had orders to obtain, in the course of this work, deep soundings, which would, in two or three years, furnish more detailed information than now existed as to the varieties of depths to be expected on the general line of cable. To survey a route for a cable to any purpose would, it was pointed out, entail long searching for the best line, examination of contours of coral islands, and continuous close soundings; and three years' steady work at that and nothing else would probably not complete the survey. The operations of the “ Egeria ” would furnish gradually, at a minimum cost, the preliminary information required, and a great part of that directly bearing on the laying of a cable. It was, therefore, not considered advisable to make any alterations in the orders under which the “ Egeria ” was about to act; and, the letter proceeded, “ as no vessel can be spared from her hydrographic work in any other part of the world, the question of hastening the survey by providing another vessel must, in their Lordships' opinion, remain open, until Lord Knutsford is able to inform this Department that there is a reasonable prospect that the funds for the construction of the submarine cable across the Pacific will be found, and that time is of importance in Imperial interests.” As to the probable cost of the survey, it was stated that the annual cost of H.M.S. “ Egeria ” was about £12,000, and that if a similar vessel were provided especially for the purpose of making a complete survey of the best ocean route and landing places, the cost would be about £36,000. This estimate was irrespective of the value of the vessel and the cost of fitting her out.

Resolution of
Sydney Postal
Conference.

Reply of the
Admiralty.

Probable cost
of the survey.

In the opinion expressed in the letter from the Admiralty, that the question of accelerating the survey must remain open until there was a prospect that the funds for the construction of the cable would be found, the Imperial Government concurred. There the matter rested. The “ Egeria ” commenced her work in the Pacific, but being shortly afterwards withdrawn, her surveying operations were stopped, and they have not since been resumed.

RESOLUTION

RESOLUTION OF THE NEW ZEALAND CONFERENCE.

In March, 1894, a Postal and Telegraph Conference was held in Wellington, New Zealand, the subject of this proposed cable being one of the questions considered, and the following resolution was passed :—

Proposal for cable to be laid on guarantee of interest for fourteen years.

“That, considering the important interests involved, both of a national and commercial character, in the establishment of a Pacific cable, the representatives of the respective Colonies assembled at this Conference recommend their Governments to consider the desirability of entering into a guarantee with the other countries interested for a period not exceeding fourteen years, and to guarantee interest at 4 per cent. on a capital of not more than £1,800,000 to any company undertaking the laying of a Pacific cable; the tariff not to exceed 3s. per word for ordinary telegrams, 2s. per word for Government telegrams, and 1s. 6d. per word for press telegrams, to and from Great Britain and the Colonies; and that the United Kingdom be asked to join in the guarantee; the routes to be either of the following: Brisbane to Ahipara Bay (New Zealand), Ahipara Bay to Suva, Suva to Apia, Apia to Fanning Island, Fanning Island to Sandwich Islands, Sandwich Islands to Vancouver; or, from New Zealand to Suva, Suva to Apia, Apia to Fanning Island, Fanning Island to Sandwich Islands, Sandwich Islands to Vancouver.”

The guarantee of 4 per cent. interest on £1,800,000 would amount to £72,000 a year for fourteen years, and the liability in respect of it resting upon the interested Colonies, after the sum to be contributed by England had been decided upon, would be divided between them on the basis of population. Canada and England, according to the views expressed at the Wellington Conference, would bear the greater proportion of the expense of the guarantee. South Australia and West Australia it was not expected would contribute. The routes indicated in the resolution of the Conference, it was considered, rendered it possible for the Eastern Extension Company to tender for the establishment of the proposed cable, and to utilise the existing cables between Australia and New Zealand. On the other hand, the proposal left it open to the world to compete for the laying of a cable between Australia and New Zealand, and from New Zealand onwards, as indicated.

FINANCIAL ASPECT OF THE QUESTION.

Mr. Sandford Fleming on the financial aspect of the question.

On the financial aspect of the question, Mr. Sandford Fleming, in his memorandum of 11th October, 1893, contends that the proposed cable established and worked under the joint ownership of the Colonies would practically extinguish all subsidies now paid and render guarantees unnecessary; it would permanently establish low rates for ocean telegraphy; and it would yield a revenue which, after paying working expenses, providing for maintenance and renewals, would make good all interest charges on the whole cost of the undertaking from the beginning, and in a very few years would furnish large surplus earnings. Estimating the cost of the cable at £1,600,000, he adds, as already mentioned, a sum of £145,000 for the purchase of an annuity to extinguish the £32,400 subsidy at present paid the Eastern Extension Company. This makes a total cost of £1,745,000, which, raised on the joint guarantee of the Australian Colonies, New Zealand, and Canada, could, he says, be placed at the rate of 3 per cent., making a total charge of £52,350 per annum. The working expenses he estimates at £60,000 per annum, and the revenue for the year following the establishment of the cable at £90,539, “a sum equal to the whole working expenses, together with £30,539 for the renewal fund.” The renewal fund he proposes to make an annual charge on the revenue to the extent of £32,000. Within about seven years after the completion of the undertaking, Mr. Fleming states, the revenue would be sufficient to meet every current charge, and the contributing Governments would practically be relieved from further liability. Not only would all fixed charges be then met, but in succeeding years the productive capacity of the undertaking would yield an annually increasing surplus, to be dealt with as the co-operating Governments might determine.

OBJECTIONS

OBJECTIONS TO THE CABLE.

Objections to the cable have been put forward by Sir John Pender, Chairman of the Eastern Extension Telegraph Company, and in a letter to the Colonial Office, with reference to the Conference at Ottawa, he states them at length. He points out:—

- (1.) That the existing telegraphic communication with Australia was established by private enterprise without Government assistance.
- (2.) That the existing rates cannot be considered in any way excessive.
- (3.) That the existing communication with Australia is acknowledged to be most efficient and satisfactory, and is equal to the transmission of a much larger traffic than it at present carries.
- (4.) That a costly alternative cable across the Pacific cannot be said to be required to meet existing commercial wants, and, if established by Government assistance, could only be justified on strategic grounds.

The guarantee proposed by the Wellington Conference, Sir John Pender proceeds to say, would by itself be utterly inadequate to enable any company to live, and consequently a Pacific line could only be made a success if a large portion of the existing company's traffic were diverted *via* the Pacific, or a largely increased guarantee or subsidy were granted. About £165,000 a year would have to be made up in addition to the 4 per cent. guarantee on the capital expenditure upon the Pacific cable, and if this were done at the expense, and consequent serious injury of the existing service, Her Majesty's Government, Sir John Pender contends, could not in equity refuse to guarantee or subsidise the Eastern Extension Company to the same extent as it guaranteed or subsidised the Pacific cable; otherwise a fatal blow would be given to private enterprise which would seriously affect the carrying out of similar pioneer works in the future. A diversion from the existing Australasian traffic, *via* the Pacific, would also affect the telegraphic revenue of the Indian Government, and compensation would also have to be made to the South Australian Government, whose overland line from Adelaide to Port Darwin is still working at a heavy loss.

"As you are aware," Sir John Pender continues, "the agitation for an all-British cable across the Pacific is mainly based on sentiment, as it would almost inevitably have to touch foreign territory at one point or another, and would be dependent upon the Atlantic cables for the transmission of its traffic from Canada to Europe. Moreover, a Pacific cable would be no safer in time of war than cables in other seas, while it would impose increased responsibility upon the navy at a time when it might have to concentrate all its energies nearer home to protect the more frequented trade routes."

But, concluding, he says that if a Pacific cable is considered a strategic necessity, and the Governments concerned are prepared to provide the requisite subsidies to enable it to be established, the Eastern Extension Company is quite ready to co-operate in the matter, and with its large experience and special facilities is in a better position than any other company to carry out the work advantageously.

Such was the position, shortly stated, in which trade between Australasia and Canada, and the question of direct cable communication between the two countries stood prior to the Conference at Ottawa.

THE CONFERENCE AT OTTAWA.

OPENING CEREMONY.

The Conference at Ottawa opened with much ceremony in the Senate Chamber of the Houses of the Federal Parliament of Canada on Thursday, 28th June, 1894, His Excellency the Right Honorable the Earl of Aberdeen, Governor-General of Canada, presiding, and the members of the Canadian Government and of both Houses of Parliament, with a large assemblage of the general public, being present.

The following delegates were in attendance:—

The Right Honorable the Earl of Jersey, P.C., G.C.M.G., representing the Government of Great Britain;

The Honorable Mackenzie Bowell, P.C., Minister of Trade and Commerce; the Honorable Sir Adolphe P. Caron, P.C., K.C.M.G., Postmaster-General; the Honorable George Eulas Foster, P.C., LL.D., Minister of Finance; and Sandford Fleming, Esq., C.M.G.; representing the Government of the Dominion of Canada.

The

- The Honorable Francis Bathurst Suttor, M.L.A., Minister of Public Instruction, representing the Government of New South Wales.
- The Honorable Nicholas Fitzgerald, M.L.C., representing the Government of Tasmania.
- The Honorable Sir Henry de Villiers, K.C.M.G., and Sir Charles Mills, K.C.M.G., C.B., representing the Government of the Cape of Good Hope.
- The Honorable Thomas Playford, Agent-General, representing the Government of South Australia.
- A. Lee Smith, Esq., representing the Government of New Zealand.
- Sir Henry Wrixon, K.C.M.G., Q.C.; the Honorable Nicholas Fitzgerald, M.L.C.; and the Honorable Simon Fraser, M.L.C.; representing the Government of Victoria.
- The Honorable A. J. Thynne, M.L.C., Member of the Executive Council, and the Honorable William Forrest, M.L.C., representing the Government of Queensland.
- Mr. Theo. H. Davies, representing the Chamber of Commerce of Honolulu, Hawaii.

Mr. Theo. H. Davies, representing the Chamber of Commerce of Honolulu, did not attend any sitting of the Conference after the opening ceremony, objection having been taken to his being present as he did not represent any portion of the British dominions; but at subsequent sittings the number of delegates was increased by the attendance of the Honorable J. H. Hoffmeyr, as one of the representatives of the Cape of Good Hope.

Preliminary proceedings.

Addresses of welcome to the delegates, and, on the part of the delegates, thanks for the welcome accorded them, formed the first portion of the proceedings. Of immediate results from the Conference some doubts were entertained, but of ultimate advantages from the meeting together of representatives of the self-governing Colonies with a representative of Great Britain, for the discussion of subjects of common interest, each speaker was convinced. Throughout the proceedings the hope was expressed, or was apparent from what was said, that, as one result from the deliberations of the delegates, "the ocean which divides the Colonies," to use the words of Sir John Thompson, "shall become the highway for their people and their products." The opening ceremony terminated with an address of congratulation and loyalty to Her Majesty the Queen, on the 56th anniversary of her coronation, the motions for the preparation and the adoption of the address being moved by me and seconded by Sir Charles Mills.

Business sittings.

The business sittings of the Conference commenced the following morning, and were continued day by day until the business was concluded. The Honorable Mackenzie Bowell, Minister of Trade and Commerce, Canada, was appointed President of the Conference, and Sir Adolphe Caron, Postmaster-General, Canada, Vice-President; and, on my motion, it was resolved that the voting should be by Colonies.

Voting to be by Colonies.

TRADE BETWEEN THE COLONIES.

Trade relations between the Colonies was the subject first considered, and it was discussed on the following motion, moved by Sir Henry Wrixon and seconded by myself:—

Power of the Australian Colonies to enter into commercial treaties limited to their own boundaries.

"That provision should be made by Imperial legislation enabling the dependencies of the Empire to enter into agreements of commercial reciprocity, including the power of making differential tariffs with Great Britain or with one another."

Extended power to enter into tariff treaties necessary to promote trade.

The Australian Colonies, under an Act passed by the Imperial Government in 1873, to amend the Constitution Acts, have the power to enter into commercial treaties one with the other, and to impose differential tariffs, but this power does not extend beyond their own boundaries. It was therefore deemed by the delegates attending the Conference to be necessary, for the promotion of trade between Australasia and Canada, that this disability should be removed. The tariffs of the Australasian Colonies and Canada are at present protective, and as they stand affect the prospects of trade between the two countries; but with the power to enter into arrangements by which each country shall concede to the other such tariff modifications as shall be sufficient to establish and maintain the commercial intercourse possible, trade, it is believed, will very quickly acquire profitable and satisfactory proportions. Canada's object in the matter is, naturally, her

her own benefit. In his opening address at the first business sitting of the Conference, the President stated that the Conference was "the direct outcome of the policy of the Canadian Government in its efforts to extend trade in every direction, but more particularly with its sister Colonies." At the same time there are commercial advantages possible to Australasia from trading with Canada. If therefore trade between the two countries is considered desirable, the means necessary to bring it about must be obtained. The Act of 1873 being limited strictly to the Australian Colonies, it is necessary that the power it gives should be extended, and the delegates at the Conference were of opinion that the extension should be to all dependencies of the Empire, giving them the right to enter into agreements of commercial reciprocity, embodying differential tariffs, with the mother country or with one another.

Opinion of the delegates.

The power to enter into treaties with foreign nations was not asked. It was recognised that a Colony or dependency of the Empire could not expect to be allowed to make treaties which would be binding upon the Empire as a whole. Canada and the Cape of Good Hope were cited as instances in which treaties as between British Colonies and foreign powers had been made, but an examination of the matter showed that while these two Colonies may be said to have made the treaties, the negotiations for bringing them about and their ratification were largely the work of the Imperial Government.

Power to enter into treaties with foreign nations not asked.

Explaining his motion, Sir Henry Wrixon pointed out that the object of it was simply to remove the proscription under the Act of 1873, and extending the power given by that Act make it apply to the whole Empire, so that in regard to Australasia and Canada, if any one of the Australasian Colonies wished and were able to enter into a commercial treaty with Canada, it would be competent to do so, and to support the treaty by levying differential rates. He did not desire that there should be such a thing as a formal recognition of the right of a dependency of the Empire at its own instance and by itself to enter into treaties with foreign powers, because, in his opinion, such a recognition was inconsistent with Imperial unity. Each nation being an entity as regarded any other nation, it was impossible for a part of a nation to make with another nation treaties in its own interests.

Sir Henry Wrixon's views.

I seconded Sir Henry Wrixon's motion for the reason that one of the first duties of the Conference was to endeavour to bring about, consistently with colonial fiscal policy, the freest commercial relations possible between the Colonies of Australasia and other Colonies of the Empire. The Act of 1873, I was aware, had not in any case been brought into operation; but that did not, I considered, preclude us from seeking to obtain the further advantage proposed by Sir Henry Wrixon's motion. I did not think we were justified in going beyond what was so proposed. The foreign treaties which Canada and the Cape of Good Hope had been permitted by the Imperial Government to make were, I knew, a subject of great interest to the Government of New South Wales, and I had been instructed to inquire concerning the conditions under which those treaties had been entered into. I found that they were not the outcome of any existing legal right on the part of the two Colonies making them, but were effected through the Imperial Government, who, appealed to by the Colonies concerned, approved of the proposals and then virtually made the treaties in the names of the Colonies desiring them. If Canada find that a treaty relating to trade be desirable between her and a foreign country, a representation to that effect is made to the Imperial Government who, in accordance with what one of the Canadian delegates alluded to as "that accommodating and reasonable policy the British Government have always carried out," undertakes through the British Ambassador the negotiations necessary to the making of the treaty, and permits to be associated with him a representative of Canada. Thus while the Ambassador is the principal figure in the negotiations, and the treaty is actually an Imperial one, the negotiations are chiefly carried on by the representative of the Colony, who in the end signs the treaty as representing the Imperial Government. The Cape of Good Hope has entered into a Customs union with the Orange Free State, the Act relating to it having been passed by the Cape Parliament and assented to by the British Government. The case is an exceptional one, and does not imply that the Cape possesses full power to negotiate treaties with other Colonies or other States. It may enter into a Customs union with another Colony

One of the first duties of the Conference.

Treaties of Canada and Cape of Good Hope with foreign nations.

Colony or State in South Africa, but only in respect of goods imported overland. Goods imported by sea would be rigidly excluded from any treaty of this kind. When the Bill providing for the Customs union with the Orange Free State was received in England the Imperial Government refused to submit it for the Queen's assent, as it proposed to give the Orange Free State preferential duties on its products as against any other products of the same kind imported into the Cape of Good Hope. To this the Imperial Government objected, and it was only after the insertion of the words "if by overland only," which restricted the preferential duties to goods imported overland, that the Bill received the royal assent. That all treaties between a dependency of the Empire and a foreign country should be effected through the Imperial Government I, in common with the other delegates at the Conference, regarded as indisputable, and I agreed with Sir Henry Wrixon that no attempt should be made to bring about a change in this respect.

Treaties between a dependency and a foreign country should be made through the Imperial Government.

Questions of importance in the discussion.

Two questions of importance arose in the discussion which took place on the motion. One was the possible effect of commercial reciprocity between Australasia and Canada upon the trade between England and foreign countries, and the other the effect upon an important product of Australasia, in the trade, it is hoped, will spring up with Canada, which may result from a treaty Canada is effecting with France, by which French wines will be admitted into Canada under preferential duties.

England's foreign trade.

The question regarding the trade between Great Britain and foreign countries was raised by one of the delegates from Queensland. To him it appeared that preferential duties between Australasia and Canada might prove offensive to foreign countries important to England's trade, leading to the termination of treaties between those foreign countries and Great Britain, and therefore to the injury of British commerce generally. The fear of such a result was not shared by the other delegates. The extent to which reciprocal tariff arrangements between Australasia and Canada would affect British trade generally was regarded as very small and unimportant, and it was pointed out that Great Britain being alive to her commercial interests would be careful not to sanction any proposal seriously affecting them. For that reason if any reciprocal treaty between two British Colonies interfered with the provisions of the Belgium or the Zollverein Treaty, England might certainly be expected to deal with the difficulty in the right way, protecting her own trade, and at the same time meeting as far as possible the wishes of the Colonies.

French and Australasian wines.

The treaty between Canada and France, by which French wines will be admitted into Canada at preferential tariff rates, was explained by one of the Canadian delegates to be an arrangement not necessarily injurious to the Australasian Colonies. France will receive certain trade concessions from Canada, under a treaty by the provisions of which Canada will receive corresponding concessions from France, and Canada is ready to give the same concessions to Australasia, provided she receives from Australasia similar concessions in return. This would not be of much advantage to Australasia, if while the treaty with France exists Australian wines were not admitted into Canada at a lower duty than was charged on the wines of France. The competition between the wines of the two countries, and the difficulty the wines of Australia would consequently have in finding a profitable market, were apparent to the Australasian delegates at the Conference, and the opinion was entertained that it would have been more consistent with the expressed desire of Canada to establish trade relations with Australasia if the treaty with France had not been made. At a subsequent sitting of the Conference, when the treaty between Canada and France was again mentioned, the effect upon Australian wines was differently stated. It was then said that there was nothing in the treaty to prevent Canada giving to any British Colony what trade concessions in relation to wines she pleased; all that the treaty stipulated being that no power or nation should receive from Canada any consideration greater than that granted to France. If this be the right interpretation of the treaty, Australian wines may be admitted into Canada at any rate Canada and Australia may agree upon, without any alteration being made in the rate provided for in the treaty with France for the admission of French wines, which, of course, is a condition of affairs much more satisfactory than the first explanation of the treaty presented.

Whether it will ever be practicable on the part of any one or more of the Colonies to enter into reciprocal tariff arrangements with Great Britain, as the wording of the resolution provides for, is a question difficult to answer, but the inclusion of Great Britain was considered by the delegates necessary to make the resolution complete.

The

The resolution was passed unanimously, but it was afterwards found that one of the delegates from the Cape of Good Hope had desired to amend it, in order that the position of the Cape of Good Hope in regard to commercial treaties might be clearly defined. The position of the Cape with respect to these treaties, it was argued, was different from that of the Australasian Colonies. So far as the Cape was concerned Imperial legislation was not required to enable that Colony to enter into an agreement of commercial reciprocity with another Colony. Such legislation was necessary in the case of the Australasian Colonies, who were bound by the provisions of the Act of 1873, but it was quite possible for the Cape of Good Hope and Canada to enter into an agreement of commercial reciprocity, without first asking the consent of the Imperial Government, and without the necessity for any Imperial legislation, the only hold of the Imperial Government upon the action of the two Colonies being the power of vetoing the Acts of Parliaments which they might pass to carry out the commercial arrangement between them. In order, therefore, that the position of the Cape might be recognised in the resolution Sir Henry De Villiers proposed to move, at a future sitting, a motion in more general terms than that which had been adopted, and to this course the Conference agreed. The motion was:—

Position of the Cape of Good Hope in regard to treaties.

“That, in the opinion of this Conference, any obstacles which may at present exist to the power of the self-governing dependencies of the Empire to enter into agreements of commercial reciprocity with each other, or with Great Britain, should be removed by Imperial legislation, or otherwise.”

THE ZOLLVEREIN AND BELGIUM TREATIES.

With this motion was discussed another of which notice had been given by one of the delegates from Victoria (Mr. Fitzgerald) dealing with the treaties between Great Britain and the German Zollverein and the Kingdom of Belgium:—

“That this Conference is of opinion that the existing treaties between Great Britain and the German Zollverein, and with the Kingdom of Belgium, should be denounced and terminated as early as their conditions will permit, so far as regards the clauses therein specially naming British Colonies; and that Her Majesty’s Government be requested to take the necessary steps with this object.”

Though in moving his motion, Sir Henry de Villiers desired only to place the Cape of Good Hope in the position which he considered the motion passed by the Conference did not do, both these resolutions, in reality, aimed at very much the same object, the one in general and the other in direct terms, and the question the Conference took upon itself to decide was which should be adopted. The former had the support of some of the delegates, on the ground that it was quite as effective and more politic to gain the end sought in general terms; while the latter found favour with other delegates, who wished it definitely placed on record what the chief obstacles in the way of commercial reciprocity between the Colonies actually were. It may be well to quote the clauses in the treaties with the Zollverein and Belgium, which affect the colonies. In the first named, Clause VII provides:—

“The stipulations of the preceding Articles, I to VI, shall also be applied to the Colonies and foreign possessions of Her Britannic Majesty. In those Colonies and possessions the produce of the States of the Zollverein shall not be subject to any higher or other import duties than the produce of the United Kingdom of Great Britain and Ireland, or of any other country, of the like kind; nor shall the exportation from those Colonies or possessions to the Zollverein be subject to any higher or other duties than the exportation to the United Kingdom of Great Britain and Ireland.”

Clauses in Zollverein and Belgium treaties affecting the Colonies.

In the treaty with Belgium, clause XV is as follows:—

“Articles, the produce or manufacture of Belgium, shall not be subject in the British Colonies to other or higher duties than those which are or may be imposed upon similar articles of British origin.”

As will be found pointed out in the official report of the proceedings of the Conference the provisions of these clauses make the Colonies of Great Britain parties to what is known as the “most favoured nation” treatment, whether such a position is in their interest commercially or not, and thus interfere with that freedom of action in commercial arrangements between the Colonies and the mother country which the Conference desired to obtain.

Colonies made parties to the “most favoured nation” treatment.

The

Action of
Canada in
1892.

The Canadian delegates were favourable to Mr. Fitzgerald's motion; they preferred asking for what was wanted in distinct terms. In 1892, the Parliament of Canada passed an address to Her Majesty the Queen, praying that the effect of the provisions relating to British Colonies in the treaties with Belgium and the German Zollverein, and of any similar provisions in treaties between Great Britain and other nations, should be denounced and terminated; and the adoption by the Conference of a resolution embodying a like request would be no light support to the action of the Canadian Parliament. The address to the Queen sent from Canada did not effect its object, for the reason that what it asked for was apparently a more serious matter than thought by those who made the request. The reply from the Imperial Government explained that many of the commercial treaties entered into by Great Britain contained most-favoured-nation clauses, and that, in many instances, these treaties applied to all the colonies. To confer upon Canada complete freedom in its negotiations with foreign powers, would make it necessary to revise, very extensively, the whole of the commercial treaties of the British Empire; and "a great break-up of existing commercial relations, of which Canada now enjoys the benefit," the reply went on to say, was involved in the suggestion.

Doubt as to
the effect of
the Belgium
and Zollver-
ein Treaties.

As is generally known, there has been some doubt whether the Belgium and Zollverein treaties prevent the making of commercial arrangements between the colonies, such as this Conference contemplated, opinions having been given favourable to both views of the question. It is of course well to have the matter dealt with in a manner that will remove this doubt and place the colonies in the position desired; and to this extent I was favourable to the motions the Conference was discussing. I could not, however, see any advantage in adopting either a resolution so like that already passed as to be little more than a repetition, as the motion moved by Sir Henry De Villiers, in my opinion, was; or one which, while aiming at the removal of objectionable provisions in treaties with foreign nations, only dealt with two treaties among numbers, as Mr. Fitzgerald's did. I therefore suggested that the object sought should be attained by a resolution worded in another form, and I submitted to the conference the following, which in general terms embodied Sir Henry De Villiers and Mr. Fitzgerald's motions, embraced all treaties affecting the colonies, and did not clash with the resolution already adopted:—

Resolution
concerning
foreign trea-
ties passed.

"That this Conference is of opinion that any provisions in existing treaties between Great Britain and any foreign power, which prevent the self-governing dependencies of the Empire from entering into agreements of commercial reciprocity with each other, or with Great Britain, should be removed."

This meeting with approval, the motions of Sir Henry de Villiers and Mr. Fitzgerald were withdrawn, and the resolution framed by me was agreed to.

TRADE WITHIN THE EMPIRE AGAINST TRADE WITH FOREIGN COUNTRIES.

By passing these two resolutions the Conference, it will be seen, affirmed the desirableness of the colonies and other dependencies of Great Britain possessing the power to enter into reciprocal tariff arrangements with Great Britain or with one another, and, to enable this to be done, the necessity for removing from existing treaties between Great Britain and any foreign power, so far as they affected the colonies, those provisions which give foreign powers in their trade with Great Britain, or her dependencies, most-favoured-nation treatment.

Trade within
the Empire to
be more
favoured than
trade with
foreign
countries.

The Canadian delegates now proposed to go a step further. They desired to have the Conference resolve that it was both advisable and practicable to bring about between Great Britain and her colonies a Customs arrangement, by which trade within the Empire would be more favoured than trade carried on with foreign countries; and that pending the assent of the mother country to such a course, the British colonies, or such of them as might be disposed to agree to this proceeding, should in connection with their tariffs take immediate steps to differentiate between each other's products, in whole or in part, and the like products of foreign countries.

MR.

MR. FOSTER moved :—

- “Whereas : The stability and progress of the British Empire can be best assured by drawing continually closer the bands that unite the colonies with the mother country, and by the continuous growth of a practical sympathy and co-operation in all that pertains to the common welfare ; and Resolution moved by Canadian representative.
- “Whereas : This co-operation and unity can in no way be more effectually promoted than by the cultivation and extension of the mutual and profitable interchange of their products ;
- “Therefore resolved : That this Conference records its belief in the advisability and practical possibility of a Customs arrangement between Great Britain and her colonies by which trade within the Empire may be placed on a more favourable footing than that which is carried on with foreign countries ;
- “And further resolved : That pending the assent of the mother country to such an arrangement, in which she shall be included, it is desirable that the colonies of Great Britain, or such of them as may be disposed to accede to this view, take immediate steps to place each other's products, in whole or in part, on a more favoured customs basis than is accorded to the like products of foreign countries.”

In the debate which took place upon these resolutions, the delegates became divided into those who thought it the duty of the mother country to treat her Colonies in matters of trade better than she treats foreign countries, and those who were of opinion that the Conference, in making such a request, was exceeding its functions, and calling upon England to do that which she could not do without an alteration of her fiscal policy.

Mr. FOSTER moved the resolutions in an able speech, but dealing chiefly with general principles. Trade and commerce, he explained, flowed from the centre of the Empire to its dependencies and back again, to the advantage of all, and these trade interests were the guarantee of the unity, the stability, and the prosperity of the whole of the Empire. How then could this trade and commerce be placed on the widest and most satisfactory basis? By, he argued, some such arrangement as that proposed in these resolutions. Who doubted, he remarked, if Great Britain and her Colonies could be formed into a commercial union, whereby the trade between the different parts of the Empire would have a more favoured position than outside foreign trade, that immense benefits would immediately accrue to the Empire as a whole? The attention of the commercial men in Great Britain would be directed more and more to her colonial possessions, and the growth and progress of the Colonies, through the rapid development of their resources, would be an inevitable result. Emigration to the Colonies from Great Britain would receive a great impetus, for under such a customs arrangement as this, a man intending to engage in industrial or commercial life would not only find his position the same in the Colonies as in England, but altogether better, in the circumstances, than it could be in a foreign country. All doubt as to the future of the Colonies would be removed, and while the Colonies progressed the Empire would be strengthened. Then arose the question whether what these resolutions proposed was practicable. Mr. Foster thought it was. British commerce, he contended, received, in reality, no material consideration from foreign nations, and in this matter of a customs arrangement with the Colonies England owed no goodwill to foreign countries. It might be argued, he went on to say, that a tariff preference on the part of England for colonial products would lead to increases in foreign tariffs against England; but his opinion was that these tariffs had in most cases reached their highest point, and instead of being increased the tendency was to have them reduced. It was true that, notwithstanding the tariff walls raised against her, Great Britain had extended her commerce, but this extension had been largely through her Colonies. British commerce had not been extended in foreign countries to anything like its increase in the Colonies. A very important consideration for Great Britain was her food supply, and in proportion as the mother country stimulated her Colonies they could be made the centre from which that food supply might be drawn. Canada, Australasia, and Africa might easily supply all the food of all the kinds that Great Britain needs. The resolutions, he was careful to point out, were framed so as to impart an elasticity to

to the proposed Customs union. They did not ask Great Britain to give a preference to every product of her Colonies, but the opportunity was afforded her to make a choice, and with that advantage she might be able to accede to the proposition without any detriment to her foreign trade. The Colonies also would have this power of selection—a choice of articles in reference to which, as against articles of the same nature from foreign countries, differential rates might be imposed. In Mr. Foster's opinion it was easy for the Colonies to do their share in bringing the proposed customs arrangement into existence. Most of them had a tariff more or less protective, and the initial difficulty apparent in the case of England, in consequence of her policy of freetrade, did not in the case of the Colonies present itself. The colonies, therefore, might take action in the matter themselves, leaving Great Britain to follow. For instance, said Mr. Foster, the Government of Canada, could propose in their tariff that they would, for every British Colony which reciprocated in a like manner, or offered an adequate return, enact, with reference to its goods coming into Canada, that they should be scaled down 5 per cent. or 10 per cent. less than the rates upon foreign goods. That small differential rate would give sufficient return to commercial men, and by stimulating trade direct it into channels which hitherto it has not been accustomed to take. Mercantile men would be at once on the alert, and take advantage to the full of the great facilities for profitable business offered in this way to them. Whatever the Colonies undertook to do in this regard their action would attract attention in England, and in the end induce the mother country to join; and it must not be forgotten, he urged, that trade was essential to the steamship service between Australasia and Canada and to the cable it was proposed to establish.

The delegates favourable or unfavourable to the proposal.

The delegates favourable to the proposal in the resolutions were those of Canada, Tasmania, Cape of Good Hope, South Australia, and Victoria; those against it were the delegates representing New South Wales, New Zealand, and Queensland.

Views of the New South Wales delegate.

In the consideration I gave to the resolutions, I could not see that it was at all within the scope of the duties which the delegates had been brought together to perform, to call upon England to reverse her national policy of free trade by instituting a discriminating tariff which should benefit colonial products at the expense of her imports from foreign countries; and I was of opinion that, even if the request were made, it was certain to be refused. Furthermore, I did not consider myself in the position to pledge New South Wales, or the Government I represented, by my vote, to either asking England to do that which her fiscal policy and the nature of her trade make it, as I consider, impossible for her to do, or to the taking of immediate steps for placing the products of the Colonies on a more favoured customs basis than that accorded to the products of foreign countries. The Conference had passed resolutions that the dependencies of the Empire should be enabled by Imperial legislation to enter into agreements of commercial reciprocity, including the power of making differential tariffs with Great Britain or with one another, and for the removal from existing treaties between Great Britain and foreign nations of those provisions which prevented self-governing colonies from entering into such agreements with each other or with Great Britain; and I considered that in the adoption of those resolutions we had done all that was necessary and had gone far enough. I was prepared, I stated in the debate, to listen to and most favourably consider, any proposal of a practical nature likely to improve the trade of the Australasian colonies with Canada, and that and the laying of the proposed cable were, as I understood, the objects for which the Conference had been convened; but I declined to do anything that would commit the colony I represented to a proposal unmentioned until put before the Conference, of doubtful advantage even if practicable, and quite impracticable, I considered, in view of the nature of the trade and commerce carried on by Great Britain with the world.

It was urged by those delegates who supported the resolutions that they were but the logical sequence of those which preceded them, and were necessary to give the others practical effect. I, and others who voted with me in the matter, did not take this view. It seemed to me that the resolutions were more a part of the commercial policy of Canada, and intended as a support to the efforts of her Government for the extension of her trade, than anything directly in the interests of, or required by, the Colonies of Australasia. Even if England were disposed to enter with the Colonies

Colonies into such an arrangement as that suggested, I could not but see the difficulty of the Colonies fully reciprocating. If Great Britain should be inclined to check the introduction of foreign goods, with the object of increasing the trade between the Colonies and herself, she might, I pointed out, fairly ask us to reciprocate by allowing her to send her manufactured goods into the Colonies on the same terms as those upon which she received our products. Were the delegates, I asked, prepared to pledge their Governments that if, in the interests of the Colonies, England taxed her foreign importations the colonies would allow the manufactured goods of Great Britain to come into their ports free of duty?

The mover of the resolutions declared this was not a fair statement of the case. The Canadian representatives on the resolutions. "If," he said, speaking for Canada, "Great Britain gives us to-day no advantage over another nation, we give Great Britain no advantage over another; and if Great Britain comes and says, 'We will give you 5 per cent. over another,' will she ask us to give her 35 or 40 per cent. advantage?" That, in his opinion, would not be just. If Great Britain gave 5 per cent. on goods sent there from the Colony—that is, taxed foreign goods to that extent—in order to assist the trade with the Colony, Canada would give Great Britain 5 per cent. on her goods representing the same volume of trade. That, he contended, would be fair, and very different from such an arrangement as "We will give you 10 per cent. advantage on a million pounds of wheat, and we will ask you to give us 35 per cent. advantage on a million dollars worth of goods in return."

LORD JERSEY, as the representative of England at the Conference, saw the difficulties in the way of the proposal in the resolutions being carried into effect, and without entering into the discussion, drew attention to them. Lord Jersey on the proposal. Though it was entirely within the power of the Conference to record its belief as to the "practicable possibility" of the first resolution, yet, he pointed out, it must be borne in mind that more than three-fourths of the trade of Great Britain was trade outside the Empire, and her trade with the Colonies—excluding India, the Straits Settlements, and Hongkong—but 15·1 per cent. of the whole. Of this 15·1 per cent., 2·7 represents the trade with Canada, 7·5 that with Australasia, 2·2 the trade with South Africa (Cape of Good Hope and Natal), and 2·7 that with other British Colonies. Then it seemed to Lord Jersey that the language of the second resolution was too strong, and that instead of taking it for granted that the proposed arrangement would be assented to by Great Britain, and declaring that, pending this assent, immediate steps should be taken by the Colonies to discriminate between each other's products and those of foreign countries, something more consistent with the moderate wording of the resolution adopted by the Conference, on the motion of Sir Henry Wrixson, should be submitted.

This criticism led to the resolutions being modified, and they were re-The resolutions amended. submitted in the following form:—

- "Whereas: The stability and progress of the British Empire can be best assured by drawing continually closer the bands which unite the Colonies with the mother country, and by the continuous growth of a practical sympathy and co-operation in all that pertains to the common welfare; and
- "Whereas: This co-operation and unity can in no way be more effectually promoted than by the cultivation and extension of the mutual and profitable interchange of their products;
- "Therefore resolved: That this Conference records its belief in the advisability of a customs arrangement between Great Britain and her Colonies, by which trade within the Empire may be placed on a more favourable footing than that which is carried on in foreign countries;
- "And further resolved: That until the mother country can see her way to enter into a customs arrangement with her Colonies, it is desirable that, when empowered so to do, the Colonies of Great Britain, or such of them as may be disposed to accede to this view, take steps to place each other's products, in whole or in part, on a more favoured Customs basis than is accorded to the like products of foreign countries."

Worded

Worded in this manner, the Conference was asked to record its belief in the "advisability," and not the "practical possibility," of the proposed customs arrangement, and to affirm that "until the mother country can see her way to enter into a customs arrangement with her Colonies," not that "pending the assent of the mother country to such an arrangement in which she shall be included," &c., it was desirable that, "when empowered so to do," the colonies, or such of them as were so disposed to adopt such a course, should take "steps," not "immediate steps," to place each other's products, in whole or in part, on a more favoured customs basis than accorded to the like products of foreign countries.

The resolutions in their amended form were put *seriatim*, the preamble being agreed to, and the first was passed on division by five votes to three, the voting being by Colonies, as follows:—

Ayes.	Noes.
Canada, Tasmania, Cape of Good Hope, South Australia, Victoria.	New South Wales, New Zealand, Queensland.

The second resolution was agreed to without a division.

Position of the Cape of Good Hope in relation to the resolutions.

In the course of the debate one of the delegates from the Cape of Good Hope, referring to the position of that Colony in regard to the Customs Union of the South African States, explained that if the vote of the Cape were given for the resolutions it must be with some addition to them which would protect the Cape delegates from any appearance of acting inimicably to South African trade arrangements. One of the parties to the Union was the Orange Free State, and to vote for the resolutions as they were moved would be voting for the breaking up of the Union so far as the Orange Free State was a part of it, for that country could not be regarded as within the British Empire. This, the Cape delegate said, would be a most unpopular step in Cape Colony, injurious to South African interests, and prejudicial to the interests of the British Empire as a whole. He, therefore, desired some amendment of the resolutions which, while enabling him to vote for them, would protect existing South African trade, and at the same time give South Africa the opportunity to enter the proposed Imperial Customs Union whenever that country might feel disposed so to do. The Conference met this difficulty by passing, on the motion of the Cape delegate (Mr. Hoffmeyer), the following addition to the resolutions:—

"That, for the purposes of this resolution, the South African Customs Union be considered as part of the territory capable of being brought within the scope of the contemplated trade arrangements."

THE PACIFIC CABLE.

The proposed Pacific cable was dealt with by the Conference upon the following motion, moved by myself:—

Resolution with respect to Pacific cable.

"That, in the opinion of this Conference, immediate steps should be taken to provide telegraphic communication by cable, free from foreign control, between the Dominion of Canada and Australasia."

Object in framing the motion.

When framing this motion it was my desire to confine it to an affirmation of the desirableness of cable communication between Australasia and Canada, as, in the absence of information obtainable only from a proper survey of that part of the Pacific Ocean through which the cable must be laid, I did not consider it wise to go far into details. In a sketch I gave of what had been done in connection with the project from the time of the Conference held in London in 1857, I pointed out that the position had been advanced but very little, and that we were as ignorant now as then of particulars essential to a right understanding of the question. Though all the Governments concerned in the project appear to be agreed as to the advantages to be derived from a cable such as that proposed, the want of a thorough ocean survey between Canada and Australasia makes it impossible to say whether the cable can be laid in a manner and at a cost

cost that shall be satisfactory. At present, therefore, the project can be considered only in a general way, and, so far as regards my motion, that course was adopted at the Conference. I explained the objections raised to the proposals for the carrying out of the work as put forward by Mr. Sandford Fleming, both by the authorities in England who reported on the subject for the guidance of the Imperial Government, and by our own Secretary for Telegraphs who examined Mr. Fleming's schemes for the information of the Government of New South Wales. These objections, though not opposed to the project itself, were sufficiently strong in respect of route and cost as to make further investigation absolutely necessary.

In absence of a survey the question can only be considered in a general way.

In speaking to my motion I was careful to explain clearly the position which the Government of New South Wales were disposed to take in connection with the cable. The motion, I pointed out, did not pledge them to share in the carrying out of the work if the cost should be excessive, or the conditions generally under which the work was effected not satisfactory. I did not think, I said, that the New South Wales Government would enter into any arrangement by which the cable would be constructed by the Governments concerned as a government work. This, as other projects of a similar nature, I explained, should be allowed to rest with private enterprise. The Government of New South Wales, I went on to say, would prefer their responsibility in the matter to be confined to what was laid down by the Conference in New Zealand. They were not prepared to subsidise any company, but were quite ready to enter into a guarantee as defined by the New Zealand Conference, which would prevent the company constructing the work from suffering loss—in other words, that, proportionately with the other Governments interested, they should make good to the company the deficiency, if any, between the fixed amount of interest and that represented by the net receipts. The New South Wales Government, I said further, were prepared to bear their proportionate share of the expense of the necessary ocean survey between Canada and Australia, if the Imperial Government did not see their way to have the survey made with the ordinary means at their disposal. As to the position of the Imperial Government in the matter, I expressed the opinion that the cable must be regarded as a work of a national character, and therefore one in the cost of which the Imperial Government should share. I thought also that Lord Jersey, as the representative of Great Britain at the Conference, should state the extent to which the Imperial Government were disposed to assist in the work, and endeavoured to obtain from the Right Honorable gentleman this very necessary information. He did not, however, give it, his instructions from the British Government with regard to his attitude at the Conference preventing him from saying anything but what might be advisable in explanation of matters of a technical nature. One other subject I touched upon when moving my motion, and that was the position of the Eastern and Eastern Extension Telegraph Company in its relations with the Government of New South Wales. The Government which I represented, I stated, had no feeling whatever against that company. They regarded it as a company that had done good work, and one that, so far as could be done within reasonable limits, had, whenever asked to do so, met the wishes of the Australian Governments. The Government of New South Wales, therefore, did not, by joining in the construction of the new cable, desire to destroy the cable already in existence. They were of opinion there was work for both the cables, and that the new one need not injuriously affect the old.

The Government of New South Wales in relation to the cable.

Cable should be left to private enterprise, and guarantee of interest given.

Governments to share the cost of survey.

Position of the Imperial Government.

The Eastern Extension Telegraph Company.

My motion was discussed at some length, and except that the representative of South Australia did not vote, was adopted unanimously.

The discussion showed the whole of the colonies represented at the Conference to be strongly in favour of the cable being laid. Lord Jersey said nothing of the view which the Imperial Government takes of the matter, but a telegram received from the Earl of Rosebery by the President of the Conference on the day upon which my motion was moved, expressed sympathy and interest in the proceedings, and referred to them as a "happy augury for the future of the Empire."

The discussion on the cable resolution.

Telegram from the Earl of Rosebery.

Lord Jersey's position during the discussion and throughout the Conference was little more than that of a seeker of information for the guidance of the British Government, and he was anxious to have from each delegate a definite statement of

Lord Jersey's position at the Conference.

the

the extent to which in the matter of the cable the colony he represented was willing to go, and as far as possible a clear indication of the route it was desired the cable should take. It was not difficult to inform his Lordship how far the colonies were prepared to give their assistance in the establishment of the cable, for most of the delegates had come to the Conference with precise instructions on that point from their respective Governments, but until a survey has been made of that portion of the Pacific across which the cable must be taken, the route for the cable cannot be stated with definiteness.

How the
guarantee
should be
provided.

England must
contribute.

The opinion of the delegates generally as to the method by which the cost connected with the proposed cable—that is the guarantee—should be provided was that a third of the amount should be paid by England, a third by Canada, and a third by Australasia, the last being contributed by the different colonies of Australasia according to their population. England, it was insisted, must contribute in the proportion mentioned, her interests being so largely concerned in the cable, and it was more than hinted that unless the Imperial Government agreed to this the work would not be undertaken. When it is borne in mind that the cable will be used by the British Government and by the business men of England much more than by Australasia and Canada put together, it is not too much to ask that England should pay proportionately for it.

Views of the
Australasian
and Canadian
Governments.

In the course of the discussion the views of the Australasian and Canadian Governments, as represented by their delegates, were stated with more or less definiteness.

Victoria.

Victoria is favourable to the cable on national grounds—as an important means for the development of trade, but principally as an invaluable protection in times of war or threatened outbreak of war. The Victorian representatives were not in the position to absolutely pledge the Government of Victoria to any specific share in the cost of the work, but it was thought there would be very little difficulty in the way of their agreeing to such an arrangement as that already stated—the division of the guarantee into thirds.

Queensland.

Queensland, it was explained, was anxious to have the cable at the earliest moment possible, and was quite prepared to pay its share of the expense in getting it. But the Queensland Government do not approve of the resolution passed at the Conference in New Zealand, and do not regard themselves as in any way bound by it. What they do approve of in relation to the question of route or method of contributing towards the cost connected with the laying and the working of the cable the Conference was not in this discussion informed. A definite statement of the view taken by the Government of Queensland was made subsequently on a motion moved by one of the Queensland delegates.

New Zealand.

The Government of New Zealand appear to be so favourable to the cable that if it cannot be established by private enterprise they are willing that the work shall be carried out at the cost of the several Governments. They desire, however, that the work should be done by a private company, and that this company should be given a guarantee against loss. The New Zealand delegate was very anxious to have his colony in a prominent position in respect of this cable. The first point that will be apparent from the official report of the discussion is an effort he made to have the word "Australasia" altered to "Australia and New Zealand," his object being to impress upon the public mind more emphatically than the term "Australasia" would do the share New Zealand desired to take in the cable and the distinct individuality of that colony. The alteration was not allowed, fear being expressed that it might be taken to mean a committal of the Conference to a route for the cable in which New Zealand would be either the starting or finishing station, and the delegates generally being of opinion that "Australasia" included New Zealand. But at a subsequent sitting the Conference approved of a resolution affirming that the words "Australasian Colonies" used in any motions or amendments should be considered to mean the Colonies of Australia and the Colony of New Zealand, it being understood that this should not commit the Conference in regard to route. It is scarcely necessary to say that taking the cable from Vancouver to New Zealand and thence to Australia would not be satisfactory to the different Australian Governments, and that continuing it to New Zealand after it had been laid between Canada and Australia might not be an arrangement even in the interests of New Zealand, in view of the fact that there is already cable communication between New Zealand and New South Wales.

South

South Australia, as is generally known, occupies in this cable project a position different from that of any of the other colonies. That colony constructed, at its own expense, the line of telegraph which crosses the Australian continent from Adelaide to Port Darwin, a distance of nearly 2,000 miles, and it is quite possible that the Pacific cable, by taking from the existing cables a portion of the business they now do, will subject South Australia to some loss. That loss the southern colony will expect to have made good, or minimised as much as possible; and if that be done, South Australia will throw in its lot with the others and support the proposed cable, regarding it as a work required in the interests of the Empire.

West Australia was not represented at the Conference, and the views of the Government of that colony respecting the cable were not stated. But it may be mentioned that if West Australia join with the other colonies in the proposed work her Government may claim some consideration of the kind required by South Australia. The telegraph line along the West Australian coast to Rohub Bay, where it connects with a branch cable of the Eastern Extension Telegraph Company, provides an overland route alternative to that of the South Australian trans-continental line, and was constructed at the expense solely of West Australia. If the Pacific cable should injure the business of the South Australian line, it will, in proportion, reduce that which now goes by the West Australian line; and though the consideration which West Australia might ask from the sister colonies to meet this loss would be much less than that expected by South Australia, it will, if the claim be put forward, add to the question of the expense for which, in the event of the proposed cable being established, provision will have to be made.

Canada has always been regarded as the strongest advocate of the cable, and, of course, the motion moved by me received the support of the Canadian delegates. But the position of the Dominion in relation to the proposed work, as put before the Conference in this discussion, was somewhat different from what has been understood from the correspondence between the Canadian and Australasian Governments. From that correspondence it has been gathered that the interests of Canada are, if not greater, quite as largely concerned in the cable as those of Australasia; but the delegate speaking for Canada sought to impress upon the Conference that in respect of advantages from the cable Canada had much less to gain than Australasia. In fact, according to his explanation, Canada's position in the matter was that of a sympathiser and generous helpmate rather than a sharer in the benefits expected from the work. The cable was necessary to Australasia, he argued; it was necessary to England; but it was not necessary to Canada. The proximity of Canada to England, and the complete system of cable communication existing between the two countries, removed from the minds of Canadians all anxiety as to the question of defence; and the commercial interests of the Dominion which might be served by the cable were much smaller than those of Australasia or England. The cable was not necessary to Canada for either defence or commercial purposes; but still it would assist in developing trade between Canada and Australasia, to what extent could not at present be stated, though from a fair survey of the situation, such as under fair conditions, should become very large. But outside all this, he went on to say, there was in Canada a very strong Imperial feeling, and taking into consideration her great desire for the cohesion and security of the Empire, it would be most ungenerous on her part if she did not do what she could to have the proposed work carried out. It would have been gratifying to the Australasian delegates to have had the position of Canada defined upon a higher standard, and more in accordance with what it is generally understood to be; but this may be passed over as of no great importance, when we consider that the Dominion is willing and ready to contribute a fair share of the cost connected with the cable. As the first step towards the accomplishment of the work, it was necessary, the Canadian delegate pointed out, to have a survey made and an estimate prepared of the cost of the whole work; and of the expense of the survey and of preparing the estimate Canada was willing to pay one-third, on the understanding that England paid one-third and the Australasian Colonies the other third. Then, as soon as the survey was completed, and the estimate obtained, the Government of Canada would be ready to meet the Governments of Australasia and the Imperial Government and do their share in the construction and laying of the cable, provided, of course, that the work

work was proved to be feasible. That feasibility, in his opinion, would depend upon the Imperial Government contributing their proper share of the cost; it would not, he thought, be possible for Australasia and Canada to bear the whole of the expense.

Tasmania.

The only colonies interested in the cable or in the proceedings of the Conference, in addition to those already mentioned, are Tasmania and the Cape of Good Hope. Tasmania was represented at the Conference by one of the Victorian delegates; but nothing definite was said by him as to the attitude of Tasmania in the matter. It may, however, be assumed that the colony is favourable to the work, and ready to give its share of the expense connected with it.

Cape of Good Hope.

The Cape of Good Hope is sympathetic, but scarcely sufficiently concerned to share in the cost. The interests of that country lie in an extension of the cable to it from Australia. Only this extension would be of any benefit to Cape colonists. The representatives of the Cape at the Conference expressed the sympathy of the Government and the people of that colony with the desire of Canada and Australasia to establish the cable, and asked the Conference to assist in extending it to South Africa. To most of the delegates this extension appeared beyond the limits of the duties they had met together to perform, and an attempt on the part of Sir Charles Mills to add to the motion before the Conference a rider affirming that it was in the interests of the Empire that the cable should be extended to the Cape of Good Hope, and that arrangements should be made between the Imperial and South African Governments for having a route surveyed, was resisted; but later on in the proceedings the Conference consented to the adoption of a separate motion to the effect desired by Sir Charles Mills, the general opinion then being that neither the Australasian Colonies nor Canada were committed thereby.

My motion having been disposed of, Mr. Thynne, one of the representatives of Queensland, proposed:—

Proposal of Queensland delegate that the cable should be laid by the several Governments.

“That in the opinion of this Conference it is desirable that the construction and maintenance of the proposed cable from Vancouver to Australasia should be undertaken by the Governments of Great Britain, of the Dominion of Canada, and of the Australasian Colonies, as a joint national and public work.”

Mr. Thynne thought that as a motion affirming the desirableness of establishing the cable had been passed, it was necessary to consider a process by which the resolution could be brought into operation. Of the three methods by which the work could be carried out—by guarantee, by subsidy, or by laying and maintaining the cable as a Government work—the Queensland Government, he said, were strongly in favour of the last. The interests of a private company, he argued, were not always those of the people who supported the cable service, while, on the other hand, if the cable were under the control of the Governments the advantages derivable from its construction would be fully secured for those most interested. All the administrative duties, he pointed out, might be done by one Government selected by the others, in a manner similar to the selection of Queensland in connection with the administration of New Guinea.

New South Wales opposed to the cable being laid and controlled as a Government work.

I opposed this proposal as not in accord with the instructions I had received from the Government I represented, and because it was clear to me that if the work were carried out at all it should be done by private enterprise assisted in the manner I had before indicated. The Government of New South Wales, I distinctly informed the Conference, did not feel themselves justified in becoming a party to the construction or laying down of the cable as a Government work. In their opinion the cable must be laid, if laid at all, by private individuals, and the assistance rendered by the Governments concerned confined to a guarantee against loss of interest. I was prepared, I said, to go that far and no further.

Opposition by other delegates, and motion withdrawn.

Other delegates opposed the motion on the ground that it was premature to come to any conclusion as to the manner in which the cable should be laid and maintained before the survey—indispensable as a preliminary step—was made; and the motion was withdrawn.

Two or three of the delegates expressed themselves as favourable to the cable being established as a Government work, but generally the motion was not approved.

The

The discussion was important in one respect. It elicited from Mr. Playford a more definite statement than he had previously made, as to the extent to which South Australia was disposed to assist in establishing the new cable. As, while addressing the Conference on Mr. Thynne's motion, he expressed himself as favourable to the cable being laid and controlled by the several Governments, I asked him whether he was speaking for himself or for his Government—was his Government prepared to join with the other Governments in the proposed work? The South Australian Government, he said, would assist as far as they ought, and they would join in the work under Mr. Thynne's proposal if due consideration were given to them in respect of what South Australia had already done in connection with existing cable communication.

Having by the passing of my motion affirmed the desirableness of laying the cable, and disposed of Mr. Thynne's proposal, the way was now clear for the Conference to deal with the important question of the survey of the route for the cable, and Mr. Foster, one of the Canadian Delegates, moved:—

“That the Imperial Government be respectfully requested to undertake at the earliest possible moment, and to prosecute with all possible speed, a thorough survey of the proposed cable route between Canada and Australia; the expense to be borne in equal proportion by Great Britain, Canada, and the Australasian Colonies.”

Survey of the route for the cable.

The motion was passed. The expense of the survey should not exceed £36,000, and divided as proposed the proportion falling upon the Australasian Colonies would be £12,000. It is quite possible, however, that the survey will be undertaken by the British Government with no expense to the Colonies. British war-vessels are constantly engaged in the work of surveying in the Pacific, and it may not be at all difficult for the Admiralty to detach one or two of these vessels for this particular survey without unduly interfering with the progress of other surveying work. Lord Jersey went so far as to say that he did not suppose it was at all likely that as the Admiralty is continually engaged in surveying the Pacific there would be any very great difficulty in deciding that the survey of that ocean should continue on some particular route instead of adhering to the general plan by which the surveying work is carried on now. The passing of a resolution affirming the willingness of the Governments of Canada and Australasia to share in the expense will, at any rate, show the earnestness of those Governments in their expressed desire to have the survey made.

Probable cost of the survey.

Survey may be undertaken at the cost of the British Government.

The Conference also resolved, on the motion of Mr. Fraser:—

“That, in view of the desirability of having a choice of routes for a cable connection between Canada and Australasia, the Home Government be requested to take immediate steps to secure neutral landing ground on some one of the Hawaiian Islands, in order that the cable may remain permanently under British control.”

Home Government to secure neutral landing ground in Hawaiian Islands.

Two other resolutions in relation to the cable were discussed, but the discussion came to nothing, the resolutions being negatived or withdrawn. One was the following, moved by Mr. Lee Smith:—

Other resolutions relating to the cable moved and negatived, or withdrawn.

- (1) That, in the opinion of this Conference, the most speedy and effective manner in which direct cable communication between Canada and Australasia could be established would be by inviting offers to carry out the work under conditions to be hereafter decided upon.
- (2) That with a view to this end the Canadian Government be requested to solicit offers of plans, specifications, and terms for alternative lines as indicated by the several proposals submitted to this Conference.
- (3) That any tenders received be submitted for the consideration of the several Colonies interested, and that any expense incurred be paid by the said Colonies jointly, according to their population.
- (4) That in the event of the proposals not being satisfactory, the several Governments take steps to carry out the undertaking as a national work.

The mover of this resolution wished to hasten matters; waiting for a survey was, to him, putting off the work of laying the cable indefinitely. Calling for tenders immediately would probably result in a satisfactory method of carrying out the

the work being discovered within a few weeks; and in the event of none of the tenders proving such as could be accepted, time would be saved by ascertaining this, and the Governments would know that if the work was to be carried out at all it must be done by them. The motion was negatived. Later on, however, a resolution was passed on the motion of Mr. Thynne, seconded by Sir Henry Wrixon, requesting the Canadian Government "to make, after the rising of the Conference all necessary inquiries, and generally to take such steps as may be expedient" in order to ascertain the cost of the proposed cable, and carry out the project in accordance with the views expressed in the Conference. In the course of the discussion upon this resolution I urged that in the investigations made as to the feasibility of laying the cable we must not lose sight of the importance of ascertaining from the highest authority whether if laid the cable could be worked. It may, I pointed out, be found easy to lay a line of cable from Vancouver to, say, Fanning Island, but it was necessary also to consider whether it was practicable to work a line of that length. The Conference agreed that the practicability of working the cable was as important as the laying of it.

The other motion was one moved by Mr. Fitzgerald, as follows:—

"That, in the opinion of this Conference, immediate steps should be taken for the construction of the cable from Australia to Canada as far as the island of Fiji, to which place the survey is already completed, on a tripartite arrangement between Great Britain and Canada and the Australasian Colonies."

By commencing the work of laying the cable over that portion of the route which has been surveyed, Mr. Fitzgerald thought it would show the determination of the Australasian and Canadian Governments in the matter, as a whole, it would be a guarantee that the work would be completed without unnecessary delay, and it would at once test the question whether the Imperial Government would consent to bear a share of the cost. One or two delegates supported the motion, but others pointed out how impossible it would be to induce any Government or any Parliament to sanction an expenditure of money upon a part of a cable which, until the complete route had been surveyed, no one could say would ever be fully carried out; and the motion was withdrawn.

IMPROVED MAIL SERVICE.

Mail service
between
Sydney and
Vancouver.

The subject of the mail service between Sydney and Vancouver was discussed by the Conference informally, and then dealt with by resolution. Connected with it was considered the question of establishing a fast service across the Atlantic. The service between Sydney and Vancouver, as is generally known, is a monthly one carried on at present by two steamers, run by Mr. James Huddart, and is subsidised to the extent of £35,000 a year, £25,000 of which is contributed by Canada, and £10,000 by New South Wales. The period fixed for the payment of the Canadian portion of the subsidy is ten years from 1893, and that for the payment of the subsidy from New South Wales three years from the same date. In its present condition the service is not satisfactory. It does not fulfil requirements in regard to rapid and frequent despatch of mails, and it is not profitable to its promoters. More steamers are necessary, a much larger subsidy is required, and an Atlantic service, also to be subsidised, is regarded as indispensable to the completeness of the undertaking.

Proposals put
before the
Conference.

Two proposals were put before the Conference. One was that three steamships shall run between Australia and Canada, giving a three-weekly service in the summer months, and a four-weekly service in the winter. Under this proposal, Sydney would be the terminal port in Australia, and on their way to Vancouver the steamers would call at Moreton Bay (Queensland), Fiji, Honolulu, and Victoria (Vancouver Island). If a port of call in New Zealand should be decided upon in preference to Moreton Bay, the service would be a four-weekly one all the year round between Sydney and (say) Auckland, Fiji, Honolulu, Victoria, and Vancouver. Calling at New Zealand would lengthen the voyage between Sydney and Vancouver by about seventy hours. If the Atlantic service be resolved upon the idea is to have five steamships running across the Pacific giving a fortnightly service. The steamers crossing the Atlantic it is proposed shall be four, capable of steaming twenty knots in ordinary Atlantic weather all the year round, and providing a weekly service. All the steamers would be built in accordance with Admiralty requirements,

requirements, and would be available for use in time of war. With these arrangements for rapid and regular transit across the Pacific and Atlantic Oceans, and the facilities offered by the Canadian and Pacific Railway for conveyance across Canada, it is claimed that mails will be delivered in England or Australia at least as quickly as is now done by any one of the existing services.

Time of conveyance of mails.

The capital required to provide the nine steamships is £3,000,000, but with three steamships on the Pacific, which would reduce the total number to seven, the necessary capital would be £2,500,000. On this expenditure of £3,000,000 Mr. Huddart, who is the representative of those from whom the capital would be obtained, and who was questioned before the Conference, asks an annual subsidy of £300,000. What subsidy would be required on the Pacific service only was not stated, Mr. Huddart explaining that it was difficult to consider the proposed service otherwise than as a through route between Australia and England. A subsidy of £300,000 on a capital of £3,000,000, it will be observed, is a very large one. It represents an interest of 10 per cent. The excessive nature of this demand was apparent to all the delegates. Lord Jersey regarded it as an admission that the service would be run at a great loss, and asked Mr. Huddart whether this loss was anticipated. Mr. Huddart said the subsidy would be absolutely necessary during the first few years of the service to make the scheme a success, and the intention was to ask that it be paid for ten years. Of the total amount Canada, it was stated, would contribute £150,000 in addition to the £25,000 now paid on the Pacific service. England would be asked to pay £75,000, and from Australasia would be required the sum of £50,000.

Capital required.

The subsidy asked.

Division of the required subsidy.

The Canadian delegates were very emphatic upon the importance of the scheme and sanguine of its success. It would, of course, work very well in connection with the Canadian Pacific Railway, and should be very beneficial to Canadian trade, especially across the Atlantic. To Australasia it would present the advantage of being one of the most complete steamship services in the world, favourable for passenger traffic and likely to promote trade between the Australasian Colonies and Canada. The Atlantic service would be of no advantage to Australasia as a means of trade with Great Britain. Produce could not be profitably sent from the Australasian Colonies to England across Canada, even by way of the Canadian Pacific Railway. But to ensure the regular and rapid transit of mails, the Atlantic service would be useful.

Advantages of the service relatively to Canada and Australasia.

The project, however, is hampered with difficulties. Some of the delegates were not slow to point out that the present mail service *via* Suez is doing its work in a satisfactory manner, and that, if necessary, it could be made more satisfactory in respect of the time taken in the carriage of the mails. Then South Australia, Victoria, and Tasmania are so well served by the Suez service that it is very doubtful whether they would give any sum worth having to subsidise the proposed new service. New Zealand is only willing to give an appreciable subsidy if the steamers call at a New Zealand port, and Victoria and Queensland take up the same position. A subsidy from West Australia, unless given for Imperial reasons, is, of course, out of the question.

Difficulties hampering the project.

The Conference was informed by Mr. Playford that public opinion in South Australia was more in the direction of withdrawing all subsidy for the carriage of mails and depending upon steamers for a mail service under the law which compels all vessels to carry letters.

Position of South Australia.

Queensland subsidises a mail service carried out by the British India steamers, which service at the present time is the quickest for the northern portion of the Colony. For the other portion it is useful, because it is a cargo service as well as a service for the carriage of mails, and the inclination of the people of Queensland, it was stated, is to subsidise steamers for cargo purposes in conjunction with the carrying of mails. Still, if a Queensland port formed one of the ports of call for the steamers of the Canadian Pacific line, the Colony might be disposed to contribute to the required subsidy.

Position of Queensland.

If Victoria give a subsidy such as will be required from her, the steamers will be expected to call at Melbourne. But it is not the intention of the promoters of the service that the steamers shall call at Melbourne, and this makes it very doubtful whether Victoria will contribute anything. One of the Victorian delegates expressed

Position of Victoria.

expressed this doubt in the discussion which took place upon the resolutions. The Government of Victoria, he gave the Conference to understand, would probably afford some assistance to prevent the present service across the Pacific from being discontinued, but nothing more, as if the steamers did not call at Melbourne they would be useless to Victoria for trade purposes, and as a mail line the Colony did not require them. A subsidy of substantial amount can only be obtained from Victoria by giving the Colony the mercantile advantage which will enable her to send away her produce.

Tasmania. In behalf of Tasmania, all that the delegate representing that Colony could offer was sympathy—at any rate for the present.

New Zealand. New Zealand is willing to subsidise the service to the extent of £10,000 a year if the steamers call there, and not otherwise. A branch service connecting with the main line of steamers does not meet with the approval of the New Zealand Government.

Conflicting interests and opinions a serious obstacle. The desire to have the steamers call at ports which must entail a considerable lengthening of the voyage between Australia and Canada, and the opinion that the service should be subsidised more as one for the carrying of cargo than for the conveyance of mails, are serious obstacles in the way of a successful issue from the labours of the Conference in this matter. If the steamers call at a New Zealand port the voyage, as already stated, will be extended by about seventy hours; if they call at Melbourne it will be lengthened another forty or fifty hours. A call at Moreton Bay would also cause delay—very material, when considered in connection with the necessity to make the complete voyage as short and rapid as possible. The calls at these places, as has been explained, are desired so that the steamers may be used for the purposes of trade, and trade is regarded by several of the Colonies, in relation to the service, as of much greater importance than the conveyance of mails. But using steamers for the carrying of freight is not consistent with building and subsidising them for the carriage of mails. For freight purposes steamers go wherever freight may be offering, but to meet the requirements of a mail service the route of a line of steamers should be as direct as possible, in order to ensure the rapid despatch and delivery of the mails.

Opposing interests may affect the action of Great Britain. These opposing interests put forward by the different Australasian Colonies may affect the action of Great Britain in relation to the subsidy which it is hoped the Imperial Government will be disposed to give. Lord Jersey pointed out to the Conference that the question before the delegates was a mail service. The Imperial Government, he said, could not be expected to look on the matter from a commercial point of view. They might look at it from an Imperial standpoint as well as regard it as a postal matter, but he thought if the Conference based its support of the proposed service upon cold storage in the steamers and things of that kind, it would probably lose a good deal of the support it might otherwise get. This difficulty, noticeable throughout the discussion, was not lessened by the evident desire of Mr. Huddart to secure for the steamers as much freight as could possibly be obtained.

Views of the New South Wales delegate. I represented to the Conference, as emphatically as I could, that if the service were to be subsidised at all the subsidy should be shared in by all the Australasian Colonies and by Fiji. South Australia, I admitted, was well served by the present mail services *via* Suez, but, I pointed out, so were all the Australian Colonies. The importance of the Pacific service lay in the fact that while it promised to give us a rapid transit for our mails it brought us into close communication with Canada and America. New South Wales, I remarked, was already assisting the service to the extent of £10,000 per annum, and this was being done while the Colony was paying the largest of the subsidies contributed by the Australian Colonies to the mail services carried on by the P. & O. and Orient Companies. Then, I contended, that if the service were to be a rapid one for the conveyance of mails, the steamers should go by the most direct route possible, and, therefore, it might not be expedient to call at New Zealand. That Colony, I argued, could be served very well by a branch line of steamers from Auckland to catch the steamers of the main line at Suva, Fiji. The main service should, I thought, alternate with the San Francisco service; that is, be a fortnightly service, the steamers running alternately with those leaving Sydney for San Francisco. I opposed the idea of the steamers calling at two Queensland ports,

ports, but Moreton Bay being not very much out of the direct route to Fiji, it may be possible to arrange for the steamers to call there. As for the subsidy asked by Mr. Huddart, it seemed to me to be very large, and it is questionable whether so great a sum would be approved by the Australasian Colonies. Still, if it were regarded as necessary, there should be no difficulty, I was of opinion, in finding sufficient money, if all the Australasian Colonies, as well as Canada and Great Britain, subscribed. It appeared to me, also, that England should be asked to subsidise the Pacific as well as the Atlantic service, and I moved the insertion, in one of the resolutions, of the words "and Pacific," so that this request should be made.

The resolutions, which were moved by Sir Adolphe Caron and seconded by myself, were passed unanimously in the following form:—

Resolutions passed.

- (1.) That this Conference expresses its cordial approval of the successful efforts put forth by Canada and New South Wales for the establishment of a regular monthly steamship service between Vancouver and Sydney, and affirms the advisability of the reasonable co-operation of all the Colonies interested in securing the improvement and permanence of the same.
- (2.) That the Conference learns with interest of the steps now being taken by Canada to secure a first-class fast mail and passenger service with all modern appliances for the storage and carrying of perishable goods across the Atlantic to Great Britain, and the large subsidy which she has offered to procure its establishment.
- (3.) That it regards such an uninterrupted through line of swift and superior communication between Australasia and Great Britain, as is above contemplated, as of paramount importance to the development of intercolonial trade and communication, and to the unity and stability of the Empire as a whole.
- (4.) That, as the Imperial Post-office contributes towards the cost of the mail service between England and Australia, *via* Brindisi or Naples, the sum of £95,000 per annum, while the sea postage amounts only to £3,000, and to the mail service between Vancouver and Japan and China £45,000, less £7,300 charged against the Admiralty, this Conference deems it but reasonable to respectfully ask that assistance be given by the Imperial Government to the proposed fast Atlantic and Pacific service, more particularly as the British Post-office, while paying the large subsidy of £104,231 a year to the line from Liverpool to New York, has, so far, rendered no assistance in the maintenance of a direct postal line between Great Britain and Canada."

These resolutions commit the Australasian Colonies to very little. They approve of the efforts of Canada and New South Wales to establish the steamship service between Sydney and Vancouver, and affirm the advisableness of all the Colonies interested co-operating in the matter to a reasonable extent. For the rest they merely express a feeling of interest in the steps being taken by Canada to establish the Atlantic service, and a sense of the importance of the through service as a means of benefiting the Empire generally; and they ask assistance from the Imperial Government. Whether in face of the difficulties which appeared in the discussion upon the resolutions, the required co-operation on the part of the Colonies of Australasia or the assistance sought from the Imperial Government will be forthcoming, remains to be seen. Australasia is interested for the most part in the service as far as Vancouver, and in respect of that there is the want of agreement as to whether the steamers should be devoted to cargo purposes more than to the carrying of mails and passengers, and as to ports of call. Canada's interests lie more in the direction of trade than mail conveyance, especially across the Atlantic; and England, if an Imperial subsidy is to be given, can only regard the service as a mail line.

Effect of the resolutions.

The only hope of a result from the resolutions in accordance with the objects at which they aim lies in a readjustment of the mail subsidies paid at present under the existing mail contracts. The contract between the Australasian Colonies and the P. & O. and Orient Companies for the mail service *via* Suez will terminate in January, 1895, but has been extended for one year, and, therefore, will run out in January, 1896. The contract under which the service *via* San Francisco is carried

Practical results from resolutions only likely from a readjustment of present subsidies.

on

on is an annual one, renewed each year from the date upon which it expires, and, therefore, can without difficulty be reconsidered in 1896, or at any time. In 1896 also the period will end during which New South Wales has undertaken to subsidise the service between Sydney and Vancouver. The contracts under which services for the conveyance of mails are subsidised by the Imperial Government will terminate between 1895 and 1898. When all these contracts shall have come to an end the opportunity will be present for a reconsideration of the whole question of mail subsidies, and Australasia and England may then see their way to establishing the service between Australia and Canada, or that service, together with the proposed service between Canada and England, upon a permanent and satisfactory basis. This seemed to be the only direction in which a possibility of requisite support being given was apparent to the minds of those delegates who asserted the desire of the Governments of their Colonies for a cargo service or for the steamers to find in these Colonies ports of call; and it is the only direction in which support can be looked for from England. The Imperial Government is not at all likely to add to the large amount it already pays as mail subsidies, but the Conference was informed by Lord Jersey that the British postal authorities are not indisposed to readjust the subsidies if a readjustment be found advisable. The authorities in England, his Lordship said, are only too anxious that the money spent on mail contracts should, by a choice of the best mail routes, be used in the way most advantageous to the various parts of the Empire and to people outside the Empire also. At the time the Conference was engaged in the discussion of this subject a committee was sitting in London dealing with the question of mail subsidies, and prepared to take into consideration the proceedings of the Conference in relation to the proposed new service. The resolutions of the Conference will therefore meet with full consideration at the hands of the Governments concerned, but, in the circumstances, the fate of the proposal cannot be determined before the expiration of two or three years.

BANKRUPTCY AND WINDING-UP OF COMPANIES.

One other matter of general interest was brought before the Conference. It was foreign to the stated objects for which the Conference was convened, but submitted by Sir Henry Wrixon at the last sitting, it was hurriedly dealt with. Sir Henry Wrixon moved:—

Legislation
required to
be completed.

“That this Conference desires to call the combined attention of their respective Governments to the proceedings of the Colonial Conference of 1887, in regard to the bankruptcy and winding-up of companies, with a view to completing the necessary legislation upon the questions therein raised.”

He explained that the bankruptcies of companies carrying on business in Australasia and in Great Britain had rendered it exceedingly desirable that the law on the subject should be perfected—all difficulties and ambiguities cleared away; and he desired to have placed on record the wish of the Conference that the matter should receive due consideration.

THE RESOLUTIONS OF THE CONFERENCE STATED COLLECTIVELY.

Collectively the resolutions passed by the Conference are as follows:—

Agreements
of commercial
reciprocity.

“That provision should be made by Imperial legislation enabling the dependencies of the Empire to enter into agreements of commercial reciprocity, including the power of making differential tariffs, with Great Britain, or with one another.”

“That this Conference is of opinion that any provisions in existing treaties between Great Britain and any foreign power, which prevent the self-governing dependencies of the Empire from entering into agreements of commercial reciprocity with each other, or with Great Britain, should be removed.”

Cable com-
munication
free from
foreign con-
trol.

“That, in the opinion of this Conference, immediate steps should be taken to provide telegraphic communication by cable, free from foreign control, between the Dominion of Canada and Australasia.”

“That

- “That the Imperial Government be respectfully requested to undertake at the earliest possible moment, and to prosecute with all possible speed, a thorough survey of the proposed cable route between Canada and Australia; the expense to be borne in equal proportions by Great Britain, Canada, and the Australasian Colonies.” Survey of the proposed cable.
- “That it is for the interest of the Empire that, in case of the construction of a cable between Canada and Australasia, such cable should be extended from Australasia to the Cape of Good Hope; and that for that purpose arrangements should be made between the Imperial and South African Governments for a survey of the latter route.” Extension of the cable to the Cape of Good Hope.
- “That, in view of the desirability of having a choice of routes for a cable connection between Canada and Australasia, the Home Government be requested to take immediate steps to secure neutral landing ground on some one of the Hawaiian Islands, in order that the cable may remain permanently under British control.” Home Government to secure neutral landing ground in Hawaiian Islands.
- “That if the words ‘Australasian Colonies’ be used in any motions or amendments that may be brought before this Conference they shall mean the Colonies of Australasia and the Colony of New Zealand.” Definition of the words ‘Australasian Colonies.’
- “Whereas : The stability and progress of the British Empire can be best assured by drawing continually closer the bands that unite the Colonies with the mother country, and by the continuous growth of a practical sympathy and co-operation in all that pertains to the common welfare.
And whereas : This co-operation and unity can in no way be more effectually promoted than by the cultivation and extension of the mutual and profitable interchange of their products.
Therefore resolved : That this Conference records its belief in the advisability of a customs arrangement between Great Britain and her Colonies, by which trade within the Empire may be placed on a more favourable footing than that which is carried on with foreign countries. Trade within the Empire against trade with foreign countries.
Further resolved : That until the mother country can see her way to enter into a customs arrangement with her Colonies, it is desirable that, when empowered so to do, the Colonies of Great Britain, or such of them as may be disposed to accede to this view, take steps to place each other’s products, in whole or in part, on a more favoured customs basis than is accorded to the like products of foreign countries.
Further resolved : That for the purposes of this resolution the South African Customs Union be considered as part of the territory capable of being brought within the scope of the contemplated trade arrangements.”
- “ (1) That this Conference expresses its cordial approval of the successful efforts put forth by Canada and New South Wales for the establishment of a regular monthly steamship service between Vancouver and Sydney, and affirms the advisability of the reasonable co-operation of all the colonies interested in securing the improvement and permanence of the same. Steamship service between Vancouver and Sydney, and between Canada and England.
 (2) That the Conference learns with interest of the steps now being taken by Canada to secure a first-class fast mail and passenger service, with all the modern appliances for the storage and carrying of perishable goods across the Atlantic to Great Britain, and the large subsidy which she has offered to procure its establishment.
 (3) That it regards such an uninterrupted through line of swift and superior communication between Australasia and Great Britain as is above contemplated, as of paramount importance to the development of Intercolonial trade and communication, and to the unity and stability of the Empire as a whole.
 (4.) That as the Imperial Post Office contributes towards the cost of the mail service between England and Australia, *via* Brindisi or Naples, the sum of £95,000 per annum, while the sea-postage amounts only to £3,000; and to the mail service between Vancouver and Japan and China £45,000, less £7,300 charged against the Admiralty; this Conference deems it but reasonable to respectfully ask that assistance be given by the Imperial Government

Government to the proposed fast Atlantic and Pacific service; more particularly as the British Post Office, whilst paying the large subsidy of £104,231 a year to the line from Liverpool to New York, has so far rendered no assistance in the maintenance of a direct postal line between Great Britain and Canada."

Canadian Government to promote the establishment of the cable.

"That the Canadian Government be requested, after the rising of this Conference, to make all necessary inquiries, and, generally, to take such steps as may be expedient, in order to ascertain the cost of the proposed Pacific cable, and promote the establishment of the undertaking in accordance with the views expressed in this Conference."

Bankruptcy and winding-up of companies.

"That this Conference desires to call the continued attention of their respective Governments to the proceedings of the Colonial Conference of 1887 in regard to the bankruptcy and winding-up of companies, with a view to completing the necessary legislation upon the questions thereto raised."

Resolutions and proceedings of Conference to be forwarded to Secretary of State for the Colonies, and Premiers of the Colonies.

"That the Chairman be requested to forward the resolutions and proceedings of this Conference to the Right Honorable the Secretary of State for the Colonies, and to the Premiers of the Colonies represented; and to take such steps as may be necessary for calling continued attention thereto."

TRADE BETWEEN AUSTRALASIA AND CANADA.

Australasian products much the same in all the Colonies.

Trade between Australasia and Canada, as will have been seen, was prominently before the Conference throughout its proceedings, and before the Conference finally adjourned, an informal discussion took place to afford the delegates an opportunity for exchanging views as to the products in respect of which trade might be promoted. Speaking generally, the products which Australasia has for export to Canada are much the same in all the Australasian Colonies, and my explanation of what New South Wales could offer to Canada and might take from Canada in return was more or less repeated by the other Australasian delegates in behalf of the Colonies they respectively represented. It appears to me, and I expressed my opinion to this effect, that notwithstanding the difficulties arising from the tariffs of the Australasian Colonies and of Canada, there are many articles produced in Australasia, and others the product of Canada, in which trade might be carried on between the two countries. New South Wales, I said, could supply with advantage to Canada:—

Products which New South Wales might send to Canada.

Wool.
Frozen mutton.
Tinned meats.
Hides and skins.
Hardwood.
Fruit.
Butter.
Tin.

Articles which Canada might send to New South Wales.

Canada, I considered, could find a profitable market in New South Wales, and in the other Australasian Colonies, for:—

Paper.
Cotton goods.
Fresh salmon.
Agricultural implements.

Wool.

At the present time Canada consumes a large quantity of Australian wool, but it is obtained through the English and American markets. Mr. Mackenzie Bowell, when in Sydney in 1893, stated that while Canada had been all along consuming a large number of Australian products, they had been purchased either in the United States or Great Britain. It was in that way Canadians had bought all their Australian wool, amounting in the course of a year to millions of pounds' worth. It had gone from Australia to England, and from England to New York, and had been transhipped in New York for Canada. All fine wools are admitted into Canada free of duty, but on coarse wools, such as Canada produces a duty is imposed.

imposed. Thus greasy and scoured merino wools are free, while upon Leicester, Lincolnshire, and South Down combine wools, or wools known as lustre wools, or combine cross-bred wools such as are grown in Canada, a charge is made of 3 cents per lb. The staple industry in Australia being wool, and the growth and sale of wool being always on the increase, there can be no doubt that in this product a large and growing trade with Canada in this important product, if fair encouragement be afforded, must take place. Sheep in Canada, instead of increasing, have been slightly decreasing, and the total number in the Dominion is stated as about 2,500,000. They are of a kind different from those in Australia, and when it is borne in mind that with our rapid increase we shall before very long be able to count the sheep of Australia at 130,000,000 it can be seen, as I pointed out to the Conference, what an enormous quantity of wool we have and shall have at our disposal for export. It seemed to me surprising that, notwithstanding the large purchases of wool made by Canada, it was bought, not directly from the Australasian Colonies, but chiefly through other countries. If, I said, we were going to establish a direct trade between Australasia and Canada, there was no reason why the buyers should not enter into direct communication with the wool-growers, for, by visiting the Australasian markets, the buyers would have a much better choice of wool and purchase it to much greater advantage. The growth of the wool trade of the markets in Sydney and Melbourne was so marked, I pointed out further, that it was not too much to say that before very long the bulk of the sales would take place in Sydney and Melbourne instead of in London as at present. It is very probable that before long Canadian buyers will form an important addition to the number of purchasing agents who now annually visit the Australasian wool markets from England, the Continent of Europe, and America. The Department of Mines in New South Wales is giving its assistance in the matter. In April of the present year there were forwarded from the Department to the Secretary of the Board of Trade, Toronto, and to Messrs. Kirkwood, Lennox & Co., Sudbury, 100 samples of ordinary commercial greasy wools, taken out of the bales just as they are placed on the Sydney market. All the sheep from which the samples were obtained were simply grass-fed, and, therefore, the opportunity is afforded all who examine the wool of seeing the product as it is naturally grown and as it is disposed of at the ordinary sales. This action on the part of the Department of Mines is undoubtedly in the right direction. Personal knowledge of the articles which New South Wales can sell to Canada is what Canadians require, for though the disposition to trade with Australasia undoubtedly exists among the people of the Dominion, ignorance, or at least a very limited knowledge, of what can advantageously be obtained from this part of the British Empire, hampers the efforts of those endeavouring to bring about practical results.

British Columbia, which comprises most of the western portion of Canada, ^{Frozen} should prove a profitable market for Australasian frozen mutton. ^{mutton.} When in Sydney, Mr. Mackenzie Bowell expressed the opinion that a large trade in this product would take place between Australia and the western provinces of Canada; and at the Conference, Mr. Foster, the Canadian Minister for Finance, spoke similarly. Cold storage would be necessary in the steamers running between the Australasian Colonies and Vancouver, and in the Canadian towns fixed upon as distributing centres. Competent agents would also have to be appointed to see both to the receipt and distribution of the mutton, and its sale at a reasonable rate to consumers. British Columbia—in fact, the whole of the western portion of Canada—depends almost wholly on outside sources for its mutton, obtaining it partly from the eastern provinces of the Dominion, and partly from Oregon, in the United States; but both the Canadian and Oregon mutton are said to be of inferior quality, and therefore the people should welcome Australian mutton, as it would be of good quality, and could be disposed of at a moderate price. Two things necessary to be secured are that the mutton from Australia shall be sold to retail purchasers as Australian mutton, and that the price charged for it shall be as low as it can be disposed of profitably. With those precautions, and the matter properly advertised, the quality and cheapness of the article will impress the Canadian people, and the trade will be permanently established. During my stay in Vancouver I was informed that small consignments of mutton had been sent there from Sydney, but that they had not been successful, partly from want of a suitable agency, and partly from the high charge made for the meat by the retail butchers. This charge was said to

to be from 7d. to 9d. a lb. Until suitable agencies, possessing of course refrigerating chambers, are obtained, it is of no real use sending mutton into Canada. With these agencies the success of the trade should be assured. I found, in conferring with Boards of Trade, and in talking with business men in Vancouver, and as far east as Winnipeg, the capital of Manitoba, a strong disposition to assist in the development of the Australian meat trade, but, like men of this class over all the world, those with whom I conferred, and others like them, do not care to run any unnecessary business risks, and while they are willing to assist they are not disposed to initiate. If anything definite be done it must be brought about by the merchants of Australasia, who must take the first practical steps towards obtaining what they want, and then look for help from the business men of Canada. If regular shipments of frozen mutton were assured Canadians could be found who would erect the necessary refrigerating stores, into which the mutton would be received, and from which it would be passed to purchasers. But regular shipments mean a certainty of a settled and extensive trade, and to have this the merchants of Australasia must themselves commence the trade, and then enlarge it to the necessary proportions. All over Canada commercial men, through their Boards of Trade, and individually, expressed themselves to me as earnestly desiring to see trade spring up with Australasia; but while they will do what they can to send Canadian products here, it rests with us to do all we can—to rely upon ourselves only—to introduce Australasian products there.

Tinned meats.

Tinned meats are an article which, from the position of British Columbia and attendant circumstances, should find a sale. Eastern Canada and the United States supply at the present time what is wanted, and this is said to be about 150 tons per annum, such a large consumption being due to the facts that the headquarters of the British fleet in the North Pacific are at Esquimaux, on the island of Vancouver, that a large sealing fleet is annually fitted out at Victoria, the capital of British Columbia, and also on Vancouver Island, and that numerous lumber camps exist in this western territory. The competition with which meat preservers in New South Wales would have to enter would be severe, but it is thought that if their articles be of the best quality and the sale of them pushed, a satisfactory trade should be established. In Vancouver, and in one or two other towns, there were a few tins of Queensland meats visible in shop windows, but they were not attractively displayed and as far as I could ascertain the sale of them was not large. An attractive outside appearance is not inconsistent with a good quality of meat inside, and this, with a taking method of display, often materially assists to bring about a sale. By the s.s. "Warrimoo" there were forwarded from Sydney, on 18th April, 1894, to Vancouver, to be divided between the Board of Trade and the Conference at Ottawa, two cases (each fifty-nine tins assorted) of preserved meats of the Sydney Meat Preserving Company; the Department of Mines being the shipper. On the same date, and by the same steamer, there were forwarded by the Mines Department to Messrs. Kirkwood, Lennox, & Co., Sudbury, Ontario, one case containing fifty-nine tins of assorted meats of the Sydney Meat Preserving Company, and one case of compressed corned mutton and sheeps' tongues from the Australian Chilling and Freezing Co., Aberdeen. These meats will be tested by persons interested in the question of their importation into Canada, and their quality and prices made known. So far this will be advantageous, but if the reports which, doubtless, the Department of Mines will receive, be favourable something must be done by the meat companies themselves to bring a trade in their meats into existence. In the case of these products, as with frozen mutton success will depend largely upon the establishment of good agencies, moderate prices consistent with fair profit, and such a pushing of the sale as will keep the articles well to the front in their competition with the Canadian and American brands.

Hides and skins.

The greater number of the hides and skins used in Canada are received through the United States. Many of them come from the Argentine and other States in South America, but they are treated in Canada as United States exports. Raw hides whether dry, salted, or pickled are admitted into Canada free of duty, and looking at the great quantity of both hides and skins New South Wales has at its disposal, I am of opinion and so I stated at the Conference, that we ought to find in Canada a suitable market for them. The hides we produce, I explained, are at least as good as any that can be obtained elsewhere, and in kangaroo skins, I mentioned,

mentioned, we have already a considerable trade with the United States. Some business is also done in Canada with rabbit skins, which are dressed and used for several purposes.

The hardwoods of New South Wales should prove useful in Canada, but, Hardwood. considering the almost limitless quantity of soft woods which the forests of the Dominion produce, and the uses to which these woods are put, it is doubtful if our hardwoods, for at any rate a very long time, could find a large Canadian market. The fir or pine of Canada, identical with that of Oregon or Puget Sound, is used for many purposes. Houses are built of it, pavements of it are laid down; bridges, railway as well as road, are constructed of it; and even railway sleepers, or ties as they are called in Canada, are of pine-wood. Its extensive use is due not only to the large quantity available, but to the ease and cheapness with which the wood is obtained. Our hardwoods would be much better in many cases in which pine is employed, but would be more expensive, and expense is an important circumstance in the matter. For the wood-blocking of streets New South Wales hardwoods should be very acceptable in the Canadian cities, but up to the present the people have been content with asphalt, or the ordinary stone which forms a macadamised street. I pressed the importance of our timbers in this direction upon the attention of the Canadian Delegates at the Conference, and they made several inquiries concerning them and the cost at which they could be supplied. Fortunately there were in the building where the Conference was sitting specimens of wood-paving blocks forwarded there by the Mines Department of New South Wales, and they were brought in and examined, one block of ironbark, which had formed part of the paving of a street for thirteen years, and yet was none the worse for wear, attracting a good deal of notice. The blocks were cut from blackbutt, spotted gum, bluegum, tallowwood and red mahogany. Before long there will be an opportunity afforded Canadians for seeing the wood laid down in blocks at Vancouver, and those who examine it there will then be able to judge of its durability and value. The Department of Mines in New South Wales are supplying to the Municipal Council of Vancouver sufficient hardwood blocks to pave an area of 100 ft. x 50 ft. at the entrance of the Canadian Pacific Railway Station, and the result of this experiment in wood-blocking will be watched with considerable interest by all. The usefulness of these woods for railway sleepers, bridges, and anything else requiring timber of great strength and durability I also urged. The information I was able to give, together with the specimens of hardwoods sent to Canada from Sydney by the Department of Mines, should make Canadians fairly well acquainted with the woods. The specimens forwarded by the Department of Mines comprised soft as well as hard woods, and consisted of black bean, red bean, mountain ash, turpentine, grey ironbark, red gum, bloodwood, stringybark, blackbutt, mountain gum, messmate, blackwood, red cedar, rosewood, tulipwood, forest oak, curly yarran, beefwood, black pine, coachwood, satinwood, and stone pine.

In Australian fruits it is considered in Canada that there is an opening for Fruit. an extensive trade. Canadians are very large consumers of fruit. No meal is complete without it, and at breakfast, and in some places at the other meals, fruit is the first thing eaten. The present supplies are obtained chiefly from the United States and from the West Indies. Australia's opportunity lies in the fact of her seasons being the opposite of those in Canada. For half of the year the present fruit supply of Canada fails, and it is in that period when Australian fruit should have a profitable sale. Oranges and lemons would probably find a ready market, and possibly a trade might be encouraged in apples and passion-fruit. Oranges, including mandarins, and lemons could be supplied from New South Wales in quantities from the middle of May till the end of July, and with fair prices the quantities supplied could eventually be increased to the extent of meeting the whole requirements of Canada. I explained the kind of oranges we could supply and the prices which would be expected for them, and the explanation seemed satisfactory. The lemons, I said, from information which had been supplied to me by the Department of Mines, would be of the main crop, a first-class fruit that would carry, and such as would keep well. Small thin-skinned juicy lemons are much liked by Canadians, who consume large quantities. Canada is not unacquainted with the Australian lemon, for they have been sent there and found great favour.

favour. Apples, it has been thought, would also be saleable in the western parts of Canada, particularly about the coast, say from February until May, but if the market for this fruit exists it is not certain that we have the apples to send. A report from an expert connected with the Department of Mines, supplied to me was quite unfavourable to the idea that New South Wales is in a position to export apples to Canada. "We have no apples or pears," the report states, "available for export that are at all suitable, and also as the bulk of our local apples are of inferior quality and ripen during the months of December, January, and February, they would have to compete with the better varieties of Canadian-grown fruit, which will keep in good condition till April or longer." Passion-fruit is at present unknown in Canada, but if introduced would doubtless be appreciated there. It must, however, be borne in mind in connection with this and any other fruit it may be suitable to send to Canada that only the best quality will attract notice and find a sale, and that every passion-fruit, apple, lemon, or orange must be carefully and properly packed. In Sydney, Mr. Bowell, speaking of oranges, pointed out that in sending oranges to Canada, Australia would have to compete with Southern California and the Pacific Slope on the one hand, and with Florida and the West Indies on the other. The fact that Manitoba is not a fruit-producing section of the country should lead to a large consumption there of Australian produce, but it must not, he said, be sent in the hotch-potch manner in which much of it had been sent in the past. The various qualities and the various sizes must be kept distinct, and they must be carefully packed. The first essential to a successful interchange of products is that the Australian fruit is selected with judgment and packed with care. The heavy, clumsy, and generally unattractive appearance of the cases in which Australian fruit is in most instances packed is a matter of serious importance. Californian fruit, and fruit from the West Indies which the Canadians have been and are in the habit of importing, is packed in lightly made, neat, and clean pine wood cases in which the fruit, carefully placed, looks as attractive as strawberries or cherries in a pretty basket. Display is an important object with the Californian fruit-grower or shipper, and in addition to imparting to his fruit a nice appearance he is careful in seeing that it is packed so that it shall not spoil—oranges, lemons, and apples being each wrapped in tissue-paper in a manner which largely assists in protecting them from injury. In the fruit shops of Vancouver I saw Australian fruit cases which were a sad contrast to the light and dainty cases from the fruit-producing districts of the United States, and I am sorry to say I saw fruit which had come from one of the Australasian Colonies so inferior that it could not have been sold in any Australasian market. That Australian fruit can be sent to Canada successfully, was shown to the Conference by a statement made by Mr. Bowell with reference to some oranges he obtained during his visit to Sydney last year. These oranges, he said, were brought in a bag 30 or 40 miles to Sydney, and then lay in his room for a week. At the end of that time he had them packed and forwarded to his son in Vancouver. At Vancouver they were not delivered to the person to whom they were addressed until some days after the steamer's arrival, and then when the box containing them was opened only one or two of them were found to have spoiled, and the rest were pronounced by every person who tasted them, delicious. Mr. Bowell went so far as to say that the orange groves of New South Wales were as fine as any he had ever seen in Southern California, and produced a better quality of fruit; and, in his opinion, there was no reason why they should not take, in the Canadian market, the place of the Southern California oranges, and supply the whole of the Canadian north-west territories. The one thing to bear in mind is that the Canadians know what good fruit is, and cannot be induced to purchase that which is bad or inferior.

Butter.

Butter is an article of general consumption which ought to sell largely in British Columbia during the winter months. Australian butter has been sent there, and has been pronounced much superior to that obtained from Eastern Canada. The price too at which it can be sold is both cheap to the purchaser and profitable to the producer. During the winter the Australian article would have the market almost to itself; but in the summer it would have to compete with the butter from Eastern Canada, and the sale during that period would consequently be restricted.

In

In the western parts of Canada large quantities of tin are used in the ^{Tin.} canning of fish, and there is no reason why this product of New South Wales should not be sent from Sydney to Vancouver. Canada does not possess any tin deposits, and therefore has to purchase all the tin used in her fish-canning industries.

Other products in which some business may be done with the Canadians are ^{Other products.} potatoes, eggs, wine, and possibly tobacco-leaf. Potatoes, it is thought, should find a profitable market in Canada, and eggs, also, if they can be preserved from deterioration during the tropical part of the sea voyage. Very large quantities of eggs are said to be consumed in Canada, and at times the price at which they are sold is very high. Australian wines ought to find favour among Canadians, but they will always have a formidable rival in the palatable and cheap wines imported from California. One of the New South Wales brands of wine can be had in the Canadian Pacific Railway hotels, but the price charged for it per bottle is virtually prohibitive, a dollar and a half, or 6s., being asked for what in Sydney can be purchased for 2s. or 2s. 6d. This excessive charge will not, of course, encourage the sale of the wine. At a reasonable price it ought to sell very well, for it is a favourite brand. Some samples of Victorian wine were sent to Canada and tested there. They did not meet with approval as they were considered to be naturally too strong or had been fortified after fermentation. Australian tobacco-leaf has also been forwarded to Canada, but so far has met with nothing but disapproval. A sample sent from Sydney was tested in Vancouver by one of the largest tobacco-manufacturers in Canada, and by another in Montreal, and they, the delegates were informed, pronounced it unfit for use. This is discouraging, but it does not show that tobacco-leaf of good quality may not be sent to Canada and sold there. There is no duty upon it.

Among the manufactures of Canada I found some that I thought were of a ^{Canadian products of use to New South Wales.} kind likely to sell profitably in New South Wales. Paper was one; it is produced in Canada largely, from the wood of the spruce, and is an excellent article, sold at a reasonable price. Cotton goods are the product of another Canadian industry which should find a market here. Canadian salmon is already arriving in Sydney; agricultural implements have also been coming. In each of these products of the manufacturing industries of Canada, and possibly in some others which the enterprise of Canadian business men may cause them to send in this direction, New South Wales may find it advantageous to trade with Canada.

But it is not likely that trade between the two countries will develop into ^{Development of trade probably slow.} large proportions rapidly. It is far more probable that it will grow very slowly. That eventually a large and profitable trade between the two countries will be established is certain. The opportunity offered for the shipment of produce by the line of steamers between Sydney and Vancouver must induce shippers to avail themselves of it, and the information which the delegates from the Colonies of Australasia were able to give of the products of these Colonies ought materially to assist any efforts in this direction.

During the time the delegates were in Canada they had many opportunities for making themselves acquainted with the country and its people. They visited the chief cities, conferred with the principal Boards of Trade, and were afforded all the information they desired. Their visit should result advantageously to both countries.

I have the honor to be,

Sir,

Your Excellency's most obedient servant,

F. B. SUTTOR.

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GRENFELL HOSPITAL.

(REPORT ON MANAGEMENT OF.)

Ordered by the Legislative Assembly to be printed, 23 April, 1895.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 14th March, 1895, That there be laid upon the Table of this House,—

“A copy of the Report of Dr. Ashburton Thompson in connection with the “Grenfell Hospital dispute.”

(Mr. Watson.)

Deputy Medical Adviser to the Government to The Medical Adviser to the Government.

REPORT on an inquiry into the circumstances under which one John James Walker (or Fullerton) was an in-patient at, and died in, Grenfell Hospital; and regarding the management of Grenfell Hospital.

Sir,

12 November, 1894.

I have the honor to present the following report on certain circumstances connected with the death of a patient known as John James Walker (or Fullerton) at the Grenfell Hospital, which I made on 31st October and on 1st and 2nd November, pursuant on the attached instruction approved by the Honorable the Chief Secretary on the 24th ultimo.

2. Appended to this report are copies of the evidence given at my request by the Secretary, President, and medical officer of the hospital, by a member of the General and Visiting Committees, and by Mrs. Hazelton, a charitable lady residing at Grenfell, who appeared as complainant. Attached are also the depositions taken at an inquest which was held on the body of Walker, and some newspaper extracts relative to that and other matters. In expressing the following opinions I have the documents just mentioned in mind.

3. The case which necessitated this inquiry appears to me to be the following:—The deceased Walker was admitted to the hospital on 21st May, 1894, and he died in the hospital on 12th September, 1894. The medical officer refused to give a certificate of death, in order that an inquest might be held, at which certain charges of cruelty and neglect which had been freely preferred against the matron and himself in respect of deceased might be inquired into. An inquest was accordingly opened on 13th September, adjourned to the 20th, and adjourned a second time to the 26th, when it was concluded by the jury finding that “the deceased died from weakness and exhaustion caused by tuberculosis”; to which they added a rider, in which they expressed the opinion that “he was subjected to harsh and cruel treatment at the hands of the matron, and to negligence on the part of the medical officer.” A special meeting of the Hospital Committee was thereupon called for the 27th. The matron’s resignation was then tendered by her, and was accepted. At the same time the medical officer tendered his resignation, and this also was accepted by the Committee; but he was requested to continue to discharge the duty of his late office at the salary formerly paid him. It was at the same meeting further resolved that the Secretary should advertise the post of medical officer to the hospital vacant, three times in the *Sydney Morning Herald* and twice in each of the Grenfell papers, and should require applicants for it to place their applications in his hands by 10th October following. It was further resolved that a special meeting of subscribers should be called for 17th October, to receive nominations to the post, and to vote thereon. On the 17th the meeting was held. There were four applicants for the post, besides the late medical officer, who presented himself for re-election. The other four candidates were unprovided with nominators and seconders; the late medical officer alone was nominated and seconded, and consequently he was elected without opposition. Under these circumstances the question arises, in view of that part of the rider which censures the medical officer, whether the interests of future patients at this hospital are likely to be carefully and humanely cared for, and whether the general management of the institution are such as to ensure all the supervision usually requisite to good order in public institutions.

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4. I do not think that anything would be gained by attempting to examine the actual case of the deceased in detail; and the present inquiry turns upon quite other matters to which, however, this death has drawn public attention. I, therefore, merely refer to the general account of it given by the medical officer in his statements to me and at the inquest, and say that on the whole I am inclined to accept it as far as it goes. From some cause or other the deceased was doubtless constitutionally wrecked when he was admitted; and his symptoms seem to have been but indefinite and apparently incommensurate with his progressively increasing weakness. But however that may be, I feel satisfied that the deceased was not at any time regarded as a mere malingerer; and that the failure to ascertain the cause of his fatal illness was not due to neglect, at all events. Nevertheless, one sign of illness which he showed must be referred to in explanation of the evidence given at the inquest by certain persons who were in-patients in the same ward with the deceased, and by others, which were contrary to the statements they were (at the inquest) alleged to have made with reference to the deceased while he was alive. When these patients (of whom none were within reach at the time of my visit) were asked while deceased was alive whether he were being suitably treated, I believe from the statements made to me by different witnesses that they averred he was, and pooh-poohed the assertions made by Mrs. Hazelton that he was being harshly and improperly treated; but at the inquest they seem to have altered their opinion, and to have thought that he had been improperly treated. I think the difference lay in the deceased having died in the meantime, and in his being thought thus to have vindicated his character. These persons, and probably the matron too, really believed he was malingering to a certain extent as long as he was alive; they were prejudiced by his behaviour in one particular respect to such an extent that their eyes were closed to the more ordinary signs of illness which seem, notwithstanding, to have been tolerably clear. The truth was perceived by an unprejudiced observer (Mrs. Hazelton) when she accidentally saw the deceased; and she rightly valued the signs of illness he displayed, and recognised that he was in a state requiring great consideration, whatever his habits might be—even, in some sense, they were voluntary, and wilfully offensive. The real question, then, is whether the medical officer should not have seen this too, have formed an independent judgment of the case, and by definite instructions and extra watchfulness have so controlled the matron and the other patients that the deceased should not have suffered. I think there can be no doubt that he should have done so; in the ordinary and careful discharge of medical functions that is exactly the kind of administrative control which he should have exercised. After anxious consideration I feel obliged to concur in the censure laid upon him by the jury, although the depositions contain no evidence which warrants it without great qualification. It is true that he was absent from the hospital for four days during the deceased's illness—unavoidably absent as I understand; but there was no allegation that deceased suffered therefrom, nor was any great stress laid on the matter.

5. Had the late matron been a trained nurse of suitable disposition the deceased would not have suffered from any such lack of carefulness, or shrewdness, or caution, as the medical officer did show, but she was untrained to nurse, and there is evidence that she was of an eminently unsuitable disposition. Yet she had been maintained in her post for ten years by the Committee. How did this come about? The medical officer did not appoint, or even recommend, the matron. He found her in her position when he first took up his duty, and he has said that he thought her and the late wardsman, her husband, "very queer people for their position." And as to her conduct during the ten years she continued matron, although the medical officer attended the meetings of the Committee to give them information concerning the management and working of the institution, they did not rely on him for their knowledge. In accordance with the fifth rule of the institution they actually did appoint from their whole number a Visiting Committee of two, whose duties were defined by the rule as follows:—

5. At each monthly meeting of the General Committee two of its members shall be elected as a Visiting Committee for the month. The duties of the Visiting Committee shall be to inquire into the circumstances of patients; to visit the hospital once every week; to inspect the provisions, the state of cleanliness of the premises, and general order of the institution; to ascertain the comfort and well-being of the patients; and to inquire into any complaints which may arise, and if of sufficient importance, to report the same to the General Committee. * * *

How is it they did not earlier become aware of her unfitness? The fact is that they were perfectly well aware of it, and yet retained her in her position.

6. At a Committee meeting specially called for the purpose, which sat on 18th July, 1892, a report which had been presented to them by the Visiting Committee on 6th July was dealt with. Mr. Ralph Halls, the President, was in the chair, and ten other members of the Committee were present. The medical officer also attended. The report to be considered stated that a patient (Dow) had complained to the Visiting Committee that no potatoes had been served out to him for three weeks, and that an altercation took place between him and the matron, who was present when he made the complaint. According to the evidence tendered me by Mr. David Shackel, the altercation consisted in the matron shaking her fist in the patient's face, and threatening to blacken his eyes. To similar effect was the evidence given by the President, Mr. Halls, on my recalling him. On motion of Mr. Crommelin, the Committee unanimously adopted the following resolution:—"That the Committee regret to hear that the matron used harsh and threatening language to the patient Dow, and that such should not be practised on any patient in the future, it being the duty of the matron and wardsman to report to the Visiting Committee any patient not conforming to the directions of the medical officer or the rules of the institution, and that a copy of this resolution be forwarded to the matron and wardsman."

7. From this incident it appears that the Committee, I repeat, were perfectly well aware of the entire unsuitability of the matron's disposition for the position she held. But they seem not to have apprehended this. I regret to be obliged to remark, especially on the view of the transaction taken by Mr. Halls, who is but one member of a unanimous Committee, and who, I believe, has been largely instrumental in procuring the new hospital building, and in maintaining the institution in the sound financial position which I was informed it holds. But this gentleman was, and still is, the President of the Committee, and no doubt his opinions derive weight from his prominent position. On recalling Mr. Halls, and re-examining him with reference to this evidence, he said he thought the matron "was wrong, and should not have done it, but both I and the Committee thought but little of it"; and again, "We did condemn that particular action in Dow's case, but I did not think much of it." Mr. Halls seemed altogether unconscious that a person of a temper or of manners such as led to the behaviour described was quite unfit to have charge of the sick, and especially unfit to have charge of them in a hospital where she (and her deceased husband) was the only attendant, and where circumstances necessarily gave her large powers over the helpless, notwithstanding the intermittent (though regular) visits of the Visiting Committee

Committee and medical officer; and a consequence was that on first examining him, although he said "he agreed with the verdict as regards the matron—that is, in the case of the deceased Walker—it was proved that she said certain violent things," he found such excuse for her as consists in the opinion, "I do not think she meant them." It was only in answer to a direct question that he subsequently admitted that he did think her saying the violent things referred to "betrayed an unsuitable character for one in charge of the sick."

8. Other complaints against the management of the hospital as regards the matron (and her late husband) had been preferred by former patients from time to time, according to the evidence tendered by the Secretary. I concluded that it would be useless to attempt to go into them, and that the facts could not be now ascertained in all probability; but in the minute-book of the Committee I saw an account, clipped from the *Grenfell Record* of 17th February, 1894, of a special inquiry, apparently very carefully made, by the Committee, into complaints laid by a discharged patient named Frank Hewen, and it is impossible to read it without suspecting that the patient had not merely been oppressed whilst in the hospital, but even at the inquiry, and after his discharge, was under some restraint which prevented him from speaking freely. This inquiry, it will be observed, was concluded but three months before the deceased Walker was admitted. Still other complaints were preferred by Mrs. Hazelton in her evidence tendered to me, and in a letter (attached) which was published in the *Grenfell Vedette* of 27th October, 1894. Into two or three of these I made some inquiry; but, without prejudice to Mrs. Hazelton's statement, I must say that I found it worth while to pursue only one of them under the circumstances. This was made in the *Vedette* quoted, as follows:—

About a year ago an old man named John Barker died there. I went there at 6 a.m. to ascertain if he had lived through the night. Poor fellow; he had lived through the night, and in the early morning I found him passing away. He was lying on uncurtained bed, directly under an eastern window, on which hung a piece of green linen, several inches too narrow and too short, so that the full force of the morning sun was on his face. Thousands of flies swarmed round him; they crept in at his eyes and his mouth; no attempt was made to stop them. A yard of mosquito-net was thrown over him, but the poor fellow, in his delirium, only tossed it away. * * *

I inquired of the medical officer as to this matter, and he showed me the bed in which the deceased lay. I was informed that the blind was the blind originally hung at the window, and had not been altered since the date referred to by Mrs. Hazelton. It was an ordinary blind, of suitable length and width, and it fitted the window neither better nor worse than usual, and, the head of the bed being a little to one side, it was plain that the eastern sun would shine obliquely on the head of any person lying in the bed during the early hours of the morning; and the beds were still without mosquito-bars, having, indeed, no frame to which the latter might be hung. [Compare the evidence given by the medical officer.] I, therefore, find this complaint, though couched in exaggerated and inaccurate language, well-founded; and, notwithstanding the medical officer's statement that he visited this patient several times in the course of the night he died, I further concur in Mrs. Hazelton's remarks, in as far as they point out that this patient, though in extremis, was left, and eventually did die, unwatched and untended. The occurrence betrays the grossest neglect on the part of those who were especially hired to tend the inmates, in my opinion; and the degree of effective and thoughtful attention with which the Committee have regarded their charges may be judged from the fact that to this day there are no mosquito-bars to the beds in the male wards, nor any means of attaching them, for, though it is very likely true that there are no mosquitoes, or very few, to be met with at the hospital, flies must abound, and are but a slightly less annoyance to the sick during daylight. It is also plain that a supervision under which a dying man could be left to pass his last hours untended (though in this case he was happily insensible) is not effectual, and is not what the subscribers and the charitable public rely on the Committee to furnish.

9. When it is remembered that the Committee who have hitherto managed this hospital consists of gentlemen of position in the town, who take a great deal of trouble, from motives which can only be philanthropic, it becomes very puzzling to surmise how the state of things indicated by the attached evidence, and the official and other quotations herein made, came about and persisted, and I am unable to offer any explanation. But Mr. Halls' remark, made at his re-examination by me, on the case of Dow, and the altercation between the latter and the matron, attracts attention in this connection. When Mr. Halls was asked why, as he had said, he thought little of this incident, he replied, "The fact is that some members of the Committee had an edge on the matron, and were willing to make the most of the occurrence." The members of the Visiting Committee who laid that complaint were Messrs. D. Shackel and W. H. Hosie, and whether any other members shared their views of it or not, it is much to be regretted that they did not stick to their point, and cause a protest to be entered in the minute-book. But they did not do this, and consequently the method of general management, which has so conspicuously failed, remains unexplained.

10. I think it advisable that I should make some reference to Mrs. Hazelton's action, both because the holding of an inquest on the deceased was mainly due to her and for other reasons. I believe this lady to be a consistently charitable person, actuated by the best motives, whose sphere has for many years past occasionally included the hospital, but has also included much more than it, and I am inclined to lay great stress on the firmness and perseverance with which, in the face of opposition and, on one occasion at least, of something more than discourtesy, she followed up the case of the deceased when she had formed a strong opinion that he was being improperly treated. On the other hand, I feel compelled to remark that the methods employed by this lady have not always been marked by the reticence and discretion which are generally thought most effective. However, having effected a necessary alteration, it is probable that her efforts to complete the revolution in detail will cease, although it is to be hoped that her interest in the sick poor will not abate.

11. I, therefore, have the honor to conclude by submitting the following conclusions and recommendations for your considerations. I am of opinion—

- (a) That the medical officer failed to take up that independent attitude of caution and control which he should have occupied in the internal management of the hospital, and, consequently, fell justly under censure of the jury, although no important evidence was before that body to warrant it.
 - (b) That the Committee in general must share that same censure, in that their supervision and management were such as did not secure to the sick such skilled nursing, humane attention, and necessary appliances (at the least) as are properly believed by the public to be usually provided in a hospital.
- And,

And, in order to guard against a continuance or recurrence of failure, as far as it can be guarded against by such means, I recommend—

- (1.) That it be an instruction to the Committees of all hospitals subsidised from the public funds that no vacancy in the post of matron or nurse which shall in future occur is to be filled by appointment of any person who has not been trained as a nurse; and that the same rule shall apply as far as possible to vacancies which in the future may occur in the post of wardsman. [I believe the Medical Adviser to the Government has already made recommendation to similar effect.]
- (2.) That before actually making any such new appointment Committees shall be instructed to submit their choice for approval by the Medical Adviser to the Government, who shall approve it, provided the fact of sufficient training be established by the Committee in respect of the candidate to his satisfaction.
- (3.) That an attendance-book be kept, in which the members of the Committee, the Visiting Committee, and the medical officer shall sign the date and the hour at which they pay their official visits.
- (4.) That diets be arranged and fixed by scale, as is usual in all institutions.
- (5.) That all medicines prescribed for patients be recorded in a book kept in, and not allowed to leave, the institution.

I have, &c.,

J. ASHBURTON THOMPSON,
Deputy Medical Adviser to the Government.

[Enclosure.]

INQUIRY into the management of the Grenfell Hospital.

NOTES of statements made by witnesses examined :—These statements were read over to the witnesses, and were accepted by them before their examination closed, but they were not requested to sign them.

W. C. H. Lippman, Hon. Secretary :—I became Secretary on 5th May; I had been a member of the Hospital Committee since the beginning of the hospital year; my predecessor died; he had been Secretary for many years; at the beginning of this year, the staff consisted of a matron (Mrs. Day) and her husband, who was wardsman, but the latter died; his place was not filled, but the matron was authorised to get assistance if she wanted it; the Committee would have paid for it; this was understood by all, including the doctor, but was not the subject of any formal resolution; there was also a servant; dispensing is done by a druggist in the town, by an arrangement made by the doctor, who submits an account for drugs monthly (£2 17s. 6d. a month); the doctor is regular in his visits, as far as I know, and painstaking; he does not sign any attendance-book; none is kept; visitors do not regularly sign the visitors' book; no ladies regularly visit the hospital, as far as I know; no minister of religion has made a regular practice of visiting the hospital to my knowledge, during my term of office; neither the matron nor the wardsman had any hospital training; I believe the evidence given before the Coroner in the case of the deceased Walker, but I cannot reconcile it with the answers given directly to me to my questions concerning him by the other patients; we courted inquiry, and instructed a solicitor to attend the Coroner's Court, and get to the bottom of the affair, regardless of our own interests; I agree with the verdict as regards the matron, but not as regards the doctor; I think the term "impostor" was applied to the deceased Walker only in respect of his being "dirty"; there was no doubt about his being ill at any time; for that reason we could not turn him out; we isolated him in the private ward as soon as we heard of his dirty habits from the other patients; the Committee ordered him into isolation, in accordance with a suggestion of the Visiting Committee; I have the impression that the matron and her (deceased) husband were rough, and perhaps harsh, from habit and callousness; we had had occasional complaints against the former from discharged patients, but always long after their discharge; they may have been true; the matron anticipated the Committee's intention by resigning immediately after the inquest.

Ralph Halls, President :—Until about 25th August I thought the deceased Walker was an impostor, by which I mean that he was not so ill as he would have us think, but was trying to put in the winter; but we did not think of turning him out, he was too ill for that; at the date the word impostor began to be used by the other patients he was visibly ill enough to be kept in hospital; I understood from what the other patients said that they used the word with reference to his dirty habits, and to express their opinion that he was dirty voluntarily; I very often indeed conversed with Walker; he never made any complaint, and I never had reason to think he had any to make; but I relied altogether on what the matron and the other patients told me—mostly on the matron; the word began to be used long before 25th August, but I never asked the doctor distinctly whether he were an impostor or not; did not suggest his isolation before 6th September, because that seemed a matter for the doctor to arrange with the matron; another reason was, that it seemed most economical to keep him in the general ward where the other patients could help with him, but at last he got so bad that the others could not sleep at night, and then he was removed; if the matron had asked for help she could have had it, but she never did as far as I know; I agree with the verdict as regards the matron; it was proved that she said certain violent things; I do not think she meant them; I do think her saying them betrayed an unsuitable character for one in charge of the sick; I never heard anything of the kind from her myself; if I had I should have objected to it; my impression is the case was an obscure one, and more serious than was supposed; I believe the deceased spoke differently when I was away from what he did in my presence, according to what the other patients told me.

David Shackel, member of the Hospital Committee :—I thought the deceased really ill on admission; then he got better; I thought he became an impostor afterwards, and made himself out worse than he was so as to be kept in the hospital through the winter; but on 25th August, when I visited the hospital as one of the Visiting Committee for the month, I saw that he was seriously ill; I was on the Visiting Committee that time from 1st August to 5th September, and I visited the hospital three times during that month, but at one of them I did not go into the wards, but inquired of the matron whether anything particular needed attention; the other visits were paid on 25th August and 5th September; on 25th August the matron said deceased seemed bad as long as visitors were present, but as soon as they were gone he got up and jumped about; I then went into the ward and examined him, and I formed the opinion that he was too ill to behave as the matron alleged; I did not believe what the matron had said; the patient Hopkins said it too; I thought it impossible from the deceased's state; I did report on the same day that we had made searching inquiry into the matter, and had found that there was no just ground for accusing the matron of harshness and the doctor of carelessness, but what I meant by that was, that I had asked the patient if he had any complaints to make, and that he had said "No"; I do think it would have been better and fairer if we had mentioned that, from our own observation of the patient, we did not believe the statement of the matron and patient Hopkins; we suggested deceased should be isolated on 5th September, and not before, because the other patients had not complained before that deceased was troublesome to them; I agree with the verdict as regards the matron, and as regards the doctor if he were absent the four days; I think, at all events, the doctor probably relied on the matron for his information, and did not sufficiently observe and watch what went on; I think he might have been more careful in a general sense, and that the matron was left too much uncontrolled; I think, in that sense, the management had become careless and bad; I was present when the matron shook her fist in a patient's face and threatened to blacken his eyes; that was in 1892; the patient (Dow) had complained to me that he had had no potatoes for three weeks; I was a member of the Visiting Committee at that time; I reported the matter to the Hospital Committee, and a letter was ordered by them to be sent to the matron expressing their disapproval of her conduct; nothing further was done about it; the matron appeared before the Committee with reference to this; she admitted the charge; she did not defend her conduct.

Mrs.

Mrs Hazelton, an occasional visitor — I brought an old man named Bush, in whom I had taken an interest for some time before outside, into the hospital on 20th August; on that date the matron told me she had a filthy patient, who was an impostor. I then visited the deceased Walker, who was the patient the matron referred to, and I thought he was seriously ill, I wished Bush to be called at the inquest to prove that he was admitted to the hospital at 11 a m., 20th August, but was not visited by the doctor until Thursday, the 24th, at 5 p m.; he was to have appeared on 26th September; his evidence was to have been taken at his bedside; Mr Crommelin, the solicitor for the Committee, met me in the street on 26th September and told me that Dr Row had said that if Bush's evidence was taken it would shorten his time; I understood his life was meant; in consequence I did not persist in asking that his evidence should be taken, but later on the same day Mr. Beneke saw Bush and found him no worse and able to have his evidence taken without harm; I thought deceased was probably paralysed in his legs; he was certainly not insane; he was apathetic; he seemed to have lost all manliness; I did write a letter to the *Vedette*, in which I said that "Every day I hear of some good, just, and honorable man who resigned his place on that Committee because he could not be satisfied that justice was done"; Mr. Filby told me he would not remain on the Committee because he could not get justice done [the witness mentioned no other]; there has often been cause of complaint; Elizabeth Nicholls was a patient about April or May, 1891; she was suffering from cancer; she was told she was incurable, and would have to go to a benevolent asylum, she left the hospital and found a lodging outside, where she was attended by Dr Rygate; Nicholls got worse, and the people she stayed with could not stand the offensive smell; I visited her, and found her lying on the floor, I told Dr Row he must take her in; he said he could not, as she had been discharged as incurable, I must go to the police; the police told me Nicholls must be put in the street before they could interfere, and this was not done; I went to Mr Halls, the President of the Committee, who said she could not be admitted again because she had been discharged as incurable; I helped her to another lodging with an old nurse who had already another old woman lodging with her who had abscess of the face; this latter patient told me they would not admit her into the hospital; I went to the hospital and found that the female ward was being occupied by Captain Stanford, who also had cancer; I then asked Dr. Row to put Nicholls in the fever ward; this was when the old hospital building was still in use; Dr. Row said he could not, because the matron's grandchildren were occupying it as a bedroom; Dr. Row attended Nicholls as an out-patient of the hospital, and was kind to her; I have been visiting the hospital occasionally for twenty four years; I never had any complaint to make before against this or any other institution; I have from time to time seen various occurrences in the hospital which I did not like, but I said nothing about them; I did not attach much importance to them, but now I think more of them; I have twice been to the hospital about Mr Hamilton; he is a paying patient, who has a broken leg; I visited him on Saturday, 27th October, about 6 or 7 o'clock in the evening, and I stayed two minutes; I went again on Sunday night, about 9 o'clock, not to see Mr. Hamilton, but to inquire whether anyone was sitting up with him; I did see him, however.

Dr Row, Medical Officer — I was appointed to the hospital at a salary of £100 a year when I first came to Grenfell, four years ago; the old building was still in use then; Mrs Day, the late matron, was matron then; I visit the hospital every day, unless I am out of town on country journeys; that seldom happens; I visited the hospital on 21st August, when I prescribed for Bush, and then not again until 23rd August, when I called at 9 or 10 o'clock at night, and asked the matron whether anything particular was wanted, and then not again until 26th August, early in the morning, having been out of the town on country trips; I do not sign any attendance-book—there is none, for the past six or seven months prescriptions have been written on bits of paper, and sent to the druggist, who dispenses the medicine and files the prescription; no record is kept at the hospital on bed-cards or elsewhere, there is no diet scale; on several occasions I have urged the Committee to adopt one, and attention has been promised to the matter, but never given; I presented the Committee with a draft of one about three years ago, but nothing was done; I have told the matron verbally what "ordinary" and "milk" diet meant, these being the only two diets, and these words are entered on the bed-cards; I was always on good terms with the matron until about 20th August; John Barker was admitted on 11th December, 1893, and he died on 13th December; he was admitted about mid-day, and he died at early morning; he was admitted to, and died in, the male ward; there were other patients in the ward at the time (after viewing the ward and the bed occupied by Barker I saw the morning sun could shine on the patient's head, though the blinds, which fitted as well as usual, were drawn, and that the beds had no support for mosquito-bars); I have told several of the Committee at different times that they ought to provide mosquito-netting, but never in any official way; no one sat up to watch with Barker, but I happened to be in the building nearly all night on both nights he was alive, and several times went in to look at him; I was at the hospital because I had sent my wife and child there for coolness, the latter being dangerously ill with dysentery, and the town hotter than on the hill at the hospital; Elizabeth Nicholls was admitted 2nd February, 1891, for uterine disease; she remained in until 24th March, when she was discharged as incurable, but relieved, and also partly at her own request that she might go to friends near Young; instead of going there she stayed with some friends in Grenfell, and was attended by Dr Rygate at first; during July I was again called to see her; Mrs Hazelton asked me to admit her to the hospital; I said I did not think she was a fit case for admission, being incurable, but that I would admit her if she could not be attended to outside; Mrs Hazelton said it would be better to treat her outside, and that she would help to nurse her; Nicholls was then removed to another cottage, where I attended her until she died; readmission to the hospital was never refused; Mrs Hazelton said she thought she would do better in the cottage; Captain Stanford was in the hospital from 24th May to 7th November, 1891, when he was discharged; he did occupy the female ward in the old building, but he would have been removed to the male ward had there been any female patient admitted; there was also a ward called the fever ward; it was not occupied then, nor at any time, by the matron's grandchildren, or by anyone else within my experience; it was so much out of repair as to be unfit for occupation; I agree with that part of the rider to the verdict which applies to the matron; I think she was harsh to Walker, but not always; she was a woman of ungovernable temper; and, I think, that when Walker became so troublesome, and when Mrs. Hazelton added to the trouble by interfering, that she became harsh to the patient, that does describe a serious fault of character in one occupying her position, and I have often checked her for her manner of speaking of people not connected with the hospital; I have known her behave improperly to patients before, only in Dow's case; Walker was aged 32, admitted 21st May, 1894; he said he had walked from Broken Hill, and was brought in from Marsden's by coach, probably after suffering a great deal of exposure; on admission, he was thin and broken down; his temperature was 102; I examined his heart and lungs, and found nothing wrong there; his urine was examined, and was normal; for three weeks his temperature ranged between 101 and 102; about the fourth week he began to recover, and afterwards was merely weak; about the fifth week œdema of one or other of his legs appeared, and he went to bed again; he recovered again; about the ninth or tenth week œdema appeared in both legs; he did not wish to stay in bed, and was allowed to sit up with his legs raised; but he never would keep them raised; I repeatedly tested his urine, and found it healthy; I supposed the œdema was due to weakness; at this time he could not walk without supporting himself; he continued in the same state until about a fortnight before he died; the idea of paraplegia occurred to me about 20th August, when I first heard of him having become dirty; but on inquiry, I heard he had occasionally been dirty before; he was wet as well, but not every time he was dirty; and when he was wet as well, it was always at night, never in the day; I remarked this as a peculiarity; I spoke to him about his dirtiness, and he said he could not help it; I examined the sphincter, and found it contract round my finger in the usual way; I accounted for his dirty habits by having observed on admission that he was of weak intellect, although I did not think he was actually imbecile or insane; but from what I saw of his further behaviour, and from what I heard from others, I was obliged to doubt whether he were not really quite sane, and whether his dirty habits were not voluntary; in this suspicion I was confirmed, on hearing that he would sit on the commode for ten minutes in the morning without having any action, and then would have one very shortly after being returned to bed; the motions were always constipated, as far as I know; on the occasion when his bowels acted while the matron was washing him, she said he strained, showing voluntary action; I never saw anything of that myself; although my mind was awake to the possibility of paraplegia at the time (about 20th August), after careful examination I concluded that he had none; I know that he had no bed-sore on admission; I first heard of one about 26th August; he had then not been confined to bed for some time—say four or five weeks—but he would occasionally stay in bed all day during that time; I refused a certificate of death in his case, desiring that an inquiry should be held; at the *post-mortem* the stomach was not opened, nor the spinal column; none of the lymphatic glands were examined, not the bronchial nor the mesenteric; the lungs were perfectly healthy; the adrenals were small; the diseased hip-joint was not examined or opened; in the membranes of the brain, about the vertex, some small swellings were found, about the size of millet seeds; there was no sign of action in or about them; they had a similar appearance to obstructed or swollen glands in a mucous membrane; there were some others under the inner lining of the aorta, about half an inch above the aortic valves; all these Dr Cortis pronounced to be old tubercles, and thought the cause of death was tuberculosis; I was at no time in doubt about the

serious

serious character of Walker's illness ; I was puzzled at first by the absence of definite physical signs ; I was never able to get any clear history from him ; I doubted whether he really had walked from Broken Hill or not ; when he first began to improve I thought he might go on to recovery ; when he afterwards began to get worse again I thought he never would recover, and then I thought of discharging him as incurable, but he soon became too ill to travel ; after all, I do believe it is true that Walker was improperly dealt with by the matron, and I did not find it out before he died ; it was not for want of asking that I remained in the dark, and I can only say that if I ask patients whether they are comfortable and well looked after, and have what they want, and they answer " yes," I can do no more ; I agree that both the matron and her late husband were entirely improper persons to have charge of the sick ; when I first came here I arrived from England, where I had been studying ; I thought the matron and her late husband very queer people for this position, but my predecessors, Drs. Rogers and Bennett, had both given them very favourable testimonials, and I supposed it was merely their manner that was against them ; the Committee knew them better than I did, and they always seemed satisfied with them, as far as I know, except in Dow's case, which I mentioned before.

Ralph Halls, President, re-examined :—I was in the chair at a meeting of the Committee when a resolution censuring her for shaking her fist in a patient's face was unanimously adopted, and ordered to be communicated to her in writing ; when I said that I did not think she meant what she said violently, I meant she was wrong and should not have done it, but I and the Committee both thought but little of it ; the fact is, some members of the Committee had an edge on the matron, and were willing to make the most of the occurrence ; there was a member of the Committee who was always bringing up these little trivial things ; we did condemn that particular action in Dow's case, but I did not think much of it.

12th October, 1894.

J. ASHBURTON THOMPSON.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

“HISTORY OF NEW SOUTH WALES FROM THE RECORDS.”

(CORRESPONDENCE RESPECTING THE APPOINTMENT OF MR. ARTHUR GALTON TO CONTINUE THE.)

Ordered by the Legislative Assembly to be printed, 29 August, 1894.

A. Galton, Esq., to The Chief Secretary.

Sir,

Government House, Sydney, 26 July, 1894.

With regard to the several conversations I have had with you about continuing the History of New South Wales, as you are satisfied of my ability to continue this work, I accept your offer to go on with it for a period of three (3) years from this date, for a sum of £1,500 (fifteen hundred) payable to me by quarterly instalments.

At the end of this period of three years I am willing to let my work be judged on its own merits, and if the Government be satisfied with my performance of the contract I shall be prepared to make a contract for a further period, upon such terms as to time as may be agreed between us.

I have, &c.,

ARTHUR GALTON.

Approved; instructions to be given.—G.R.D., 26/7/94.
and Trade, B.C., 26/7/94.—C.W.

The Under Secretary for Finance

The Principal Under Secretary to A. Galton, Esq.

Sir,

Chief Secretary's Office, Sydney, 30 July, 1894.

I am directed by the Chief Secretary to acknowledge the receipt of your letter of the 26th instant, notifying your acceptance of his offer to continue the History of New South Wales for a period of three years for a sum of £1,500 (one thousand five hundred pounds), payable to you by quarterly instalments.

2. I am, at the same time, desired to add that the Colonial Treasurer has been duly apprised of the terms of this agreement.

I have, &c.,

CRITCHETT WALKER,

Principal Under Secretary.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

HISTORY OF NEW SOUTH WALES FROM THE RECORDS.

(FURTHER CORRESPONDENCE, &c.)

Ordered by the Legislative Assembly to be printed, 5 December, 1894.

RETURN (*in part*) to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 16th October, 1894, That there be laid upon the Table of this House,—

- “ (1.) Copies of all Correspondence, &c., in addition to that already ordered, that may have taken place between the Government and any persons in reference to the publication of the History of New South Wales from the Records.
“ (2.) Copies of any minutes, letters, or other documents in possession of the Government in reference to the contract entered into by Mr. Arthur Galton for writing the History of New South Wales.”

(*Mr. Fegan, for Mr. Hogue.*)

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HISTORY OF NEW SOUTH WALES FROM THE RECORDS.

No. 1.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Dear Mr. Eagar,

Government Printing Office, Sydney, 5 January, 1889.

May I ask you to do me the favour to ascertain whether the Treasurer will approve of a further payment to me, on account of work done to date for the Official History, of £100.

I have to-day concluded the last chapter of the work, and am now making final corrections in the sheets. There is nothing to prevent publication during the present month.

I am happy to say that, from the opinions expressed outside, it is probable that the whole edition will be sold off within three months.

Yours, &c.,

G. B. BARTON.

No. 2.

The Government Printer to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, Sydney, 17 April, 1889.

I do myself the honor to transmit herewith a memorandum received by me this morning from Mr. G. B. Barton, the gentleman in whose hands the literary part of the work connected with the History of New South Wales has been placed, relative to certain proposed alterations in the wording of the title-page to the History; and also having reference to certain portraits with which it is proposed to illustrate the work.

I have, &c.,

CHARLES POTTER,
Government Printer.

[Enclosure.]

Sir,

Lake Macquarie, 15 April, 1889.

I enclose a memo. with reference to proposed alterations in the title-page to the History of New South Wales, and also with reference to photo-lithos. of Governor Phillip and Lieut. King.

I should be obliged by your submitting this memo. to the Government at your earliest convenience, and acquainting me with the result.

I have, &c.,

The Government Printer, Sydney.

G. B. BARTON.

[Sub-Enclosure.]

Memo. for the Government Printer,—

15 April, 1889.

WITH reference to the alterations made in the title-page of the History of New South Wales, by which it is made to appear that the work has been "compiled and edited" by me "under the authority of the Government," I wish to say that I strongly object to the words "compiled and edited"; for the following reasons:—

1. It is not correct English to say that a book is "compiled and edited," because compiling and editing are two very different things. No editor is ever termed a compiler, nor is a compiler called an editor. This inaccuracy is so obvious that it would expose me to the remark that I do not know the meaning of the most ordinary words.
2. The work I have written is essentially an original one, both in its plan and in its execution. It has no resemblance to any former work on the same subject, nor does it owe a single line to any other work, except in the shape of a quotation. To produce a work of this character has cost me eighteen months' hard and unremitting labour, and now it is proposed to stigmatise it as a "compilation," as a reward for my exertions.
3. By that word everyone understands a book to be what is called "paste and scissors"; that is, borrowed matter pasted on slips of paper, in the manner usual among sub-editors of newspapers. I decidedly object to my name being associated on a title-page with any suggestions of that kind.
4. It is obvious that the immediate effect of branding the book as a "compilation" will be that its value will be depreciated in the eyes of the public, and its sale injured. The Official History published by the Government in 1883 was a compilation, and the prejudice against it is so strong and so general, that it is very desirable to avoid even a faint suggestion of a connection between the two books.
5. It would be not less incorrect to say that the work has been "edited" by me. Editing implies that while one man writes a book, another revises his manuscript, the work of revision being termed editing; therefore, the inference would be that somebody unknown had written the History, and that I had edited his work; the fact being that no one else has written a line of the original matter in it.
6. I never saw any History which purported to be "edited" by anyone, nor do I understand how the term can be so applied.
7. If it is particularly desired to say that the work is "edited" by me, the title-page should be altered so as to substitute the words "Historical Records of New South Wales" for "History of New South Wales." It would be correct to say that the Records are edited by me, and I would not object to that title. But although I thought of it in the first instance, I came to the conclusion that it would be very much better to term the work a History, for the simple reason that while many people might be inclined to buy a History, very few would care for a volume of Historical Records.
8. If the object of the proposed alteration is to show that the work is a Government one, the proper place for doing so is the preface, which is intended for explanations of all kinds. I thought I had made the matter sufficiently clear in the first sentence, which states that the records were placed in my hands by the Government with a view to the publication of a work which might serve to commemorate the centennial year. If that statement is not considered sufficiently explicit it can be made still more so.

I take this opportunity of stating my objections to the two photo-lithos. of Governor Phillip and Lieut. King, which have been prepared for publication in the History. They not only fail to give a correct impression of the original, but they are sure to provoke unfriendly criticism. It would be infinitely better to have no portraits at all, and unless satisfactory engravings can be obtained I desire that the portraits in question may be omitted.

G. B. BARTON.

No. 3.

No. 3.

G. B. Barton, Esq., to The Government Printer.

Sir,

Lake Macquarie, 6 May, 1889.

I beg leave to apply for a further payment of £100 on account of work done in connection with the Official History of New South Wales.

The last payment was received by me on the 14th of March last.

The index and preface being completed (subject to final correction), there is now nothing to add beyond a few pages of the introductory sketch.

I am, &c.,

G. B. BARTON.

No payment to be made to Mr. Barton until all material of first volume completed.—W.M., 7/5/89.

No. 4.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 7 May, 1889.

The Government Printer has submitted to the Colonial Treasurer your application to him of 6th instant for a further payment of £100 on account of work done in connection with the Official History of New South Wales.

Mr. Potter reports that the first volume of the work is still incomplete, and I am desired by the Colonial Treasurer to inform you that the payment which you request will not be made until the whole material for Vol. I is in the hands of the Government Printer, finally corrected, so as to admit of an immediate publication.

I have, &c.,

G. EAGAR.

No. 5.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 3 June, 1889.

I am directed by the Colonial Treasurer to acknowledge receipt of your letter of 31st ultimo, and I am to convey to you his reply as follows:—

1. The Government Printer reports that he has not received from you the full material necessary to enable him to publish the first volume of the History of New South Wales. Copy of such report is enclosed.
2. When the Treasury requirements, already conveyed to you, are satisfied, Mr. McMillan will make the payment of £100 asked for on 7th ultimo.
3. The portion of your letter which reflects on the conduct of the Government Printer will be referred to that gentleman for an explanation.

I have, &c.,

G. EAGAR.

No. 6.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Sir,

Lake Macquarie, 7 June, 1889.

I beg leave to request that you will instruct the Government Printer to send me, by return post, duplicate copies of all matter set up for the History of New South Wales, from page 1 to page lxxxv inclusive, and also of the analytical index; also a further supply of press paper, cut up in slips of the usual size, with some sheets of foolscap paper and a few O.S. postage stamps. I cannot procure any stationery here.

I also wish to have sent me a book called, "A Letter from Sydney," by Robert Gouger, which is now on the shelves at the Government Printing Office, but which the Government Printer has refused to send me.

I am, &c.,

G. B. BARTON.

The Government Printer.—G.E. Treasury, B.C., 13/6/89.

No. 7.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Lake Macquarie, 7 June, 1889.

In reply to your letter of the 3rd inst., enclosing memo. from the Government Printer, I beg to say that the whole of the matter specified in it has been posted to him, "ordered for press."

With reference to his statement that "for a period of at least six weeks" he had "received but dribblets of MSS. for setting up, or of proofs for correction," and that he was "unable to comprehend why Mr. Barton had so prolonged the work," I beg to invite your particular attention to it, because it affords an easy means of testing the accuracy of his statements generally.

During the months of April and May last, he has received from me the "copy" of the analytical index, which now occupies some 30 pages of brevier—(I have not got it by me at this moment, and therefore cannot give the exact number of pages), and also the "copy" of the introductory sketch, pages xl to lxxxv, proofs and revises of which were also corrected by me within the time mentioned.

If you are disposed to do me justice in this matter, you have only to look through the Index and the introductory sketch in order to satisfy yourself that Mr. Potter's statement not only betrays his incapacity to comprehend the matter he writes about but also shows his determination to misrepresent me in spite of facts.

I have no hesitation in saying that if I had taken twice the time I did to write the index and the introductory sketch, no one could have justly accused me of having "prolonged the work," that is, delayed it unnecessarily.

Both the index and the sketch are strictly analytical—the one being designed to give the reader an exact idea of the various topics treated in the book, so that he can obtain at once all the information it contains, while the other is intended to show the reader how the colonisation of this country was brought about—a result which I accomplish by an analytical examination of the few records we have bearing on the subject. Another object in view is to show the nature of the misconceptions which have always prevailed with respect to the country, from the days of the early explorers down to the present time.

You will observe that all this is entirely original work. Nothing of the kind has ever appeared in any previous work on the subject. Nor will you find in any historical work published in London an index that can be compared with the one I have written.

As I look upon Mr. Potter's charge as libellous, I beg leave to request that you will require him to substantiate it at the earliest opportunity; and I would suggest that the three gentlemen to whom my work is to be referred for the purpose of assessing the amount to be paid me, should be authorized to investigate this matter at the same time.

Should they report that Mr. Potter is justified in the charge he has made, I shall be quite willing to put an end to my engagement.

But should they report that he was not justified in making it, then I beg leave to request that you will cause proper compensation to be made to me for the injury done.

I am, &c.,
G. B. BARTON.

No. 8.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Lake Macquarie, 10 June, 1889.

There are one or two matters connected with the publication of volume I of the History of New South Wales to which I beg leave to call your attention:

1. In several letters to the Government Printer I have expressed my objections to any alterations being made by him in the title-page without my consent and without any intimation from the Government on the subject, and I have set forth good and sufficient reasons for the objections referred to.

2. Up to the present date I have not received from him any intimation to the effect that the title-page will be printed according to my instructions.

3. I have also expressed my objections to certain photo-lithographs (of Governor Phillip and Lieutenant King) which the Government Printer insists on publishing. In my opinion those photos. are so much below the average standard of book illustrations in the present day that they would not only discredit the volume but would invite very disparaging criticism from critics in other countries, who would probably infer from them that our taste in matters of art is no better than that of aboriginals. You are well aware that in London, and New York especially, the illustration of books is a distinct profession among artists, and is consequently carried to a point which might be described as perfection. Compared with such work as is now to be found in English and American books the photos. in question are absolutely ridiculous.

4. In order to save the credit of the volume in question I engaged the best engraver I could find in Sydney to engrave the portraits of Phillip and King, and his work has been for some time in the Government Printer's possession. That gentleman, however, prefers his photos. to the engravings, and has recently informed me that he intends to publish the former.

5. I would therefore strongly recommend that he should be instructed to publish the engravings, and that the services of a printer accustomed to print wood engravings should be obtained for the purpose. I understand that there is no printer in the Government Printing Office who has had any experience in that kind of work.

6. Owing to the fact that the sheets comprising the main part of the volume were "worked off" the machine some months ago, I have not had sufficient opportunity for revising them and correcting errors. The result is that I find it necessary to recommend the cancellation of two pages (137 and 390) and the substitution of others which I have corrected. This would not involve any delay in the publication, but it would entail the loss of many sheets of paper. The matter, however, is important enough, in my opinion, to demand this sacrifice.

7. I would also beg leave to direct your attention to the expediency of making proper arrangements for the sale of the book. So far as I am aware, that part of the business has been left in the hands of canvassers; but as they cannot possibly reach large numbers of people who would or might be disposed to buy, especially in the country districts, I would suggest that an agent should be appointed for every town in the Colonies. That could be accomplished by means of a circular addressed to all the booksellers whose names appear in the Federal Directory of Australasia. In towns where there are no booksellers the local postmasters might be appointed for the purpose.

I have, &c.,
G. B. BARTON.

No. 9.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Lake Macquarie, 11 June, 1889.

I beg leave to apply for a further payment of £50 on account of work done, during the past month of May, in connection with the Official History of New South Wales.

The sum of £100 due to me on the 1st ultimo is still unpaid.

I do not ask for these payments as gratuities, but as money due to me under a specific agreement made with me by the Government Printer, and as the delay in payment causes me considerable inconvenience, I should be obliged by your causing the amount mentioned to be paid at the earliest possible moment.

I have, &c.,
G. B. BARTON.

No. 10.

No. 10.

G. B. Barton, Esq., to The Colonial Treasurer.

My dear Sir,

"Toronto Hotel," Lake Macquarie, 12 June, 1889.

I don't know whether the official correspondence, in which I have been unfortunately engaged with your Department for some weeks past, has come under your notice or not; but in any case I should be very much obliged to you if you would do me the justice to direct the payment of the money now due to me, as I have been, and am, greatly inconvenienced by the delay.

The amount now due is £150—being three monthly payments of £50, for the months of March, April, and May.

Excuse the trespass on your valuable time, and believe me,

Yours, &c.,

G. B. BARTON.

No. 11.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 15 June, 1889.

I have the honor, by direction of the Colonial Treasurer, to acknowledge receipt of your communications of 7th June (2), 10th June, 11th June, and 12th June (this to the Colonial Treasurer personally), and I am to inform you that the whole subject of your connection with the preparation of the projected History of New South Wales will be brought under the Government's consideration at an early date.

I am also to inform you that I have this day paid to your credit in the City Bank the sum of £100 (one hundred pounds).

I am further to state that the Government has directed the preface to be amended in accordance with the enclosed slip, there being nothing in the work, as it now stands, to show that it is of a national character, prepared at the public cost, in commemoration of a particular event.

I have, &c.,

G. EAGAR.

[Enclosure.]

PREFACE [as in the original].

In order to do justice to the valuable collection of records placed in my hands by the Government, with a view to the publication of a work which might serve to commemorate the Centennial year of the Colony, it seemed necessary to make them the groundwork of a narrative written on an essentially different plan from that of any previous one on the subject.

[PREFACE [as altered].

The attainment by the Colony of the Centennial period of its existence, appeared to the Government of New South Wales an appropriate occasion for the preparation, at the public cost, of a comprehensive history, embodying information obtainable from all known sources, and of such an authentic character as to form a reliable basis for the labours of the future historian. The duty of preparing this important work having been entrusted to me, it seemed necessary, in order to do justice to the valuable collection of records placed in my hands by the Government, to make them the groundwork of a narrative written on an essentially different plan from that of any previous one on the subject.

No. 12.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Toronto, Lake Macquarie, 17 June, 1889.

In reply to your letter of the 15th inst., enclosing a slip containing an addition to the preface as written by me, I venture to suggest a few remarks for your consideration.

If you will examine the first sentence, as it now stands, you will see that the words following "comprehensive history" to the end of the sentence are open to two objections:—

- 1st. They are what critics call surplusage—that is, words which really add nothing to the meaning of the term to which they are added. It must be obvious that if the History is comprehensive it must necessarily embody all known information on the subject, and must also be authentic.
- 2nd. It is equally clear that "the future historian" will not take the present work as the basis of his labours, unless he proposes merely to abridge it, but must necessarily go to the source of all history—the State records in London.
- 3rd. A still stronger objection may be seen in the fact that the words referred to omit the distinctive character of the work—that it is founded on the records—and which fact alone would be held to justify the Government in undertaking the preparation and publication of a History.

For these reasons, which I think are substantial, I would beg leave to suggest that all the words following "comprehensive history" down to "it seemed necessary" should be omitted. The sentence will then convey the intimation which you have in view, and will be shorter by thirty-eight words.

On the other page I have rewritten the sentence for your consideration.

I trust you will give me credit for offering this suggestion in the sole desire to make the work as little open to criticism as possible. I have found it necessary to correct my own manuscript repeatedly for the same reason.

I am, &c.,

G. B. BARTON.

The occurrence of our first centennial year having appeared to the Government of New South Wales an appropriate occasion for the preparation, at the public cost, of a comprehensive history of the Colony, it seemed necessary, in order to do justice, &c.

The amendment at beginning of original preface to stand.—W.M., 18/6/89.

No. 13.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 18 June, 1889.

I have the honor, by direction of the Colonial Treasurer, to acknowledge receipt of your letter of 17th instant, and I am to inform you, in reply, that the amendment at the beginning of the preface, as shown in the slip sent by you, is to stand.

I am also to state that the further prosecution of the work will be suspended until you complete the necessary arrangements for its continuance.

I have, &c.,

G. EAGAR.

No. 14.

Statement of Payments to G. B. Barton for compiling Second Edition.

COMPILING Second Edition of Official History of New South Wales.—Payments to G. B. Barton.

	£	s.	d.
1888.— 3 January	50	0	0
4 February	50	0	0
3 March	50	0	0
10 April	50	0	0
19 May	50	0	0
5 July	50	0	0
13 September	350	0	0
27 October	50	0	0
5 December	100	0	0
1889.—19 January	50	0	0
14 March	100	0	0
15 June	100	0	0
Total	£1,050	0	0

J. PEARSON,

Accountant.

The Treasury, New South Wales, 10 July, 1889.

COMPILING Second Edition of Official History of New South Wales.—Payments to G. B. Barton.

	£	s.	d.
1888.— 3 January	50	0	0
4 February	50	0	0
3 March	50	0	0
10 April	50	0	0
19 May	50	0	0
5 July	50	0	0
13 September	350	0	0
27 October	50	0	0
5 December	100	0	0
Total	£800	0	0

J. PEARSON,

Accountant.

The Treasury, New South Wales, 17 January, 1889.

Mr. Pearson,—Add any further sums to date.—G.E., 21/3/89.

Herewith.—J.P., 21 :—19 Jan., 1889, £50; 14 Mar., 1889, £100.

COMPILING Second Edition of Official History of New South Wales.—Payments to G. B. Barton.

	£	s.	d.
1888.— 3 January	50	0	0
4 February	50	0	0
3 March	50	0	0
10 April	50	0	0
19 May	50	0	0
5 July	50	0	0
13 September	350	0	0
27 October	50	0	0
Total	£700	0	0

J. PEARSON,

Accountant.

The Treasury, New South Wales, 4 December, 1888.

Accountant,—Be good enough to continue these payments to date.—G.E., 12/1/89. 30 October, 1887, to 31 December, 1888, 14 months, £50 = £700.

No. 15.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Reform Club, Sydney, 8 July, 1889.

I think I have mentioned in a former letter that, when I undertook to write the History of New South Wales, it was agreed that on the publication of the first volume it should be referred to three gentlemen—the Hon. Geoffrey Eagar, Mr. Alexander Oliver, and Mr. R. C. Walker—to assess the amount that should be paid to me in respect of it. May I therefore request that you will take steps for the purpose, at your early convenience.

I take the opportunity of suggesting that it should also be referred to those gentlemen to consider the terms on which the second and subsequent volumes should be written. Should you agree to this suggestion, I will prepare a statement on the subject, and submit it to the referees, on receipt of an intimation from you.

I take the liberty of further suggesting that, in view of the many matters connected with the publication which require attention from time to time, it would be of great service to the interests involved if the gentlemen I have named were appointed a Standing Committee or Board of Advice, for the purpose of considering and advising on all such matters. The absence of an experienced publisher renders it peculiarly desirable that some such arrangement should be made as soon as possible.

I have, &c.,

G. B. BARTON.

No. 16.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 10 July, 1889.

I have the honor to acknowledge receipt of your letter of 8th instant, addressed to the Colonial Treasurer, which I have submitted to Mr. McMillan, and I am to inform you as follows:—

It appears from the earlier papers in the case that the gentlemen you name as referees to determine the remuneration to be paid to you for writing the first volume of the History of New South Wales, namely, Messrs. Alexander Oliver, R. C. Walker, and myself, had already been appointed by Mr. McMillan's predecessor, so far back as 16th January, 1888. He now confirms the appointment, and has requested those gentlemen to take the matter in hand without delay.

Mr. McMillan also concurs in your suggestion that it should also be referred to those gentlemen to consider the terms on which the second and subsequent volumes should be written, and I am to ask that you will be good enough to prepare and forward to me the statement you refer to in the second paragraph of the letter now under reply, which should contain your views as to the number of volumes which it is presumed the work will fill, and the period of time over which the preparation of those volumes is to extend.

With respect to your further proposition, that is, the appointment of a Standing Committee or Board of Advice, the matter will receive the Treasurer's early consideration.

I have, &c.,

G. EAGAR.

No. 17.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Reform Club, 25 July, 1889.

I have to acknowledge receipt of your letter of the 10th instant, enclosing a certificate signed by the Hon. Geoffrey Eagar, Mr. Alexander Oliver, and Mr. R. C. Walker, with respect to the amount that should be paid to me for the first volume of the History of New South Wales.

The impression made upon me, on first reading the certificate, was that the referees were not satisfied with the work, and that they had recommended the Government to pay me a further sum of £200, in addition to the £1,050 already paid, as a solatium for discontinuing it.

Observing however, by another letter from you of the same date that I am requested to submit a statement of terms for the second and subsequent volumes, I infer that it was not intended to express any dissatisfaction with the work.

Under these circumstances, I beg leave to point out that the referees have arrived at their conclusion without having any evidence before them as to the value of the work or the methods by which a valuation should be made in such a case—an objection which at once nullifies their award, both as a matter of law as well as of common sense.

In my letter to the Government Printer of the 1st instant, requesting that he would take steps to have the matter submitted to the referees, in accordance with our agreement, I said, "Of course it is understood that I shall have an opportunity of submitting to them a statement of facts connected with it," or words to that effect.

A reference being practically an arbitration, it is obviously necessary that the referees should hear the parties concerned before proceeding to make their award. No one ever heard of referees or arbitrators acting on any other principle, except by consent of parties.

In the present case it was peculiarly necessary that the referees should have my evidence before them, either verbally or in writing, before making their award; because the question at issue is the first case of the kind that has occurred in the Colony, and moreover is one of an essentially technical character.

I have, therefore, to request that you will, in justice to me, refer the question to them again, with instructions to take my evidence on the points involved.

The

The grounds on which I object to the award are these:—

I. Counting the time occupied by the work at twenty months—from November, 1887, when I was instructed to prepare a second edition of the "Official History" of 1883, to June last—it appears that the amount awarded (£1,250 altogether) represents payment at the rate of £750 a year, a little more than the usual salary of a reporter, sub-editor, or experienced managing clerk.

Or counting the time occupied at eighteen months—from February, 1888, when I suggested and began the present work—the rate of remuneration awarded rises to about £800 a year, not more than is usually paid to men in subordinate positions, whose duties require no special gifts or qualifications, and do not involve any serious responsibility.

But unless it is held that an author, qualified to write History, is not entitled to any higher remuneration than men whose duties are of a purely routine and mechanical character, it is impossible to understand by what argument the conclusion arrived at by the referees can be justified.

In estimating the value of historical work the following points ought to be considered:—

- (1.) The special qualifications required in the author;
- (2.) The severe exercise of the mental powers involved in the work;
- (3.) The prolonged labour of research;
- (4.) The responsibility attached, especially in a work published by the Government; and
- (5.) The permanent value of the work when done.

Taking these points into consideration, I think that payment at the rate of £1,500 a year would be not more than a fair remuneration, and on that basis of calculation the amount that should have been awarded is not £1,250, but £2,500.

That the award is not just is evident from this further consideration, that the sum awarded represents no more than I could have earned by writing leading articles and reviews for the daily newspapers during the same time—a description of work which involves no severe exercise of the mental powers, no labour in the shape of research, and no responsibility.

It is unnecessary to dilate on the extent and nature of the research which I had to undertake, or the mental strain involved in writing a work of this description, or the responsibility it entailed; but it is manifest that these considerations have been overlooked by the referees, who have apparently treated my work as if it had been nothing more than a mechanical compilation.

The proper measure of value, in such a case as the present, is the amount usually received by historical writers in London, where work of this kind is well understood.

If, for instance, I had published the book in London, and if it had been reviewed there as it has been here—that is, in terms of unqualified approbation—the sale would probably have reached 10,000 copies at the usual price of 25s.; and as the sale in these Colonies would be quite as large, the total receipts of a first edition, after payment of all expenses, would have amounted to many thousands of pounds. That this is no exaggerated estimate might be easily proved, but it is enough to mention that the sale of Motley's "History of the Rise of the Dutch Republic" reached 17,000 copies in the first year, at 42s. for three volumes.

Taking this view of the matter, it follows that the amount which I ask for my work (£2,500) is a very moderate estimate of its commercial value.

II. There is another view of the matter which ought not to be left out of consideration. In December last Sir Henry Parkes stated in the Assembly that, having seen an advance copy of the book, which then contained only Parts I and III, he was of opinion that "the work had been exceedingly well done, and that it would prove to be of great value to the country."

That being the Premier's opinion, I am justified in saying that a work of great value to the country ought to meet with a proportionate reward. But where is the proportion in the present case, when the amount awarded represents nothing more than a clerk's salary for the time devoted to it?

III. There is a third view of the matter which has not met with any consideration. Owing to the arrangements suggested by me in the first instance, and stated in detail in the prospectus, the publication of the work will not involve any ultimate loss to the revenue. The reception it has already met with is conclusive as to the success which awaits it, and if proper publishing arrangements are made in the Colonies, and in London, it may be considered certain that the sale will more than cover all the expenses attending the publication, including the amounts paid and to be paid to me.

In no previous instance that I am aware of has this been the case. Not one of the many expensive books published by the Government in past years has been known to obtain any circulation, except by gratuitous distribution; and I am therefore justified in assuming that the marked success which has attended the present work is mainly owing to the fact that I am the author.

If, then, it appears that (1) the basis on which I planned the work in the first instance amounts to a virtual guarantee against loss on the publication, and (2) that its certain success may be ascribed to my being the author, it may be inferred that the remuneration to which I am entitled should be measured by a very much higher scale than that which the referees have chosen to adopt.

For these reasons I submit that I have fairly established a claim to payment of the further amount mentioned, £1,250, as a fair recognition of the value of my work. Should you be disposed to agree with me on that point, it would of course be unnecessary to trouble the referees any further on the matter.

I have, &c.,

G. B. BARTON.

No. 18.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Reform Club, 25 July, 1889.

In reply to your letter of the 10th instant, requesting me to prepare and forward to you a statement of terms for the completion of the History of New South Wales, I beg leave to enclose an abstract which, when revised and assented to, may form the subject of an agreement.

I am, &c.,

G. B. BARTON.

[Enclosure.]

[Enclosure.]

Abstract of Terms.

1. That the manuscript records, books, and maps, relating to the History of the Colony, now in the Government Printing Office, may be transferred to the Public Library, to be kept for reference in the room known as the Trustees' room; the use of which, when not occupied by the Trustees, to be allowed me.

2. That the Government Printer may be directed to confine himself to his duties as a printer and publisher, and in all matters relating to the literary execution of the work, including the illustrations, to carry out my instructions.

3. That I may be allowed the assistance of my son in his former capacity, in which he has been trained by me for eighteen months, and that in view of his qualifications his salary may be fixed at £3 3s. a week.

4. That twelve presentation copies be allowed me on the publication of each volume.

5. That no alteration may be made in my manuscript without my consent.

6. That the estimated time required for the completion of each volume is twelve months, but that every effort will be made by me to reduce the time as much as possible: Provided that I am not again to be subjected to any pressure for the purpose of compelling me to produce the volumes prematurely, and that in the event of any second or third edition being required of any volume the time occupied in preparing such new edition be taken into account.

7. That the estimated number of volumes required to complete the "History," on the plan adopted in Volume I, is fifteen; but that if it can be found practicable to reduce the number it will be reduced accordingly. The reason why so many volumes appear necessary is because each is intended to contain a full and accurate treatment of the following subjects:—

(1.) The exploration of the country by sea and land, illustrated by maps and charts.

(2.) The question of the aborigines.

(3.) The convict system and the introduction of free settlers.

(4.) The land question.

(5.) The relations between the Civil and Military Forces.

(6.) The administration of justice and the development of legal institutions.

(7.) The growth of the Constitution.

(8.) The Colonial policy of England.

(9.) The contemporary history of England as it affected the Colony from year to year, and also the current public opinion in England with respect to the Colony, as shown in contemporary publications.

It is also intended to publish in each volume the most important records relating to the Colony, such as have been given in Part III of vol. I.

On such a plan it does not seem possible to do justice to the subject in a smaller compass than that proposed.

Should the work prove to be popular it is not likely that the public would desire to see it curtailed.

8. That for the purpose of enabling me to describe, with sufficient accuracy, those portions of the country which formed the subject of exploration, I may be allowed a free railway pass over the Government lines, inasmuch as it is necessary to make myself familiar, by repeated visits, with the different places referred to in the book.

Vol. II, for instance, will contain an account of the gradual extension of settlement from Parramatta to the Hawkesbury and Nepean; the surrounding country should therefore be carefully described.

It is sufficient to point out that even an inadvertent mistake in descriptions of this kind might expose the book to very unpleasant criticism on its publication, and that such mistakes cannot be avoided unless the writer is placed in a position to study the topography of the country he has to deal with.

9. That the sum of £1,500 may be paid to me on the publication of each volume, commencing with Vol. II, less any amount that may be paid to me on account thereof during the time occupied in completing it.

10. That an account may be kept at the Treasury showing the receipts and expenses attending the publication of each volume; and that at the end of every year, commencing with the present, a balance-sheet may be prepared, and the amount shown as clear profit on each volume, including any subsequent editions (after deducting all expenses, including payments made to me) may be placed to my credit.

Memo. *re* Copyright.

On this point I wish to say that, as the work was originally designed and planned by me, I am clearly entitled to the copyright.

No agreement was entered into between the Government Printer and myself, nor was anything said on this subject until I wrote to him immediately after publication of Vol. I, enclosing a certificate of proprietorship in terms of the Copyright Act, and requesting him to have it registered for me. To my surprise he informed me that he had already registered the copyright in his own name, for and on behalf of the Government.

There is nothing in the Act to justify that proceeding, unless it can be shown that the "History" was originally projected by the Government Printer, and that I was merely employed by him to write it on behalf of the Government. That was not the case. The only work the Government Printer had in view was a second edition of the Official History of New South Wales, published in 1883, which edition I was requested to prepare. But there is no connection between that publication and the work which I proposed, an outline of which was written by me in the shape of a prospectus, dated 10th February, 1888.

If any representation has been made to the Government, to the effect that I did not originate the present work, or that somebody else originated it, such representation is without any foundation in fact. The idea of writing the history of the country, on some such plan as the present, has been in my mind for years past.

G.B.B.

No. 19.

The Government Printer to The Under Secretary for Finance and Trade.

Sir,

27 July, 1889.

Having read Mr. G. B. Barton's letter of the 25th instant, which you did me the honor to hand to me for perusal, I make the following remarks respecting it:—

As to the value of the work from a literary point of view, I am not competent to give an opinion; but I distinctly recollect that when I first waited upon Mr. Barton respecting his undertaking the writing of it for the Government, and speaking to him about the cost, he told me he could write a history of the Colony from £250 upwards, or words to that effect. In fact, what was then wanted was a gentleman of undoubted literary ability, to revise, as to style, what was, or would have been, written by Messrs. Byren and Bladen. All the facts necessary for the work could have been obtained from materials at the command of the Government without Mr. Barton's assistance.

In ordinary cases of arbitration no doubt it is usual to take evidence; but as to referees, I am not certain that that course is generally followed—in sporting matters for instance.

In counting the time occupied at the work, Mr. Barton should not forget that the volume was to have been finished in January last—which it might have been if the same rate of speed had been used after as before that date.

In

In estimating the amount of remuneration to Mr. Barton, I think it but fair to the Government that the large amount of assistance given to that gentleman should be taken into account. And, also, that, although the matter of the book has been arranged by Mr. Barton to suit himself, it is of necessity but a compilation. What I mean is that it is not a work of pure creation.

With regard to the labour of research, I would again refer to the great assistance Mr. Barton received in that direction.

As the Government did not enter upon the work as a money speculation, I do not see that Mr. Barton's reference as to what might be the result in point of gain were the work published in London properly applies. Nor do I see that a History of this Colony, as to the demand for it, can be compared with that of the "Rise of the Dutch Republic." It might as well be compared with Gibbons' "Decline and Fall of the Roman Empire."

It may be taken for granted that a History of the Colony—under the authority of the Government—written by any other capable man would pay for all necessary expenses connected with its preparation, and that the fact of the Government guaranteeing its genuineness would have more to do with its success than the name of the writer.

In conclusion, I would say, as far as I am capable of judging, that Mr. Barton has been fairly but not extravagantly paid for his services for the first volume; but I would strongly recommend that, before he is allowed to proceed further, a settlement—as far as he is concerned with matters relating to the first volume of the History—should be come to.

CHARLES POTTER,
Government Printer.

No. 20.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Dear Mr. Eagar,

"Royal Hotel," Windsor, 17 August, 1889.

I have not yet received any acknowledgment of my letter to the Treasurer, dated 25th ultimo, containing an abstract of terms for the completion of the History. Will you kindly send me a line to let me know whether the matter is under consideration?

I am now studying the antiquities of Windsor and the Hawkesbury, with a view to Vol. II. In the event of a second edition of Vol. I being required, let me suggest that it should not be printed off until I have had an opportunity of filling up the many gaps which I was obliged to leave in the book, especially on the subject of exploration. One object I have in view now, for instance, is to ascertain how far Phillip went up the Hawkesbury, and what knowledge he had of it during his stay in the country. Points of this kind are of great interest.

Yours faithfully,
G. B. BARTON.

No. 21.

Minute by The Under Secretary for Finance and Trade.

Treasury Minute.

The Treasury, New South Wales, Sydney, 21 August, 1889.

Subject:—Mr. G. B. Barton's two letters of 25th ultimo, in relation to the History of New South Wales from the Records.

I WOULD suggest that the letters above referred to be acknowledged in the following terms:—It should be pointed out to Mr. Barton,—

1. That the money value of the first volume was determined by his own referees, who were nominated by him before the work was commenced, and approved by the late Treasurer, Mr. Burns, and subsequently by the present Treasurer. The attempt to dispute the award of his own referees should be resisted and Mr. Barton should be informed that the award is final, and that the matter will not be reopened.
2. He should also be informed that the claim which he makes to the copyright of the work—which is initiated by the Government and paid for out of public funds—will not be entertained for a moment. The Government projected a work of a national character, to commemorate the centennial year, on the suggestion of the Government Printer, as set forth in his letter to the Treasury, dated 30th July, 1887. Mr. Barton, as a literary man of known repute, was employed and paid to write the first volume of the work, chiefly from materials supplied by the Government, and beyond this function he has no interest in the matter.
3. Mr. Barton should also be informed that the terms proposed by him to continue the work will not be accepted. The Government reject them in their entirety.
4. There is, however, no objection to treat with Mr. Barton (subject to the approval of the Cabinet) for the continuance of the work on the following basis, viz.:—
 1. The work not to exceed thirteen volumes, of not less than 600 pages of text each.
 2. £300 to be the payment in full for each volume, commencing with Volume II, and beyond this sum no allowance of any kind will be made for expenses incurred by the writer in the preparation of the work.
 3. Two volumes to be completed in each year.
 4. £200 to be kept back each year until the completion of the two volumes due for that year.
 5. £50 penalty should any volume be delayed for a fortnight beyond six months.
 6. Access to be allowed to the Records at the Government Printing Office, whence they are not to be removed.
 7. The whole details of "printing and publishing" will be exclusively in the hands of the Government Printer, who will have a general supervision of the work, and receive instructions from the Government only.
 8. No claim will be permitted to be set up, as to any alleged ownership of copyright, which is the absolute property of the Government.
 9. Alterations in the text of the work, or the excision of such portions as may be deemed undesirable in a National History to be entirely at the discretion of the Government, as owners of the property, on behalf of the public.
 - 10.

10. Should default be twice made under clause 5, so as to incur the penalty therein provided for, this contract to be thereby terminated, without any recourse upon the Government for damages.
11. Upon completion of any one volume, it shall be at the option of the Government then to terminate the contract, without liability for damages or compensation.

G.E.

Approved.—W.M., 22/8/89.

No. 22.

The Agent-General to The Colonial Treasurer.

Official History of New South Wales.—London Publisher.

Sir, 5, Westminster Chambers, Westminster, S.W., 22 August, 1889.

Referring to your letter L. 114, of the 20th June last, desiring me to select a publisher to launch successfully, in London, Volume I of the "History of New South Wales, from the Records," undertaken by Mr. G. B. Barton, I have the honor to state that, after full and careful consideration, I telegraphed to you on the 20th instant as follows, in code:—

"In reply to your letter of the 20th June, I have arranged with Trübner on the same terms as referred to in your letter, but with 10 per cent. commission. Imprint, 'Trübner & Co., London.' Please send first instalment of 150 copies. Registration copyright here will not be necessary. A despatch on the subject will follow."

The copy of Messrs. Trübner's letter, dated 19th October, 1888, which you enclosed with your despatch under acknowledgment, stated that a commission of 15 per cent. would be charged for "trade discounts and working expenses." I have ascertained from that firm, however, that their charge to the New South Wales Government will be at the rate of 10 per cent. only, and not 15 per cent., as stated in the above-mentioned letter.

The latter part of my telegram was intended as a reply to your telegraphic communication of the 29th ultimo, respecting the registration on this side of Vol. I of History of New South Wales. Since the passing of the "International Copyright Act, 1886," it has become unnecessary to register on this side (for the purpose of securing the copyright in the United Kingdom) any literary work produced in New South Wales, and there registered. I enclose for your information a copy of the Act in question.

As a first instalment, I consider that 150 copies of the first volume will be sufficient. Should there be a demand for further copies I will communicate with you.

I send herewith copies of two letters addressed to me by Messrs. Trübner & Co., dated respectively the 2nd and 9th instant. That of the latter date will furnish you with full particulars of the terms upon which I have agreed.

Messrs. Trübner will forthwith announce the book, and I propose, for the present, to go to the expense of £10 for advertising outside their "monthly list" and "record."

I have, &c.,
SAUL SAMUEL.

[Enclosures.]

Sir, 57 and 59, Ludgate Hill, London, E.C., 2 August, 1889.

According to your desire, we herewith have the honor to hand you copies of our monthly list of publications—from January, 1888, up to date—also the numbers issued for this year of our "oriental record." A glance at these will at once show you the nature and scope of our publications. Copies of our monthly lists are sent regularly to every bookseller in the United Kingdom, and it is also extensively circulated all over the world, and is sent to all public libraries, universities, and kindred institutions. Our "Record," of which 5,000 copies are printed of each number, is also freely circulated amongst all the learned institutions, libraries, and professors—Europe, India, and all transatlantic countries. We may add that we do not make any charge for advertising in the above books placed in our hands. Should you decide to place Mr. Barton's book in our hands, every attention will be given to it, and a regular quarterly settlement made. We may here state that we have a most extensive connection all over the world, more, perhaps, than any other firm in this country. This, we think, would be readily confirmed by any of the large publishing firms of London.

Sir Saul Samuel, K.C.M.G., C.B.

We have, &c.,
TRÜBNER & CO.

Sir, 57 and 59, Ludgate Hill, London, E.C., 9 August, 1889.

With reference to our letter to G. B. Barton, Esq., of Sydney, in the matter of the History of New South Wales, we wish to enlarge the explanation of our terms for publication then given, and also to make a correction. The explanation was as follows:—

That the books shall be sent to us on sale or return, and accounted for at the lowest trade price, twenty-five copies as twenty-four, less 15* per cent. commission, to allow for trade discount and working expenses.

We wish to show exactly what this means as regards the return to be made to your Government on account of sales.

Thus, supposing the selling price of the book to the public is fixed at 10s. 6d. per volume, the "lowest trade price" would be 7s. 6d. From this we deduct the 10 per cent. commission, which would be 9d., leaving 6s. 9d. as the net price payable on each volume sold. This sum of 6s. 9d. will, therefore, be the amount which we will place to the credit of your Government.

You are no doubt aware of the fact that in these days of excessive competition the retail booksellers have to give large discounts to their customers (in some cases as much as 3d. in the 1s., and generally at least 2d. in the 1s.), and consequently expect proportionately larger allowances from publishers, and if they are not allowed a very liberal margin for profit they will not take any trouble to get the book for a customer.

Nevertheless, we wish to leave the matter entirely to your decision.

If you decide upon an allowance of 10 per cent. from the selling price (10s. 6d.) only, we will, of course, be unable to offer the usual terms to the trade, who will have no inducement to push the sale. On the other hand, if the more liberal arrangement is agreed to, we will be placed in a position to give the booksellers every advantage, and may reasonably expect their cordial co-operation.

The Agent-General for New South Wales. We have, &c., TRÜBNER & CO.

* This should have been 10 per cent. We charge private people 15 per cent., but Governments only 10 per cent.

The Government Printer, for his information, and to return.—G.E., B.C., 4/10/89.

Noted. I make the publishing charges to be—25 per cent. allowance to the trade, and 10 per cent. commission to Trübner & Co., = 35 per cent., and twenty-five copies to be considered as twenty-four.—C.P., B.C., 17/10/89. The Under Secretary for Finance and Trade.

No. 23.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 26 August, 1889.

I have the honor, by direction of the Colonial Treasurer, to acknowledge receipt of your letters (two in number), dated 25th July last, one of which relates to the award made in respect of the amount to be paid to you for the first volume of the History of New South Wales, and the other to the claim which you make to be the owner of the copyright of the work. As a matter of convenience this communication is to be understood as a reply to both letters.

1. As to the award: I am to point out to you that the money value of the first volume was determined by your own referees, who were nominated by you before the work was commenced, and approved by the late Treasurer, Mr. Burns, and subsequently by the present Treasurer. The attempt to dispute the award of your own referees will be resisted, and I am to state that the award is final, and the matter will not be reopened.

2. As to your claim to the copyright: I am to inform you that your claim to the copyright of the work—which is initiated by the Government, and paid for out of public funds—will not be entertained for a moment. The Government projected a work of a national character, to commemorate the Centennial year, on the suggestion of the Government Printer, as set forth in his letter to the Treasury, dated 30th July, 1887. You, as a literary man of known repute, were employed and paid to write the first volume of the work, chiefly from materials supplied by the Government, and beyond this function you have no interest in the matter.

3. As regards the terms proposed by you to continue the work: These are rejected by the Government in their entirety.

There is, however, no objection to treat with you (subject to the approval of the Cabinet) for the continuance of the work, on the following basis, viz.:—

- (1.) The work not to exceed thirteen volumes, of not less than 600 pages of text each.
- (2.) £600 to be the payment in full for each volume, commencing with Volume II, and beyond this sum no allowance of any kind will be made for expenses incurred by you in the preparation of the work.
- (3.) Two volumes to be completed in each year.
- (4.) £200 to be kept back each year until the completion of the two volumes due for that year.
- (5.) £50 penalty, should any volume be delayed for a fortnight beyond six months.
- (6.) Access to be allowed to the records at the Government Printing Office, whence they are not to be removed.
- (7.) The whole details of "printing and publishing" will be exclusively in the hands of the Government Printer, who will have a general supervision of the work, and receive instructions from the Government only.
- (8.) No claim will be permitted to be set up as to any alleged ownership of copyright, which is the absolute property of the Government.
- (9.) Alterations in the text of the work, or the excision of such portions as may be deemed undesirable in a National History, to be entirely at the discretion of the Government, as owners of the property, on behalf of the public.
- (10.) Should default be twice made under clause 5, so as to incur the penalty therein provided for, this contract to be thereby terminated, without any recourse upon the Government for damages.
- (11.) Upon completion of any one volume it shall be at the option of the Government then to terminate the contract, without liability for damages or compensation.

I have, &c.,
G. EAGAR.

No. 24.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Records.

Sir,

Reform Club, 27 August, 1889.

In reply to your letter of yesterday, respecting the History of New South Wales, I desire to say:—

1. That I made no "claim" to the copyright of the work in my letter of the 25th ultimo. I simply stated the facts of the case, and the legal result of them, in order that the Government might be correctly informed on the matter.

I do not look upon the question of copyright as one of any importance, and am quite prepared to leave it out of consideration.

2. That for the sum of £50 per month, payable on application, without any deduction whatever, I am willing to compile an edition of the Records on the same plan as that adopted by the English Government in the publication of the National Records, a specimen of which you may see in the "Chronicles and Memorials of Great Britain and Ireland" in the Free Public Library.

Such an edition would comprise the full text of the Records, properly arranged and classified, with side-notes, introduction, and index. It would be in all respects a proper official publication, but it would be a distinctly different kind of work from the volume already written by me.

3. For the sum of £100 per month, payable on application, without any deduction, I am willing to prepare the remaining volumes of the work on the same plan as that adopted by me in the first.
4. The time required for the completion of each volume under the first plan would be six months; under the second, twelve months.

I am, &c.,
G. B. BARTON.

Terms of minute to be adhered to.—W.M., 27/8/89.

No. 25.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir, The Treasury, New South Wales, Sydney, 29 August, 1889.

I am directed by the Colonial Treasurer to acknowledge receipt of your letter of 27th instant, in reply to Treasury communication of 26 idem No. M. 1,435.

I am to inform you that neither of the propositions contained in your said letter of 27th instant will be entertained.

I am also to state that your further connection with the preparation of the History of New South Wales from the Records will be sanctioned only upon the conditions I to XI, contained in said Treasury letter of 26th instant, and your acceptance or refusal of these terms must be notified to us within one week from date.

I have, &c.,
G. EAGAR.

No. 26.

The Government Printer to The Under Secretary for Finance and Trade.

Sir, Government Printing Office, Sydney, 27 August, 1889.

In addition to the 150 copies of the History of New South Wales which I am already authorised to forward to London, I beg to request authority to despatch by the same mail, to the Agent-General, presentation copies as follows, viz. :—

To Her Majesty the Queen, one copy.

To the Secretary of State for the Colonies, one copy.*

To the Agent-General, one copy.

I also beg to request that the Agent-General may be instructed to forward two copies of the work to each of the Governments of Holland, Spain, Portugal, and France. In addition to these I beg to suggest that (say) twelve other copies be despatched to the Agent-General, to be forwarded by him to high dignitaries and societies in other countries, such as the Presidents of the French and American Republics, and the Libraries of London and Continental Institutes.

Out of the 150 copies to be forwarded for the London publishers, I would suggest that they be allowed to distribute forty copies to the leading London and Continental Reviews and to the British Museum and Libraries required by law, and that they be requested to procure two copies of all notices or reviews which appear, and forward them to me.

I have, &c.,

CHARLES POTTER,
Government Printer.

Approved. Mr. Potter to see Sir H. Parkes and obtain instructions.—W.M., 27/8/89. Attended to.—C.P., 4/9/89.

No. 27.

Minute by The Colonial Treasurer for Cabinet.

Proposed agreement with Mr. G. B. Barton, Barrister-at-Law, to write the History of New South Wales from the Records.

IN July, 1887, the Government Printer submitted a proposal to the then Colonial Treasurer, Mr. John F. Burns, with a view to mark in a permanent manner the Centenary of Australian Colonization, by the preparation and issue of a History of the Colony, based, as to its earlier settlement, upon State papers and official records now for the first time available for the use of the historian, and to be published by authority of the Government.

The proposal met with the approval of Mr. Burns, and Mr. George B. Barton—a gentleman of well-known literary ability—was selected to write the first volume, which was completed and published last month, and has been favourably reviewed by the Colonial Press.

The amount of remuneration for writing this volume, which occupied eighteen months of the author's time, and dealt largely with entirely new material, was referred at the request of Mr. Barton, and with consent of the Treasurer, to Messrs. Alexander Oliver, Robert C. Walker, and G. Eagar, for their decision. The sum of £1,200 was unanimously awarded as not more than an adequate payment for the work done.

The Treasurer, however, is of opinion that the future volumes of the work, fixed at twelve in number, should be proceeded with at a reduced cost,—and the arrangement which he now submits to his colleagues, provides that Mr. Barton should be paid £600 per volume of 600 pages each, and that two volumes should be produced every year, until the work is completed. The draft conditions (attached) are very stringent, and under one of these conditions, the Government have the power to discontinue the work upon the completion of any one volume, and so terminate the contract without liability to Mr. Barton for compensation or damages.

The Government Printer estimates that, after paying cost of printing and publishing, each volume will yield a profit of £1,500, less cost of compilation.

W.M., 5/9/89.

The Treasury, New South Wales, Sydney, 4 September, 1889.

Approved.—H.P. (for Cabinet), 10/9/89.

Agreement

Agreement with Mr. G. B. Barton for the continuance and completion of the History of New South Wales from the Records.

1. The work not to exceed 13 volumes, of not less than 600 pages of text each.
2. £600 to be the payment in full for each volume, commencing with Volume II, and beyond this sum, no allowance of any kind will be made for expenses incurred in the preparation of the work.
3. Two volumes to be completed in each year.
4. £200 to be kept back each year until the completion of the two volumes due for that year.
5. £50 penalty, should any volume be delayed for a fortnight beyond six months.
6. Access to be allowed to the Records at the Government Printing Office, whence they are not to be removed.
7. The whole details of printing and publishing will be exclusively in the hands of the Government Printer, who will have a general supervision of the work, and receive instructions from the Government only.
8. No claim will be permitted to be set up as to any alleged ownership of copyright, which is the absolute property of the Government.
9. Alterations in the text of the work, or the excision of such portions as may be deemed undesirable in a National History, to be entirely at the discretion of the Government, as owners of the property, on behalf of the public.
10. Should default be twice made under clause 5, so as to incur the penalty therein provided for, this contract to be thereby terminated, without any recourse upon the Government for damages.
11. Upon completion of any one volume, it shall be at the option of the Government then to terminate the contract, without liability for damages or compensation.

The Treasury, New South Wales, 3 September, 1889.

W.M., 4/9/89.

The above conditions were submitted to Mr. Barton in Treasury letter of 26th August, 1889.

No. 28.

The Government Printer to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, Sydney, 5 September, 1889.

I do myself the honor to inform you that, in compliance with instructions received in Treasury minute of the 21st ultimo, I have this day shipped to the Agent-General, for this Colony, in London, per the Orient Company's s.s. "Orient," 150 copies of the History of New South Wales, 100 copies being in half Morocco binding, and fifty in cloth. The words "Trübner & Co., London," have been added to the imprint on the title-page.

I enclose the bill of lading herewith.

I have also to inform you that with respect to my letter of the 27th ultimo, relative to the distribution of complimentary copies in London and Europe, the Honorable the Premier is forwarding copies as follows from the Colonial Secretary's Department, viz.:—To Her Majesty the Queen, the Premier of England, the Secretary of State for the Colonies, the President of the United States, the President of the French Republic, the Emperor of Germany, the Queen Regent of Spain, the King of Holland, the King of Portugal, the King of Denmark, and also twelve copies to be distributed to various societies.

The Premier has also altered the number of copies proposed to be sent on for the London and continental reviewers from twenty-five to forty.

I have, &c.,

CHARLES POTTER,
Government Printer.

P.S.—The forty copies for reviewers are included in the 150 referred to.—C.P.

Seen.—W.M., 7/9/89.

No. 29.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, Sydney, 6 September, 1889.

I desire to acknowledge receipt of Treasury letter, M-1,435, of date 26th ultimo, setting forth, *inter alia*, the terms on which it is proposed by the Government that I should continue and complete the History of New South Wales, from the Records, of which the first volume is already published.

I desire to state that I hereby agree to accept those terms, as comprised in clauses I to XI, contained in the Treasury letter referred to, on the understanding that by the word "volume," in clauses III, IV, and V, is meant the author's manuscript and final proofs appertaining to and constituting each separate volume concerned.

As no mention is yet made of the dates on which I am to receive payment for my services, I request that I may be allowed to draw monthly, at the rate of £1,000 a year, on account of the £1,200 specified as the remuneration for the two volumes agreed to be produced in each successive year.

I am, &c.,

G. B. BARTON,

Approved.—W.M., 9/9/89.

No. 30.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 13 September, 1889.

I am directed by the Colonial Treasurer to acknowledge receipt of your letter of the 6th instant, in which you agree to accept the terms comprised in clauses Nos. I to XI of Treasury letter, M. 1,435, of the 26th ultimo, as those on which you bind yourself to continue and complete the History of New South Wales, from the Records, of which the first volume is already published.

I am to state that Mr. McMillan confirms said agreement, and also accepts your definition as to what constitutes a "volume" in reference to clauses Nos. III, IV, and V of the terms.

You will, also; during the currency of the agreement, be allowed to draw your allowance monthly, at the rate of £1,000 a year, on account of the £1,200 specified as the remuneration for the two volumes agreed to be produced each successive year.

The agreement to commence on and from the 4th instant.

I have, &c.,
G. EAGAR.

No. 31.

The Agent-General to The Colonial Treasurer.

Official History of New South Wales.

Sir, 5, Westminster Chambers, Westminster, S.W., 11 October, 1889.

In continuation of my letter of the 22nd August last, relative to the registration in England of the copyright of Vol. I of the Official History of New South Wales, and with reference to your letter L. 144 of the 8th idem, in which you were good enough to forward a certified copy of the registration of the volume in question in Sydney, under the Copyright Act, 42 Victoria No. 20, I have the honor to state that, from inquiries made, it does not appear to be absolutely necessary that the book should also be registered here, but, to put the matter beyond dispute, I have considered it advisable that registration should be effected under the provisions of the Imperial Copyright Act 49, 50 Vic. cap. 33 (a copy of which I forwarded to you under cover of my letter above referred to). For this purpose, it would be better that the registration should be accomplished in the same name as that in the Colony. I therefore enclose herein the proper form, which should be signed by Mr. Charles Potter, for and on behalf of the Government of New South Wales; and I have to ask you to be so good as to return the document to me at your early convenience.

I attach for your information copy of a letter on this subject, addressed to me by Mr. R. C. Want.

I have, &c.,
SAUL SAMUEL.

[Enclosure.]

Dear Sir,

9, Victoria-street, Westminster, S.W., 4 October, 1889.
Re History of New South Wales, I have caused inquiries to be made at Stationer's Hall, and I learn from the officials that, in spite of the "International Copyright Act, 1886," it is a common practice for proprietors of copyrights registered in a Colony to register in England. It is an inexpensive proceeding, and I think, as a matter of precaution, this book should be registered.

Having regard to the fact of the existing registration, which in all probability secures the British copyright, I think it advisable that Mr. Potter should sign the application form, which I enclose, so that there may be no discrepancy between the registers here and in the Colony.

I am, &c.,
RANDOLPH C. WANT.

The Agent-General for New South Wales, 9 Victoria-street, S.W.

Form returned, signed by Mr. Potter.—M.R., 21/11/89.

No. 32.

The Agent-General to The Colonial Treasurer.

History of New South Wales.

Sir, 5, Westminster Chambers, Westminster, S.W., 20 December, 1889.

Referring to your letter L. 175, of the 5th September last, covering a bill of lading for two cases containing 150 copies of the History of New South Wales (100 copies in half morocco binding and fifty in cloth), and enclosing copy of a letter from the Government Printer with respect thereto, I have the honor to inform you that, on handing the books to Messrs. Trübner & Company, they immediately drew attention to the difference in the bindings, and asked which style of binding was to be offered for sale, as only one price had been named in your letter of the 20th June, 1889, L. 114, viz., 10s. 6d. I thereupon informed Messrs. Trübner that the following sums (which I gathered from the advertisement issued in the *Government Gazette*) were the prices at which the History of New South Wales should be sold, viz., to subscribers to the series, cloth, 10s. 6d.; half morocco, 15s. To non-subscribers, cloth, 15s.; half morocco, £1.

A point has now been raised by the firm in question, as to whether they are at liberty to allow the same terms as regards discount to booksellers on the price at which the volume is offered to subscribers as on those offered to non-subscribers. I enclose copies of Messrs. Trübner's letters, from which may be gathered full particulars regarding the question, and I shall be glad to receive your instructions on the subject as early as possible. In the meantime I have informed Messrs. Trübner & Company that only the non-subscribers' prices, viz., cloth, 15s.; half morocco, £1, should be quoted as the price of the work out of the Colony.

I have, &c.,
SAUL SAMUEL.

The Government Printer.—G.E., B.C., 28/1/90.

[Enclosure.]

Sir,

57, and 59, Ludgate Hill, London, E.C., 12 December, 1889.
We beg to acknowledge the receipt of your letters of the 9th and 10th instant, and note that the price fixed in the Colony for the sale of the History of New South Wales is as follows:—

To subscribers to the series—cloth, 10s. 6d.; half morocco, 15s. To non-subscribers, cloth, 15s.; half morocco, £1.

With regard to the non-subscribers' price there can be no question as to the terms arranged between us; but with regard to the subscribers' price we are in need of your kind assistance in interpreting the agreement, because we are not clear as to whether the same terms hold good with respect to the lower price. We are reluctant to trouble you again upon this matter, but we think that you will agree with us in believing that the point (involving as it does the sale of so many volumes) is an important one, and should be settled now once for all.

Awaiting your reply, and hoping soon to be able to give a good report on the sale of the work in question,

We remain, &c.,
TRÜBNER & Co.
KEGAN PAUL, TRENCH TRÜBNER & Co.,

The Agent-General for New South Wales, 9, Victoria-street, London, S.W.

F. Duffing, Director.

Sir

Sir,

57, and 59, Ludgate Hill, London, E.C., 18 December 1889.

We regret that our letter should not have been so clear as it might have been with regard to the question we wished to raise with respect to the price of the Official History of New South Wales.

The point was this—are we to allow the same terms, as regards discount to the booksellers, on the prices offered to the subscribers as on those offered to non-subscribers?

Thus, in our letter to Sir Saul Samuel, of 9th August, we pointed out that, supposing the book sold at 10s. 6d. per volume, the lowest trade price would be 7s. 6d., and from this there would be a discount of 10 per cent., so that the amount payable to the New South Wales Government on such volume would be 6s. 9d.

As the prices have now been fixed at 10s. 6d. and 15s., and 15s. and 20s., respectively, our point is just this: are we to allow exactly the same discounts to the booksellers on the subscribers' as on the non-subscribers' copies?

In many cases a subscribers' price means a net price chargeable alike to booksellers and the public; in other cases a smaller discount than usual is allowed to the booksellers.

In the present case we would venture to suggest that only the non-subscribers' prices, viz., 15s. and 20s., should be quoted as the prices for the work out of the Colony, on the ground that the subscribers' prices only apply to the Colony itself. Should this assumption be incorrect the matter could easily be adjusted at a later date on receipt of instructions from the Government.

We remain, &c.,

(For Kegan, Paul, Trench, Trubner, & Co., Ltd.),

The Agent-General for New South Wales, 9, Victoria-street, London, S.W.

F. DUFFING.

No. 33.

The Government Printer to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, Sydney, 29 January, 1890.

In reference to the Agent-General's letter of the 20th December last, respecting the prices to be quoted for the History of New South Wales, and which was referred to me on the 28th instant, I do myself the honor to suggest that, in order to simplify as much as possible the business with Messrs. Kegan, Paul, Trench, Trubner, & Co., the proposal made by them be accepted, namely, that only the non-subscribers' prices (15s. per vol. for cloth, and 20s. per vol. for half-bound copies) be quoted; and I would suggest that the following cablegram be forwarded to the Agent-General, viz.:—"History, Trubner to quote non-subscribers' prices only, viz., 15s. and 20s."

My letter of the 5th September last, informing you of the despatch of the 150 copies to London, is apparently the one to which the Agent-General refers in an early part of his letter.

I have, &c.,

CHARLES POTTER,

Government Printer.

Approved.—W.M., 3/2/90.

No. 34.

Statement of Payments made to G. B. Barton, Esq.

Payments made to G. B. Barton, Esq., from 1st August, 1889.

								£	s.	d.
1889.—10 September	...	...	...	...	...	...	...	50	0	0
3 October	...	...	...	...	...	...	...	33	6	8
3 "	...	...	...	...	...	...	...	83	6	8
6 November	...	...	...	...	...	...	...	166	13	4
10 December	...	...	...	...	...	...	...	83	6	8
1890.—10 January	...	...	...	...	...	...	...	83	6	8

21 February, 1890.

£500 0 0

No further payments to be made until second volume is completed.—W.M., 22/2/90.

No. 35.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, 5 March, 1890.

The Government Printer informed me yesterday that you had intimated to him the intention of the Government not to make me any further payment on account of vol. II of the "History of New South Wales" until the work is completed and ready for the press.

Such an intimation compels me to say that, should the Government carry out that intention, the completion of the volume will be considerably delayed, because I shall be unable to devote the whole of my time to it as I have hitherto done.

There is no reason to suppose that the progress made with the work might have been greater than it is. A perusal of the matter already in type will be sufficient to show the great amount of research required in order to produce a readable book; and it is hardly necessary to point out the extreme disadvantages under which any such work must be done here; where there are no facilities of the kind enjoyed by writers in London and other large cities. There is no library here, worthy of the name, and consequently I can seldom obtain the books I require; nor are there any public record offices, and consequently I have no means of examining any records, except those sent out by Mr. Bonwick, which are not always complete. I have no one to assist me in searching books and making extracts, and consequently I have to spend many hours, frequently many days, in doing it myself. Under these circumstances, I am satisfied that no writer could have made greater progress than I have made; nor could I have made half as much progress as I have, if it had not been for my "mastery of the subject," as the critics call it, in addition to my knowledge of general literature and political history.

Since I began the work, now over two years ago, I have devoted the whole of my time to it, not only office hours, but those which might fairly have been devoted to rest and recreation; and I have done so from an earnest desire to expedite the publication as much as I could. The result has been that, owing to the inadequate remuneration I have received, proceedings in Bankruptcy have lately been taken against me by a creditor; and I am therefore under the necessity of submitting my claims for a rate of remuneration which will enable me to devote my time to the History as unreservedly as I have done up to the present hour without sacrificing my personal interests.

Moreover,

Moreover, as the contract contained in the Treasury letter of 26th August last is now, under clauses V and X, practically terminated—it will be legally terminated on the 14th instant—it becomes necessary to consider the terms on which the work is to be continued. It will not be premature in me, therefore—presuming that I am desired to continue it—to submit a short statement of my views on the matter.

Having regard to the value of my labour, with respect to which I may refer you to the criticisms of the Australian press, I beg leave to say that, if I am still expected to devote the whole of my time to the History, I am entitled to ask, as a minimum, payment of £100 on the first of every month, in advance, together with the £10 per month for travelling expenses, which the Government have agreed to allow. Less than that sum will not enable me—and I speak from painful experience—to meet my personal and family obligations as punctually as they should be met; and as I am compelled to find the money month by month, I must look to other sources if I cannot find it at the Treasury.

With respect to the time of publication, I take this opportunity of pointing out that a very grave mistake, as it seems to me, was made in publishing vol. I in Sydney *seven* months before it was published in London; and as it appears that this mistake is to be repeated with vol. II, I think it my duty to say that the interests at stake will be needlessly sacrificed by such a method of publication.

It should be manifest that the proper, as well as the established, course to adopt in such cases is to publish the book at the same time in London and Sydney, so that an edition would be placed before the reviewers and the public in both countries at the same time.

That course would (1) obviate the prejudice which always operates in London against any book published in a colony; (2) give the work a *locus standi* in London, which would greatly assist its circulation there; and (3) promote the sale in the Colonies by the publication of the London reviews at the same time as the Australian.

It has always seemed to me a most deplorable thing that, by the method of publication adopted with respect to the first volume, it should have been subjected to the unscrupulous attacks made upon it by writers manifestly incompetent to deal with it; while *eight* months have already passed without bringing us any expression of opinion from a London review.

The publishing season in London being January, I therefore suggest that, in future, each volume should be published in London and Sydney during that month, year by year, which would render it necessary to have it printed off here in October or November.

As any other mode of publication would mean a loss of money as well as a loss of *prestige*, I think my view of the matter will commend itself to the Government.

I am, &c.,
G. B. BARTON.

The Government Printer.—Will you please state exactly how the work done for the “second” volume of the History now stands?—G.E., B.C., 10/3/90. I have in type original matter equal to 180 pages. Extracts, despatches, &c., from records equal to 570 pages.—C.P., B.C., 10/3/90.

No. 36.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

Dear Mr. Eagar,

Government Printing Office, 25 March, 1890.

In the course of our last conversation you mentioned that I had been paid up to the end of this month, a statement which I then corrected, pointing out that the payments extended to the end of February, covering the six months from 1st September to 28th February.

As you may still be under the mistaken impression referred to, I send on the other side a list of the payments made, which can be verified by one of your clerks in two minutes.

And as this list shows that I have not been paid up to the end of this month, I wish to remind you that in September last you promised that I should in future be paid on the 4th of each month, in advance; and as I have not yet received the payment for this month, I wish to ask you whether you have any objection to let me have it now.

Yours, &c.,
G. B. BARTON.

	£	s.	d.
1889.—10 September—Paid into City Bank	...	...	...
3 October—	...	...	...
6 November—	...	...	...
10 December—	...	...	...
1890.—10 January—	...	...	...
	£500	19	2

No. 37.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

“The Hôtel Métropole,” Bent, Phillip, and Young Streets, Sydney,

Dear Mr. Eagar,

1 April, 1890.

Will you do me the favour to indorse a line or two, for which the bearer will wait, stating what I am to expect in the matter of payment for my literary services in connection with the History? I think I am entitled to ask for a distinct intimation on the subject from you; more especially as I understood you to say, when I last saw you, that you would write me about it.

Yours, &c.,
G. B. BARTON.

19

No. 38.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Sydney, 21 May, 1890.

I beg leave to apply for payment of the amount due to me for services rendered in connection with the History of New South Wales during the months of March and April last, at the rate of £83 6s. 8d. monthly; and also, should you determine to dispense with my services, for payment of one month's additional salary in lieu of notice.

I further beg leave to point out that the construction put upon the contract drawn up by your Under Secretary in the Treasury letter of 26th August last, so far as it relates to the completion of Vol. II of the History, is a mistaken one.

It is expressly provided in the contract that, in the event of that volume not being completed within a fortnight after six months had elapsed, "this contract should be thereby terminated." The volume not having been completed within that time, the contract thereupon became a dead letter; and consequently it was necessary either to give me notice that my services would be dispensed with or else to enter into a fresh arrangement.

I accordingly wrote your Under Secretary on the 4th March, pointing out that the contract would be at an end on the 14th, and requesting that, if it was desired to retain my services, the amount to be paid me in future should be the full £1,200 a year agreed to in the contract, without any deductions as before.

I received no answer to that letter until the 16th April, when the Under Secretary informed me that he would not pay me the amount due for March, because the contract had not been fulfilled, and in a subsequent interview he said that nothing would be paid until Vol. II was completed, and that then I should be entitled to £100.

This interpretation of the contract implies that, in the Under Secretary's opinion, it is still in existence. That view of the matter is, I submit, not consistent with the express terms of the clause which I have quoted.

I also beg leave to say that, before the contract in question was drawn up, I told the Under Secretary, both verbally and in writing, that the volume could not be completed within six months—my estimate being twelve; and that I accepted the terms specified by him solely because he gave me no choice in the matter, except to decline them. I told him that I would submit myself to the Government, and do the best I could; and I now declare that I have done so—the result being that, as I anticipated, it has proved wholly impossible to complete such a work in the time limited.

If the Government proposed to publish the Records without any original writing by the editor, it would take fully six months to bring out each volume, because it would take three to prepare the manuscript for the printer, and another three to print and revise them.

But if the Records are to be published on the plan adopted in Vol. I, the original writing required could not be done in less than six months—making twelve altogether.

I have, &c.,
G. B. BARTON.

P.S.—I continued my work on the History until the 28th April, when, on going to the room in the Government Printing Office assigned to me, I found the door locked to prevent my entrance, and I was informed by the Government Printer that he had locked it under instructions from your Under Secretary.

Case to be referred to the Attorney-General.—W.M., 13/6/90. After conference with the Treasurer, and explaining the facts of the case, I was directed not to send on this paper to the Attorney-General.—G.E., 21/2/91.

No. 39.

G. B. Barton, Esq., to The Under Secretary for Finance and Trade.

"The Hôtel Métropole," Bent, Phillip, and Young Streets,

Sydney, 6 August, 1890.

Dear Mr. Eagar,

I am glad to see that you have recovered from your recent illness.

As I understand that you have not yet made any other arrangement about the History, can we not hit upon a *modus vivendi*, so that the work may go on?

Yours faithfully,
G. B. BARTON.

Answered, B.C., 11/8/90.

No. 40.

Minute by The Colonial Treasurer.

Subject :—Second Volume of History of New South Wales from the Records.

The Treasury, New South Wales, Sydney, 2 January, 1891.

THE following arrangement may be made with Mr. Alexander Britten for the completion of the second volume of the above work, which had been left unfinished by Mr. G. B. Barton, viz., that he complete the second volume of the History—left in an unfinished state by Mr. G. B. Barton—on the same lines, as nearly as practicable, as those indicated by that gentleman; such completion to be effected within a reasonable time, and that for his services he be paid at the rate of £1,200 per annum, which he can draw monthly.

W.M.

No. 41.

No. 41.

The Under Secretary for Finance and Trade to A. Britten, Esq.

Sir, The Treasury, New South Wales, Sydney, 2 January, 1891.
I am directed by the Colonial Treasurer to make you the following offer in relation to the work known as the History of New South Wales from the Records: That you complete the second volume of the History, left in an unfinished state by Mr. G. B. Barton, on the same lines, as nearly as practicable, as those indicated by that gentleman, such completion to be effected within a reasonable time, and that for your services you be paid at the rate of £1,200 per annum, which you can draw monthly.

I shall be glad of your acceptance or otherwise of this offer.

I have, &c.,
G. EAGAR.

No. 42.

A Britten, Esq., to The Under Secretary for Finance and Trade.

Sir, Athenæum Club, Sydney, 2 January, 1891.
I have the honor to acknowledge the receipt of your letter of this day's date, in which you offer me, by direction of the Colonial Treasurer, certain terms for completing the second volume of the History of New South Wales; that is to say, the volume is to be completed within a reasonable time, and I am to be paid at the rate of £1,200 per annum.

I have much pleasure in accepting the offer on these conditions.

I have, &c.,
ALEX. BRITTEN.

No. 43.

Minute by The Colonial Treasurer.

Subject:—Allowance to F. M. Bladen for services to be rendered in connection with the preparation of the Second Volume of the History of New South Wales from the Records.

The Treasury, New South Wales, Sydney, 14 January, 1891.

Mr. F. M. BLADEN, an intelligent officer in the Government Printing Office, may be paid for six months' services to be performed in connection with the History of New South Wales, commencing from the 1st instant, at the rate of £150 per annum.

W.M.

No. 44.

The Registrar of the University to The Under Secretary for Finance and Trade.

Dear Mr. Eagar, University of Sydney, 25 February, 1891.
In reference to the subject of our conversation last evening, I have seen Professor Wood, the newly appointed Challis Professor of History, and ascertained that he will be willing to act on the proposed Supervising Board in connection with the Official History of New South Wales. As to the question of fees, I may state that University professors have held the position of examiners in connection with the Barristers' Admission Board and the sister Universities, receiving fees for their services; and as the work of a member of the proposed Board would be somewhat analogous to that of an examiner, I do not think the Senate would make the least objection to the appointment of Professor Wood.

Yours, &c.,
H. E. BARFF.

No. 45.

Treasury Minute.

The Treasury, New South Wales, Sydney, 27 February, 1891.

Subject:—Appointment of a Board to Revise the Text of the History of New South Wales from the Records, and generally to supervise the preparation of the work.

This duty was undertaken, in respect of the first volume, by Messrs. Geoffrey Eagar, Alexander Oliver, M.A., and Robert C. Walker, without remuneration.

I now propose to associate Mr. G. Arnold Wood, B.A., Challis Professor of History in the University of Sydney, with the above-named gentleman, and, on the presumption that meetings once a month will afford the necessary amount of supervision, I approve of these gentlemen being remunerated at the rate of 5 guineas per meeting, or 60 guineas per annum each—their duties to commence on the 1st proximo, and the fees to be paid, for the present, from the "Unforeseen Vote."

Approved.—W.M., 28/2/91.

No. 46.

The Acting Under Secretary for Finance and Trade to R. C. Walker, Esq.

Sir, The Treasury, New South Wales, Sydney, 3 March, 1891.
I have the honor to inform you that the Colonial Treasurer has appointed you, as from 1st instant, a member of a Board (the other members of which are the Hon. Geoffrey Eagar, and Messrs. Alexander Oliver, M.A., and G. Arnold Wood, B.A.), to revise the text of the History of New South Wales from the Records, and generally to supervise the preparation of the work.

Mr. McMillan has approved of a fee of £5 5s. being paid to each member per meeting, the meetings to be limited to one per month.

I have, &c.,
F. KIRKPATRICK.

[A similar letter, *mutatis mutandis*, was addressed to the Hon. Geoffrey Eagar, and Messrs. Alexander Oliver and Arnold Wood.]

No. 47.

No. 47.

The Acting Under Secretary for Finance and Trade to The Registrar, Sydney University.

Sir, The Treasury, New South Wales, Sydney, 3 March, 1891.

I am directed by the Colonial Treasurer to inquire whether the Senate would have any objection to the appointment of Mr. Arnold Wood as a Member of a Board of Advice in connection with the History of New South Wales from the Records.

It is anticipated that there will be one meeting a month.

Mr. Wood would be associated with Hon. Geoffrey Eagar and Messrs. Alexander Oliver and R. C. Walker. The Board will be remunerated by fees.

Requesting the favour of an early reply,—

I have, &c.,
F. KIRKPATRICK.

No. 48.

The Registrar, Sydney University, to The Acting Under Secretary for Finance and Trade.

Sir, University of Sydney, 17 March, 1891.

I have the honor to inform you that the Senate has had under consideration your letter of the 3rd March, in which you inquire whether it would have any objection to the appointment of Mr. Arnold Wood as a member of the Board of Advice in connection with the History of New South Wales from the Records.

In reply, I am directed to state that the Senate has no objection to the course proposed.

I have, &c.,
H. E. BARFF,
Registrar.

No. 49.

A. Britten, Esq., to The Acting Under Secretary for Finance and Trade.

Sir, Government Printing Office, Sydney, 18 March, 1891.

I beg to acknowledge the receipt of your letter of the 17th instant, informing me that certain proposals made by the Board of Revision with regard to the scope of the Official History have been approved of, and conveying the wish of the Colonial Treasurer that I should follow the instructions of the Board in the same manner as if they had been given by Mr. McMillan himself.

I need only say, in reply, that the wishes of the Colonial Treasurer shall be duly complied with.

I have, &c.,
ALEX. BRITTEN.

Seen.—W.M., 19/3/91.

No. 50.

The Acting Under Secretary for Finance and Trade to G. A. Wood, Esq., B.A.

Sir, The Treasury, New South Wales, Sydney, 21 March, 1891.

I have the honor to inform you that the Colonial Treasurer has appointed you, as from 1st instant, a Member of a Board (the other members of which are Hon. Geoffrey Eagar, and Messrs. Alexander Oliver, M.A., and R. C. Walker) to revise the text of the History of New South Wales from the Records, and generally to supervise the preparation of the work.

Mr. McMillan has approved of a fee of five guineas being paid to each member per meeting, the meetings to be limited to one per month.

I have, &c.,
F. KIRKPATRICK.

No. 51.

The Acting Under Secretary for Finance and Trade to A. Britten, Esq.

Sir, The Treasury, New South Wales, Sydney, 12 March, 1891.

I am directed by the Colonial Treasurer to inform you that he has appointed Hon. Geoffrey Eagar, Alexander Oliver, Esq., M.A., Robert C. Walker, Esq., and G. Arnold Wood, Esq., B.A., a Board to revise the text of the History of New South Wales from the Records, and generally to supervise the preparation of the work.

The three gentlemen first-named performed this duty in respect of the volume which was written by Mr. G. B. Barton, and, without in any way relieving you of the responsibilities of your office, it is thought that you will be glad to avail yourself of the information and experience possessed by the Board, in the continuation of the work.

I have, &c.,
F. KIRKPATRICK.

No. 52.

A. Britten, Esq., to The Acting Under Secretary for Finance and Trade.

Sir, Government Printing Office, 13 March, 1891.

I beg to acknowledge the receipt of your letter of the 12th instant, informing me that the Colonial Treasurer has appointed a Board, consisting of the Hon. Geoffrey Eagar, Alex. Oliver, Esq., R. C. Walker, Esq., and G. A. Wood, Esq., to revise the text of the History of New South Wales from the Records.

The belief expressed that I shall be glad to avail myself of the knowledge and experience possessed by the gentlemen who constitute the Board of Revision is entirely in accordance with my feelings in the matter. While, as your letter indicates, the appointment of the Board does not in any way lessen my responsibility, it cannot fail, I am sure, to promote the work upon which I am engaged.

I have had much pleasure, therefore, in receiving the intimation which the Colonial Treasurer has instructed you to convey.

I have, &c.,
ALEX. BRITTEN.

Seen.—W.M., 16/3/91.

No. 53.

The Acting Under Secretary for Finance and Trade to Alexander Britten, Esq.

Sir,

The Treasury, New South Wales, 17 March, 1891.

I am directed by the Colonial Treasurer to inform you that certain proposals regarding the scope of the History of New South Wales from the Records have been made by the Board, of whose appointment you were advised in Treasury letter of 12th instant.

Such proposals have been approved by the Colonial Treasurer, and I am to say that it is desired that you should carry out all the instructions of the Board in the same manner as if they had emanated from Mr. McMillan himself.

I have, &c.,

F. KIRKPATRICK,

Acting Under Secretary for Finance and Trade.

The Chairman of the Board would like to be supplied with a copy of this letter, and also with a copy of the agreement made with Mr. Britten.—F.K., 10/4/91. Approved.—W.M., 11/4/91.

No. 54.

R. C. Walker, Esq., to The Acting Under Secretary for Finance and Trade.

Sir,

Board to Revise the Text of the History of New South Wales,

Sydney, 21 March, 1891.

I have the honor to enclose herewith vouchers for £21 to pay fees for the month of March, 1891, to the members of the Board to revise the text of the History of New South Wales from the Records, as authorised by your letter of the 3rd instant, which amount I will thank you to cause to be placed to my credit (Public Account) in the Australian Joint Stock Bank, Sydney; also that you will be so good as to sanction a public cheque-book being placed at my disposal for operating on the account.

I have, &c.,

R. C. WALKER,

Chairman.

No. 55.

R. C. Walker, Esq., to The Acting Under Secretary for Finance and Trade.

Sir,

Official History Board, Sydney, 16 April, 1891.

On behalf of the Board I have the honor to thank you for your letter of the 14th instant, enclosing copies of Treasury letter of the 17th ultimo, addressed to Mr. Alexander Britten, together with a copy of Treasury minute, of the 2nd January, 1891, showing the arrangement made with that gentleman for the completion of the second volume of the History, which had been left unfinished by Mr. G. B. Barton.

I have, &c.,

R. C. WALKER,

Chairman.

Seen.—W.M., 18/4/91.

No. 56.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Public Library, 15 February, 1892.

I beg leave to ask your attention to certain facts disclosed in a Parliamentary return, published in the Session of 1890, containing "Correspondence relating to the History of New South Wales from the Records."

2. These facts have only come to my knowledge within the last few days, in consequence of my not having read the return on any former occasion. It was not moved for at my request, and at the time it was published I had no desire to read the contents.

3. At page 24 you will find (second paragraph from top) a memo. from the late Under Secretary for Finance and Trade to the Government Printer, and his reply, as follows:—

"The Government Printer,—Will you please state exactly how the work done for the second volume of the History now stands?—G.E., 10/3/90."

Reply.—"I have in type original matter equal to 180 pages; extracts, despatches, &c., from records, equal to 570 pages.—C.P., B.C., 10/3/90. The Under Secretary for Finance and Trade."

The total number of pages, therefore, then in type, was 750.

4. If you will now turn to page 21, where the "contract" is set out, you will find that by clause (1) each volume was to contain "not less than 600 pages of text." It follows that, when the Government Printer wrote his reply, I had more than satisfied that clause, having prepared 150 pages over and above the specified number.*

5. I was not aware at the time that the Government Printer had measured the matter in type, and that there were so many pages ready for the press. He did not mention the measurement to me; and as no inquiry of that kind had been addressed to me, it did not occur to me to ascertain the facts.

6. I am not aware of his reasons for not having pointed out to the Under Secretary that I had done more than I was required to do.

7. From the letter, dated 8th March, 1890, addressed by me to the Government Printer (see page 24), it appears that I had over-estimated the quantity of work remaining to be done at that date. This mistake arose from the fact that I had not measured the matter in type.

8. On the strength of this miscalculation on my part, the Treasury declined to make me any further payment, and shortly afterwards put an end to the contract.

9.

9. Under clause 4, a sum of £100 was "kept back" by the Treasury, and no payment was made on account of the work I continued to do for the two months (March and April) following the supposed breach of contract.

10. Under these circumstances, I beg leave to submit that I have not been justly or fairly dealt with by your predecessor in office, and that I am entitled to some compensation for the wrong done to me under a misconception of the true facts of the case.

I am, &c.,

G. B. BARTON.

The Government Printer for report.—F.K., 17/2/92. See separate report.—C.P., 27/2/92 (included herewith as paper No. 58). The Under Secretary for Finance and Trade.

No. 57.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Public Library, 22 February, 1892.

I beg leave again to ask your attention to certain facts disclosed by the Parliamentary return, Session 1890, relating to the History of New South Wales.

1. At page 21, it appears that two letters, which should have followed "No. 46" in the correspondence, have been omitted, although they are essential to a right understanding of the case.

2. On receiving the letter "No. 46" from the Under Secretary for Finance and Trade, I sent him a reply stating, in effect, that a volume of history could not be written in six months; that it would take fully twelve; and I submitted an alternative proposal—that the records should be printed in the form of the English historical record publications, containing the bare text of the records with an introduction,—adding that a volume of that kind could be completed in six months.

3. The Under Secretary, in reply, declined to entertain either proposal.

4. If you will direct a search to be made for the missing letters—of date between 23rd August and 6th September, 1889—you will find that this statement is correct. And I would then ask you to consider whether it was just to me that the return should be made up in such a shape—seeing that the effect of the omission was clearly prejudicial to my case.

5. It does not appear by the return that the letter "No. 47," accepting the Treasurer's terms, was drafted by the Under Secretary (as the wording of it shows), and handed by him to me with a request that I should copy it and send it to him with my signature. That, however, is the fact.

6. Nor does it appear that he also gave me to understand that the formal letter of acceptance was intended only for the satisfaction of the Treasurer, and that if the second volume was not completed within contract time, I should then be at liberty to write to him (the Under Secretary) stating the reasons, and that he would satisfy the Treasurer about it. But that also is the fact.

7. This statement will be more intelligible if I add that the Under Secretary professed personal friendship for me, having known me for many years; and that he also frequently expressed his satisfaction with my work in the highest terms of eulogy. He had no fault to find with the execution of the first volume, although he had critically examined every line of it.

8. The terms and conditions set out in the letter "No. 46" were the subject of several interviews between him and myself, in which I repeatedly told him that it would not be possible to complete a volume of history within six months, if the standard set up in the first was to be maintained.

9. You will observe that no reply was sent to my letter "No. 52," in which I gave reasons for the non-completion of the work within the six months, and adding that as the contract had run itself out, I desired to have better terms for the continuance of the work.

10. You will also observe that the only written intimation from the Treasury that my engagement had been terminated, was conveyed in the letter "No. 58," dated 2nd June—three months after the expiration of the contract; and that the Treasurer's minute, appended to letter "No. 55," dated 27th March, was never conveyed to me in writing. Neither was it conveyed verbally.

11. The statements made by the Government Printer, charging me with having "delayed" the work, are absolutely incorrect in every particular. For instance, in letter "No. 13," he said, "you commenced your present work in or about November, 1887—that is, nearly eighteen months ago"; whereas it appears from the enclosure in his letter "No. 4" that I had not begun it on 30th January, 1888, but was waiting for the Treasurer's authority to begin it—which authority was not given until some time in February.

12. The Government Printer repeated this charge in a letter to the Treasurer "No. 15"; adding, as an explanation of my "delay," that I was "engaged in writing other works." There was no foundation for this statement; but as he happened to know that Mr. F. Wentworth had, in February, 1889, requested me to write the "life" of his father, he concluded that I was engaged in writing that work as well as the History—an utterly absurd and impossible supposition. As a matter of fact, I may say that I never touched the "life" of Wentworth, until my engagement with the Treasury had been terminated.

13. In the same letter, "No. 15," he informed the Under Secretary that some months had been occupied by me "in preparing an introductory chapter, which could well have been deferred to a second edition; and in correcting and rewriting the Index, which had previously been very well prepared by an officer of this Department."

14. The facts are that (1) the index which had been prepared proved to be useless, and consequently I had to write the whole of it myself; and (2) that the "Introductory Sketch," which occupies 85 pages, was rendered necessary by the incompleteness of the materials supplied to me in the shape of records.

15. This was a matter which I had fully explained to the Government Printer before I began the "Sketch." After the body of the work had been finished, I discovered fresh facts relating to the earliest stage of our history, which had not been noticed in the copies of records sent out from England—more particularly, the fact that Sir Joseph Banks had, in his evidence before a Committee in 1779—[See p. xlv. of the "Sketch"]—proposed the settlement of felons at Botany Bay. This fact may be taken as the cardinal starting-point of our history; but it had never been published, or even noticed in the slightest degree by any of our historians—Rusden, for instance, although he had based his work on the records. At the same time there were other important facts which I had gleaned in the course of my studies, and which it was, to my mind, absolutely necessary to embody in the work.

16. But as there was no means of doing so except by writing this "Introductory Sketch," seeing that the body of the work had been printed off, I explained the position fully to the Government Printer; and

and to expedite the matter as much as possible, I left town for Lake Macquarie in order that I might devote myself uninterruptedly to the preparation of the "Sketch" and the "Index." To save time I sent him the "copy" and corrected proofs as fast as they could be got ready—a process which he described as sending him copy "by driblets," as if it ought to be sent like bales of paper.

17. You will thus see, Sir, that the delay of which he complained was caused solely by my desire to make the work as complete and accurate as possible. It would have been easy enough for me to have sent the book to press some months sooner than I did, and also to publish a volume of a certain kind every six months. By doing so I should have avoided all the unpleasantness that has occurred, as well as all the loss and suffering I have been compelled to endure; but it was my fixed determination not to sacrifice the work either to my own necessities or to the caprice of any narrow-minded official; and I leave it now for you to determine whether I was right or wrong in the course I adopted.

I am, &c.,

G. B. BARTON.

Please report fully upon this.—J.S., 25/2/92.

No. 58.

Minute by The Government Printer.

Government Printing Office, Sydney, 27 February, 1892.

Subject:—Mr. G. B. Barton's claim for compensation in connection with the compilation of Volume II of the History of New South Wales.

It will be seen from the printed correspondence enclosed herewith that Mr. Barton's relations with the Government in connection with the first volume of the History of New South Wales were of such a nature that it was deemed advisable to draw up a definite agreement setting forth the terms and conditions upon which Mr. Barton should be engaged on the second volume.

About the terms of that agreement there can, fortunately, be no doubt; they will be found set out on page 21 of the enclosed correspondence.

The contract came into force on the 4th September, 1889, and contained an undertaking on Mr. Barton's part to complete the second volume by the 4th March, 1890, for the sum of £600, payments to be made monthly at the rate of £1,000 per annum (£100 per volume being "kept back"). Each volume was to contain not less than 600 pages.

Six monthly payments were duly made by the Government, from September, 1889, to March, 1890, and in the latter month the contract was terminated by Mr. Barton's default through non-completion.

On the 10th of that month (March, 1890), the Under Secretary for Finance and Trade desired to be informed how the work for the second volume stood. It is on this query and my reply thereto that Mr. Barton bases his claim. The query and reply will both be found on page 24 of the enclosed correspondence. They are also quoted at length in the letter under report. My reply was as follows:—

"I have in type original matter equal to 180 pages. Extracts, despatches, &c., from records, equal to 570 pages.—C.P., B.C., 10/3/90. The Under Secretary for Finance and Trade."

Mr. Barton contends that, according to this report there were 750 pages ready for press, and that he had, therefore, more than fulfilled his part of the contract, having prepared 150 pages over and above the specified number.

As a matter of fact, Mr. Barton had only prepared the 180 pages alluded to as original matter. The 570 pages of extracts, despatches, &c., comprised matter put in type, but which Mr. Barton had not dealt with.

I find, on referring to the memoranda from which the above reply was drawn up, that on the 10th March, 1890, the work for the second volume stood as follows:—

Matter paged, but not finally corrected, 66 pages.

Matter ready to be paged, equal to 114 pages.

Matter not dealt with, being bare records, equal to 570 pages.

Further, from an examination of the proofs and manuscripts left by Mr. Barton, when he abandoned the work, I find that at the outside there had not been more than 225 pages out of the stipulated 600 pages prepared; and that out of this 225 pages not a single page was ready for press.

In regard to the 570 pages of extracts, despatches, &c., not one page was ready for publication, nor does it appear that Mr. Barton had done anything to them beyond handing the manuscript (*which had been received from England*) to the compositor; they remained, when Mr. Barton left, untouched.

It will thus be seen that Mr. Barton is in error when, on the strength of my report, he claims that these 570 pages were ready for publication, or could be regarded as part of the second volume. As a matter of fact, they formed the raw materials Mr. Barton had to operate upon, and their number, so far from proving progress, shows how much remained to be done.

The above somewhat lengthened explanation is rendered necessary by the fact that Mr. Barton does not, on his own responsibility, claim that he had completed the second volume, but apparently bases his claim solely on a statement made by me which he has entirely misunderstood.

The only other part of Mr. Barton's letter which it comes within my province to refer to is the seventh paragraph, in which Mr. Barton explains the discrepancy between his statement made in March, 1890, that the second volume would require an additional seven months to complete—and his present claim; the explanation being that he had not measured the matter in type. I may state that Mr. Barton's first estimate, made at the time, and with all the papers and proofs before him, was a very accurate one. So far as I can form an opinion it was rather under than over the mark.

I do not consider that Mr. Barton has the slightest vestige of a claim for compensation, nor do I know of any particular in which he was treated unjustly or unfairly. I am quite confident that the late Under Secretary could not have been under any misconception as to the amount of work completed, nor can I conceive how there could have been such a gross miscalculation on the part of Mr. Barton as he refers to.

CHARLES POTTER,

Government Printer.

Mr. Barton should, I think, be informed in terms of this minute. It is clear he has no claim whatever for compensation, nor has he been unjustly or unfairly treated.—F.K., 29/2/92. Submitted.
Inform Mr. Barton.—J.S., 29/2/92.

No. 59.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 2 March, 1892.

I am directed to acknowledge the receipt of your letter of 15th instant, in which you submit that a Parliamentary Paper containing "Further correspondence in connection with the History of New South Wales, from the Records," which paper was ordered by the Legislative Assembly to be printed on 19th December, 1890, shows that you have not been justly or fairly dealt with by Mr. See's predecessor in office, and that you are entitled to some compensation for the wrong alleged to have been done to you under what you term a misconception of the true facts of the case.

I am to inform you, in reply, that having called for a report from the Government Printer, Mr. See finds that out of the 750 pp. which you contend were reported by Mr. Potter in his minute of 10th March, 1890, as being ready for press, 570 pp. were composed of extracts, despatches, &c., which had merely been set up in type for convenience of perusal.

It is found from an examination of the proofs and Mss. left by you when your services were dispensed with, that at the outside there had not been more than 225 pp. out of the stipulated 600 pp. prepared, and that out of this 225 pp. not a single page was ready for press.

I am to say, therefore, that Mr. See is unable to admit that you have not been justly or fairly dealt with, and no claim for compensation can therefore arise.

I have, &c.,

F. KIRKPATRICK.

No. 60.

G. B. Barton, Esq., to The Colonial Treasurer.

Sir,

Public Library, 8 March, 1892.

In reply to your letter of the 2nd inst., permit me to point out that the question raised by me is one which involves the legal construction of the contract referred to, and that it cannot be settled by a report from the Government Printer, especially when I have shown, in my letter of the 22nd ult., that his statements with respect to my work are manifestly prejudiced and unreliable.

2. The report to which you refer contains statements which may easily be shown to be untrue; for instance, it states that the 570 pages of extract matter prepared by me for the second volume were "merely set up in type for convenience of perusal."

3. The materials with which I was supplied being manuscripts sent out from England, without any order or arrangement, it was part of my work to "peruse and examine" each page of them for the purpose of selecting those portions which I might consider advisable to insert in the volume. After this selection was made, the manuscript was handed to the printer to be set up in type—not for "convenience of perusal," but for insertion in the book. It was all "copy." If you will take the trouble to refer to Part III of the first volume, you will be able to satisfy yourself that the matter it includes was not set up for convenience of perusal, and the 570 pages I had prepared was matter of precisely the same kind. It included also the final section of the book on the "Bibliography" of Australia, which I had corrected and enlarged for the purpose with considerable care.

4. The Government Printer is equally in error in stating that "not one of the 570 pages was ready for publication," and you must allow me to take the same objection to your remark with respect to the 225 pages you mention, which you say were prepared, but "not a single page was ready for the press."* On this point it is evident that you have been misled by the Government Printer on a question he did not understand.

5. What is meant by the term "ready for the press?" The Government Printer implies that no "copy" is ready for the press until it has been corrected and revised for publication by the author, and that all the delay that may and must take place in connection with that part of the work is to be charged against him. That view of the matter is a mistaken one, and consequently I am obliged to correct it.

6. The contract must be read according to the established understanding and custom between authors and publishers. It is universally understood that when an author has handed his "copy" to the publisher his work as an author is done and he is entitled to payment for it. All the subsequent work, from the type-setting to the binding, belongs to the publisher's department. The author has no control over it whatever. He may correct the proofs if he likes, but he is not bound to do so unless he contracts to do it. His position is just the same as that of a journalist who contracts to supply leading articles and reviews for a newspaper. As soon as his "copy" is sent in his work is done, and he has earned his money. He may correct the proofs if he pleases, but, as a rule, he does not, the publisher being responsible for the proper publication of the matter.

7. Supposing that my contract had been made with a London publisher instead of with the Government, clearly I should have had nothing to do but to put the "copy" in the Post Office. According to the Government Printer, not a single page of it would be "ready for publication" until all the proofs and revises had been read and corrected by me. Would that be practicable? I think not.

8. Referring to the terms of the contract (p. 21 of the Return) it appears that it does not contain any stipulation that my "copy" was to be ready for publication in the Government Printer's sense, by a fixed time. It says nothing about the correction or revision of proofs, and consequently I was not under any legal obligation to correct or revise them. What I had to do was, to provide "600 pages of text," for each volume, and it is shown that I provided 750. Two volumes were to be completed in each year; but the word "completed" means nothing more than I have said—completion of the "copy."

9. It is true that in my letter of acceptance—which, as I have said, was drafted by the late Under Secretary—a volume is said to mean "the author's manuscript and *final proofs*"; but the words underlined were inserted in face of my express (verbal) stipulation, that the author should be required to furnish the "copy" only, because otherwise he would be responsible for all the delay that might take place in the mechanical department. I allowed the words underlined to stand, simply because I did not wish to raise any fresh discussion on the point, and also because I believed that no attempt would be made to take advantage of them.

10. Moreover, if two volumes were to be completed in each year, that was clearly a contract for a year, and it could not be legally or equitably terminated until the expiration of a year.

11. The contract was terminated under the 5th and 10th clauses, which imposed a penalty of £50, "should any volume be delayed for a fortnight beyond six months." Supposing that these words meant "delayed by the author;" then I say that there was no proof, or even allegation, of delay on my part, and that,

that, without such proof, the contract could not be legally terminated. The printed correspondence shows that no charge of delay was made against me, and therefore the Treasury had nothing to go upon; nor was there any justification for discontinuing the payments and putting an end to my engagement.

12. You will observe from the printed correspondence that even the usual formality of a written notice was dispensed with. I did not receive any intimation in writing until the 3rd June, 1890, when a letter from the late Under Secretary informed me that my "engagement with the Treasury had ceased." The Treasurer's minute of 29th March was never communicated to me, although at that time I was still at work on the second volume. On this ground alone, then, I submit that I was, and am, entitled to payment of £100 per month from the 1st March to the 1st June, as well as the £100 which had been kept back under clause 4.

13. For the reasons stated in this and in preceding letters, I beg leave to request that this correspondence may be referred by you to the Honorable the Minister for Justice, in order that he may determine the several questions raised in it, and more particularly the question whether the contract set out in page 21 of the return was legally terminated by your predecessor, in accordance with its terms? And that it may also be referred to him to determine, in the event of his decision being in my favour, what sum should be awarded to me in compensation for the loss and injury I have sustained through the action of your predecessor.

14. I also beg leave to request that it may be referred to him to inquire and determine whether the charges of "delay" made against me by the Government Printer in his letters of 11th April and 6th May, 1889, were well founded or not, and whether the several assertions to my prejudice contained in those letters were according to the facts or not, and that if the Minister should be of opinion that the charges were not well founded, and that the assertions in question are not true, I may be awarded payment of such sum as he may consider sufficient compensation. The charges are libellous, and he who made them should be called upon either to substantiate or retract them. They have been injurious to me in many ways. I have reason to believe that they influenced the referees when making their award of £200 on the publication of the first volume, because that sum, with the amount previously paid, represented only £70 per month for the time during which I was engaged on the work. Practically, therefore, they fined me at the rate of £30 a month for seventeen months, on the strength of the misrepresentations made by the Government Printer. Thus, I was punished in face of the fact that I had made the first volume a singular exception to the productions of the Government Printing Office, inasmuch as it was both a financial and a literary success. The official return of November, 1890, shows that up to that time over 1,800 copies had been sold in the Colonies and 150 in London, and that the cash receipts amounted to £1,227, thus proving that the calculations made in my letter of 30th January, 1888, in which I proposed the publication of the work, were fully realised.

I am, &c.,

G. B. BARTON.

Note to par. 4.—This statement is shown to be incorrect by letters Nos. 51 and 53 in the return, from which it appears that several chapters had been made up for the perusal of the late Under Secretary, comprising pages 1 to 66. The printed matter of a book is not made up into sheets until it is ready for the press. In addition to these sixty-six pages, there were over forty of the "Bibliography" section, which were also ready for the press. From this inaccuracy I should suppose that you have not seen the whole of the "copy" prepared for the second volume.

The Government Printer might be asked if he has any further remarks to offer.—F.K., 11/3/92. Approved.—J.S., 11/3/92. The Government Printer. See separate minute and enclosed parcels A and B herewith.—C.P., 7/3/92. The Under Secretary for Finance and Trade. Having carefully considered this case, I recommend that the decision already arrived at by Mr. McMillan be not disturbed.—F.K., 18/3/92. Submitted. Approved.—J.S., 18/3/92.

No. 61.

The Under Secretary for Finance and Trade to G. B. Barton, Esq.

Sir,

The Treasury, New South Wales, Sydney, 21 March, 1892.

I am directed by the Colonial Treasurer to acknowledge receipt of your letter of 8th instant, and to inform you, in reply, that, having carefully considered the whole case, he sees no reason to disturb the decision of his predecessor (Mr. McMillan).

I have, &c.,

F. KIRKPATRICK.

No. 62.

Précis.

Re Mr. Barton and the History of New South Wales.

11 March, 1892.

I HAVE carefully perused these papers. There can be no doubt, whatever, that, upon broad, general grounds, the Government was justified in terminating Mr. Barton's connection with the Official History, but there can be as little doubt that, upon a literal legal interpretation of the agreement between him and the Government, for the writing of the history, his services were wrongfully dispensed with, and that he would be able to enforce compensation at law.

The following is the full text of the agreement referred to:—

- (1.) The work not to exceed thirteen volumes, of not less than 600 pages of text each.
- (2.) £600 to be the payment in full for each volume, commencing with Volume II, and beyond this sum no allowance of any kind will be made for expenses incurred by you in the preparation of the work.
- (3.) Two volumes to be completed in each year.
- (4.) £200 to be kept back each year until the completion of the two volumes due for that year.
- (5.) £50 penalty, should any volume be delayed for a fortnight beyond six months.
- (6.) Access to be allowed to the records at the Government Printing Office, whence they are not to be removed.
- (7.) The whole details of "printing and publishing" will be exclusively in the hands of the Government Printer, who will have a general supervision of the work, and receive instructions from the Government only.

(8.)

- (8.) No claim will be permitted to be set up as to any alleged ownership of copyright, which is the absolute property of the Government.
- (9.) Alterations in the text of the work, or the excision of such portions as may be deemed undesirable in a National History, to be entirely at the discretion of the Government, as owners of the property, on behalf of the public.
- (10.) Should default be twice made under Clause 5, so as to incur the penalty therein provided for, this contract to be thereby terminated, without any recourse upon the Government for damages.
- (11.) Upon completion of any one volume, it shall be at the option of the Government then to terminate the contract, without liability for damages or compensation.

Clause 3 provides that two volumes shall be completed in each year, not one volume in each six months.

Clause 5 provides £50 penalty should any volume be delayed for a fortnight beyond six months. It may be observed, however, that the penalty for the first failure is one fixed fine, not liability to dismissal.

Clause 10 provides that, should default be twice made under clause 5, so as to incur the penalty therein provided for, this contract is to be thereby terminated, without any recourse upon the Government for damages.

I do not see how effect could be legally given to the provisions of clauses 5 and 10, until after the expiration of twelve months from the date of the agreement. Mr. Barton was not compelled to produce one volume within six months, but two volumes within a year. I think he had the right, if he chose to exercise it, of occupying eleven months over one volume, and one month in connection with the next volume, without incurring the penalties provided, unless he be held liable to £50 fine for not producing a volume in six months and a fortnight, but no further action could possibly be legally taken against him.

Clause 10 could not be used against Mr. Barton, until he had twice committed default under clause 5, or failed to produce two volumes within one year and four weeks—the period during which two volumes were to be written. But neither of these premises exist. The agreement is dated 4th September, 1889. A volume could not be required before 4th March, 1890, with fourteen days grace—18th March—when Mr. Barton would be liable to fine of £50. Mr. McMillan, however, went further, for his minute of 29th March, 1890, reads, “The connection of Mr. Barton with this Department, as regards the continuance of literary work, must now absolutely cease.” Unquestionably, the Treasurer had not the power or right to thus summarily dispense with Mr. Barton’s services, at a time when he (Mr. Barton) was only liable to a fine of £50, and was entitled to a sum of £100 then being withheld.

The provisions of clause 11 cannot be availed of, as notice of intention to terminate the contract must be given upon the completion of any one volume. This right was not exercised on the completion of Vol. I (the agreement did not then exist), and could not, consequently, be available until the completion of Vol. II.

The only circumstance disclosed by the correspondence, which may be held to put Mr. Barton out of Court, is to be found in the following letter, which may possibly be read as a voluntary surrender by Mr. Barton of all further connection with the work. The letter is as follows:—

Sir,

Government Printing Office, 28 March, 1890.

With reference to your remark made this morning on the subject of my remuneration for work done in preparing Volume II of the History of New South Wales, I wish to say that I will continue the work until the 1st of next month; and that if, on that day, I receive the sum of £100 for my services during this month, I will go on with the work from month to month at the same rate.

If these terms should not be accepted, then I wish to inform you that I shall be compelled, however reluctantly, to discontinue the work, and to resume my connection with journalism. I shall also be under the necessity, in that case, of making it known, by a letter to the daily newspapers, that I am no longer connected with the publication in question.

I am, &c.,

G. B. BARTON.

Referred to the Under Secretary for Finance and Trade.—C.P., B.C., 29/3/90. The connection of Mr. Barton with this Department, as regards the continuance of literary work, must now absolutely cease.—W.M., 29/3/90.

On this point I scarcely feel able to venture an opinion, but I do not think it at all probable that Mr. Barton had the slightest intention of waiving his right to the full benefit of the agreement, in consequence of which his failure to claim that to which he appears to me to have been legally entitled can only be explained in that he may never have carefully read the conditions to which he subscribed.

Having been through the whole of the papers, I may again say, in conclusion, that I am of opinion that the Treasurer acted wisely in dispensing with Mr. Barton’s services, which were of a highly unsatisfactory character, as the correspondence amply testifies, but having refrained from seeking redress upon the grounds that could for a moment be entertained, I beg to recommend that no further action be taken, pending the receipt of such reply as may be made to Treasury letter of 2nd instant, which conveys an intimation that the Colonial Treasurer is unable to admit that he (Mr. Barton) has been unjustly or unfairly dealt with, or that he had any claim for compensation.

The Under Secretary, &c., &c.

F. H. GALLOWAY.

Seen.—J.S., 8/4/92.

No. 63.

Minute by The Government Printer to The Under Secretary for Finance and Trade.

Subject :—Mr. G. B. Barton’s claim for compensation in connection with the preparation of Vol. II of the History of New South Wales.

Government Printing Office, 17 March, 1892.

I AM unable to qualify or withdraw any of the statements made in my minute of the 27th ultimo.

Papers returned herewith.

There can be no question about the following simple, and easily provable, facts in connection with Mr. Barton’s contract to prepare Vol. II of the History:—

- (a) That at the expiration of the stipulated time he had not nearly completed the work.
- (b) That it would have taken him, at his own estimate, seven additional months to do so.*
- (c) That he received, for the incomplete volume, the sum agreed upon for the completed volume, less percentage “kept back.”
- (d) That he refused, without an excessive additional payment, to proceed with the work.†
- (e) That he expressly, and in writing, admitted that the contract was at an end.‡

Mr.

* See Mr. Barton’s letter, No. 53, in papers ordered to be printed 19 December, 1890. † See Mr. Barton’s letter, No. 55, in papers ordered to be printed 19 December, 1890. ‡ See paragraph 5 of Mr. Barton’s letter, No. 35, page 17 herewith.

Mr. Barton's contention that my statements are "prejudiced and unreliable," and my letters "libellous" and "misrepresentations" does not call for any remark beyond the assurance I have previously given, that in this (to me) very unpleasant business, I have only moved when I could no longer remain inactive without the most culpable abandonment of duty. I have no personal feeling whatever in the matter; in fact, knowing as I did that Mr. Barton was a gentleman of singular ability, and most peculiarly qualified for the work, I, on every occasion did the utmost, consistent with my duty to the Government, to consult his convenience and accommodate myself to his methods. I gave him every assistance in my power, relinquished my private room to him, told off officers to assist him, took on his son as a copyist for him, and placed at his disposal facilities for carrying on the work which I have no hesitation in saying would never be extended to an author by any private publishing firm in the world.

Mr. Barton, in the letter under report, claims:—

- I—(In paragraphs 1 to 3) that my statements are inaccurate, and that Vol. II was completed within the specified period.
- II—(In paragraphs 4 to 9) that my use of the term "ready for press" is erroneous and misleading, and that he had completed the volume in the sense in which "completed" is used in the contract.
- III—(In paragraph 10) that the contract was for two volumes per year, and could not be terminated till the expiration of a year.
- IV—(In paragraphs 11 to 13) that there was no legal termination of the contract.
- V—(In paragraph 14) that certain letters of mine are libellous.

For the sake of convenience it will be best to notice these claims in the above order.

I. That my statements are inaccurate, and that the second volume was completed within the specified period (paragraphs 1 to 3).

This matter was dealt with in my minute of the 27th ultimo; but since Mr. Barton impugns the correctness of my report, I forward herewith the whole of the "copy," &c., prepared for the second volume. As Mr. Barton bases his whole claim on my statement of 10th March, 1890, that I had in type "Original matter equal to 180 pages; extracts, despatches, &c., from records equal to 570 pages," it is important to clearly understand what these 570 pages represent. The accompanying package, marked "A," contains the 570 pages referred to. They will be seen to be bare despatches, letters, &c., put into type from the manuscript received from England. They contain no original matter; there is not a line or word of comment by Mr. Barton; there are no excisions (the letters in almost every case being complete); no foot-notes; no references to other parts of the work; no explanatory text; no side-notes; and, as they are not even paged, of course no index.

On each bundle contained in this package ("A") will be found in red pencil the date on which it was put into type. It will be seen that no less than 395 pages were set up between the dates of the 10th and 23rd September, 1889, *i.e.*, within three weeks from the day on which Mr. Barton commenced Vol. II.

Except that parts of the type could be used subsequently for extracts and quotations, and, after arrangement, in Part III, there was no other reason for printing and binding them in galley form, at that time, but Mr. Barton's convenience.

In the letter under report Mr. Barton says (par. 3):—"The materials with which I was supplied being manuscripts sent out from England, without any order or arrangement, it was part of my work to peruse and examine each page of them for the purpose of selecting those portions which I might consider advisable to insert in the volume. After this selection was made the manuscript was handed to the printer to be set up in type, not for 'convenience of perusal,' but for insertion in the book. *It was all copy.*" (The italics are mine.) I regret to say that this statement is not in accordance with fact.

1. The major part of the perusal and examination referred to was done by an officer of this Department, in compliance with a request made by Mr. Barton on 13th July, 1889 (two months before he commenced Vol. II).
2. An examination of the matter in package "A" will show that there was no selection of parts suitable for insertion, but merely an arrangement into order of subjects. Published in its present form it would be unintelligible to the general reader. The "catch lines" at the heads of the galleys prove sufficiently the purpose for which they were printed in that form.

In order that it may be still more clearly understood in what condition Mr. Barton left the work, I enclose herewith (package marked "B") the original matter, partly in type and partly in manuscript, which makes up the 225 pages referred to in my letter of the 27th ultimo.

II. Mr. Barton complains that my use of the term "ready for press" is erroneous and misleading; and that he had completed the volume in the sense in which "completed" was used in the contract (pars. 4 to 9).

The term "ready for press" is only used in the one sense. Matter is never "ready for press" until the final corrections have been made, and it is ready to be printed off. Even the four sheets of paged matter were not finally corrected.

It is obvious from the nature of the work that there can be no comparison—such as is attempted to be set up—between a journalist handing his copy to the editor, and Mr. Barton handing *his* to the compositor. Besides, Mr. Barton was specially engaged, and contracted specifically in writing not to merely provide the "copy," but to complete the volume, and further stipulated that the terms of the contract should include the final proofs. No verbal stipulation, such as that put forth by Mr. Barton, however express, would be allowed by law to vary or discharge so plain a written contract.

III. Mr. Barton claims that as the contract was for two volumes each year it could not be terminated until the expiration of a year (par. 10).

This was specially provided for by clauses V and X of the contract.

IV. It is claimed that there was no legal termination of the contract (pars. 11 to 13).

Mr. Barton must be aware that the contract was legally terminated under clauses V and X by his default in March, 1890. (*Vide* his admission to that effect in the fifth par. of his letter, of 5th March, 1890, on page 23 of the printed correspondence, herewith.) In fact, Mr. Barton's letters of the 5th, 8th, and 28th March, the 29th of May, and the 16th June, 1890, are full of overt expressions of his intention to abandon all the rights he now wishes to claim; this renunciation alone would operate as a legal discharge of the contract, independently of the fact that it was legally terminated by non-performance on the part of Mr. Barton.

Enclosures A and B.

Page 24 of Enclosure C. A.

In a letter which is, I believe, in the Treasury.

B.

See the terms of contract set out on page 21 of Enclosure C.

Page 21, Enclosure C.

Page 21, Enclosure C.

Correspondence, Enclosure C. Pages 23, 24, and 25 of Enclosure C.

V. Mr. Barton complains (par. 14) that my letters of the 11th April and 6th May, 1889, are libellous, and requests that they may be submitted to the Minister of Justice. In order to show the utter absence of any foundation for this complaint I give the full text of the letters themselves, which is as follows :—

The Government Printer to G. B. Barton, Esq.

Dear Sir,

Government Printing Office, Sydney, 11 April, 1889.

In answer to your letter of the **7th instant*, I must be permitted to say that it appears to me to have been written without due consideration.

I cannot recognise your position towards the Government as that of an author towards his publisher. You are in fact working for the Government in respect of a special matter, for which you are being paid. The result of your work is the absolute property of the Government, who can do what they please with it, and any personal wishes of yours connected with the work must necessarily be subject to such modifications as the Government may see fit to impose.

I regret that you should have found it necessary to ask me "to consider the consequences of disregarding your wishes." Equally do I regret that you see reason to complain of your connection with the Government in this matter, or that you should desire, as an inducement to carry out the work, that you "should be treated a good deal better than you have been."

It is right that I should put plainly before you (and I do so in a very friendly spirit) the other side of the question, and state freely my complaints against you.

You commenced your present work on or about November, 1887—that is nearly eighteen months ago—and during that time you have been paid a total sum of £950. Up to this moment you have not completed the first volume. It was promised most faithfully by you to be ready for publication and issue to subscribers at the end of January of the present year, then at the end of February, then at the end of March, and it is still incomplete on the 11th day of April, and, judging from experience, there is no certainty when it will be completed. The Government have engaged experienced canvassers, to whom they have already paid about £300; they have procured subscriptions for a large number of copies, representing over £4,000, and there is not a copy ready to deliver. This is my complaint.

As to your complaint of ill-treatment, the Government have provided you with a comfortable, furnished room at the Government Printing Office for your special accommodation, two persons paid by the Government have for some months past been employed to search amongst papers and collect information for the work, thus saving you a great deal of personal trouble, and you have been allowed the assistance of your son, who is paid by the Government at the rate of £1 1s. per week. You have also had the occasional assistance of Mr. Bladen and the advantage of the preliminary work done by the late Mr. Byron, and you have been paid a sum of money for the work as it now stands without a precedent in the literary history of the Colony.

After this statement of my views of the case, I desire to say that if the first volume is not completed and in my hands by the last day of this month, it will become my duty to place the whole of the case—including this correspondence—before the Colonial Treasurer and recommend your retirement from any further connection with the work in question, in respect of which there appears to be so much mutual dissatisfaction.

Yours, &c.,

CHARLES POTTER.

* See Mr. Barton's letter, No. 12, in papers ordered to be printed 19 December, 1890.

The Government Printer to The Under Secretary for Finance and Trade.

Sir,

Government Printing Office, Sydney, 6 May, 1889.

I do myself the honor to bring under your notice the great delay on the part of Mr. G. B. Barton in completing the literary work of the first volume of the "Official History," which has now been in his hands for about eighteen months.

It is with very great regret that I take this step, but I am unable to assign any reason for the continued delay, unless it be that Mr. Barton is engaged in writing other works during the time which should rightly be devoted to the completion of the History. I am still unable to say when the first volume will be issued. At this rate it is improbable that Mr. Barton will live long enough to complete the remaining volumes.

The text of the volume was printed off two months ago, and the intervening period has been occupied in preparing an introductory chapter—which could well have been deferred to a second edition of the work—and in correcting and rewriting the index, which had previously been very well prepared by an Officer of this Department.

I was led by Mr. Barton to believe that his portion of the work would be completed sufficiently early in January last to enable me to have copies ready for subscribers during that month, and I advertised accordingly. The non-fulfilment of this promise has led to considerable embarrassment, the question being continually put to me, "When will the book be ready?" an inquiry which, if not satisfied, is naturally followed by complaints of breach of faith.

As Mr. Barton is absent from Sydney—at Lake Macquarie, where he has been for more than a month—and has not thought proper to reply to my letter of the 11th ultimo (although I sent him a reminder on the 2nd instant), I now submit the correspondence which has passed in reference to this question, and beg to request that you will be good enough to bring the case before the Colonial Treasurer, in order that steps may be taken to issue the volume and keep faith with the public, who have—through the canvassers employed—placed their names very freely on the list of subscribers.

I have, &c.,

CHARLES POTTER,

Government Printer.

The language in which these letters are couched will be seen to be in no sense libellous.

CHARLES POTTER,

Government Printer.

P.S.—It is desired that the enclosures A and B should be returned to me for future reference and record. I have not seen Mr. Barton's letter of the 22nd ultimo, to which he refers in par. 1 as containing proof of my alleged prejudice. Nor have I any knowledge of the circumstances he mentions in par. 9, relative to his acceptance of the contract.—C.P.

No. 64.

The Under Secretary for Finance and Trade to The Government Printer.

Sir,

The Treasury, New South Wales, Sydney, 29 March, 1893.

I am directed by the Colonial Treasurer to request you to be good enough to state, whether, in your opinion, the continued existence of the Board, consisting of Messrs. A. Oliver, M.A., R. C. Walker, and G. A. Wood, B.A., to revise the text of the "History of New South Wales from the Records," is necessary in the public interest.

I have, &c.,

F. KIRKPATRICK.

When the revision by the Board of the matter for the second volume of the "History," written by the late Mr. Britten, is completed (and for such revision it is necessary that the third volume of the "Historical Records," which will be ready in about three months, should be available), I am of opinion that the services of the Board might be suspended until a historian to succeed Mr. Britten is appointed, but before that is done, I think that it would be well that several volumes of the "Records" should be printed, which

which will probably take nearly three years. For the "History" I consider a Board to be most necessary, but in regard to editing the "Records" I feel quite sure that Mr. F. Bladen is quite equal to the duty. I may mention that frequent inquiries are being made by the general public for both the "History" and the "Records."—C.P., 4/4/93.

Are the services of these gentlemen to be dispensed with at once, or only after they have revised the text of Volume II?—M.R., 12/4/93. After the text of Volume II has been revised.—F.K., 12/4/93. Treasury Minute prepared and submitted.—M.R., 12/4/93 (Paper herein, No. 65).

No. 65.

Minute by The Under Secretary for Finance and Trade.

The Treasury, New South Wales, Sydney, 12 April, 1893.

Subject :—Board to revise the text of the History of New South Wales from the Records—Temporary suspension of functions.

In March, 1891, the following gentlemen, viz., Professor G. Arnold Wood, B.A., Alexander Oliver, Esq., M.A., R. C. Walker, Esq., and the Honorable Geoffrey Eagar, were appointed by the then Colonial Treasurer as a Board to revise the text of the History of New South Wales from the Records, with monthly meetings and a fee of 5 guineas each per meeting. Mr. Eagar is since deceased, and the Board, therefore, is now composed of the three gentlemen first named. The question has arisen whether, apart from the necessity for a jealous scrutiny of all public expenditure in the present shrunken and shrinking state of the public revenue, the services of this Board would be further required after the revision by it of the second volume of the History (and for such revision it is necessary that the third volume of the Historical Records, which will be ready in about three months, should be available) written by the late Mr. Britten? The Government Printer, having been asked for his opinion, advises that after Vol. II is published there will be a lull in the writing of the History proper for some three years, during which time the publication of the Historical Records will be pressed forward, and for the purpose of such Records an advisory Board is not requisite. Mr. Potter, therefore, recommends that the functions of the Board for revision of the text of the History be suspended during such period of Historical Record editing and publication, and, as I am strongly of the same opinion, I now recommend that the Board's functions be temporarily suspended so soon as the revision of the text of Vol. II is complete, and that Messrs. Wood, Oliver, and Walker be informed accordingly.

12/4/93.

F.K.

Approved.—J.S., 12/4/93.

No. 66.

The Under Secretary for Finance to R. C. Walker, Esq.

Sir,

The Treasury, New South Wales, Sydney, 18 April, 1893.

I am directed by the Colonial Treasurer to inform you that he has decided upon a temporary suspension of the functions of the History Board so soon as the text of Volume II has been finally revised.

I am to say that this decision has been arrived at in view of the circumstance that after the publication of the second volume there will be a cessation in the writing of the History during a period of some two or three years, which will be devoted to the editing of the Historical Records, for the purposes of which an Advising Board is not considered necessary.

Mr. Sec desires me to thank you for the interest which you have taken in the revision of the History, and to express a hope that when the main work is again proceeded with your valuable services will still be available.

I have, &c.,

F. KIRKPATRICK.

[A letter in above terms was also addressed to Messrs. Alexander Oliver and Arnold Wood.]

No. 67.

R. C. Walker, Esq., to The Under Secretary for Finance and Trade.

Sir,

History Board, Sydney, 28 April, 1893.

I have the honor to acknowledge receipt of your letter of the 18th inst., stating that the Colonial Treasurer has decided upon a temporary suspension of the functions of the History Board so soon as the text of Volume II has been finally revised.

The text of this volume has for some time had the close attention of the Board, and I am requested to state, for the information of the Colonial Treasurer, that owing to the second volume of the Records not yet being ready, it is found difficult to verify certain facts and computations given by the late Mr. Britten, but so soon as this can be accomplished the report of the Board will be furnished to you, with any suggestions it may be found necessary to make.

I have, &c.,

R. C. WALKER.

Seen.—J.S., 2/5/93.

No. 68.

R. C. Walker, Esq., to The Under Secretary for Finance and Trade.

Sir,

History Board, Sydney, 16 May, 1893.

Referring to your letter of the 18th ultimo, and to my letter, in reply thereto, of 28th ultimo, I have the honor to invite your attention to the position in which the History Board finds itself placed in connection with the publications that have been prepared, and are in course of preparation, under its supervision. In the first place, with respect to Volume II. of the History, a very serious question has presented itself, and it is one that cannot be satisfactorily dealt with unless the sanction of the Colonial Treasurer to a certain suggestion of the Board, which involves expenditure of money, although inconsiderable, be first obtained.

The

The unrevised text of this volume, comprising about 450 octavo pages, has been printed in galleys, and each member of the Board has carefully perused and re-perused it. The character of the work accomplished by the late Mr. Britten, as editor of the volume, has, without doubt, suffered, in a very marked degree, from the long and distressing illness to which that gentleman finally succumbed. The text, as it stands, is disfigured by repetitions and inaccuracies which, doubtless, Mr. Britten, had he lived, would have removed before submitting that text to the Board. Moreover, the prominence given to insignificant facts and details, while uselessly multiplying the pages of the book, would seriously injure its historical value, and encourage a comparison with antecedent work of a most unfavourable nature. Much of the labour bestowed on Grose's period will be found, it is feared, to have been practically thrown away; and, as a result, if the work done is to be turned to any account, a considerable amount of recasting and re-writing will be found necessary, together with much compression of matter. This will be an operation involving much labour and time, and no member of the Board could be expected to undertake it. Nevertheless, if, by careful revision and reconstruction, this work of Mr. Britten's could be put into such a form for submission to the Board, as to make the question of its final adoption a little less difficult than at present, the Board is not without hope that it would not be found necessary to lay aside entirely the work of the late editor, representing, as it does, so large a public expenditure, and, from a literary point of view, so much research and other labour.

It is thought by the Board that the preliminary work referred to could, under instructions from the Board, be adequately performed by Mr. F. Bladen, of the Government Printing Office, who has been intimately connected with the preparation of Volume I of the History, and with the publication of the Records.

Finally, with regard to the functions of the Board as a supervising and revising authority, I desire to state, on behalf of my colleagues and myself, that we will be very willing to perform all such duties, as we have hitherto performed, without remuneration, during the period of cessation mentioned in your letter.

I have, &c.,

R. C. WALKER.

This might be referred to the Government Printer for an estimate of the cost.—F.K., 16/5/93. Approved.—J.S., 16/5/93.

If the second volume of the "History" should be completed by Mr. Bladen, and the work performed so as to stand the favourable criticism of the History Board and the Public Press, I am of opinion that £100 would be a very moderate sum as remuneration for the accomplishment of such an important and difficult task. As payment would not be required for seven or eight months hence (it being proposed to finish the third volume of the Records before dealing with the volume of the History in question) I would recommend that the matter of payment remain in abeyance until the work is done. I may say that I feel sure that Mr. Bladen, as regards the work, is influenced more by literary ambition than by mercenary motives. I would further say that I believe him to be fully competent to do what is required.—C.P., 18/5/93. Approved.—J.S., 20/5/93.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

CONFERENCE OF PREMIERS.

(MINUTES OF PROCEEDINGS OF THE, HELD AT HOBART, 1895.)

Ordered by the Legislative Assembly to be printed, 6 March, 1895.

CONFERENCE OF PREMIERS, HOBART.

MINUTES OF PROCEEDINGS.

TUESDAY, JANUARY 29, 1895.

THE Conference met at the Chief Secretary's Office at half-past 10 o'clock, the undermentioned gentlemen being present:—

The Hon. G. H. REID, New South Wales.
The Hon. H. M. NELSON, Queensland.
The Hon. C. C. KINGSTON, South Australia.
The Hon. Sir EDWARD BRADDON, Tasmania.
The Hon. GEORGE TURNER, Victoria.
The Hon. Sir JOHN FORREST, Western Australia.

The Hon. G. H. REID moved, That Sir EDWARD BRADDON be appointed Chairman of the Conference. The motion, having been seconded by Mr. NELSON, was carried unanimously.

Mr. JAMES ANDREW, Secretary to the Premier of Tasmania, was appointed Secretary to the Conference.

Correspondence was submitted to the Conference, by—

The Hon. G. H. REID :

A letter from the Federal League in Sydney, recommending their Scheme to the favourable consideration of the Conference.

The Hon. GEO. TURNER :

(1.) A letter from the Victorian Chamber of Manufactures, dated 4th December, 1894, communicating a Resolution recommending a Conference of Colonial Representatives to formulate a Tariff to be acceptable to all the Colonies.

(2.) A letter from the Chamber of Commerce, Melbourne, dated 3 December, 1894, conveying Resolutions as to the establishment of a Federal Constitution for Australia.

(3.) Resolutions adopted by the Municipal Conference on Australian Federation on the 7th November, 1894, as to the establishment of a Federal Constitution.

The Hon. Sir EDWARD BRADDON :

(1.) A letter from the Chamber of Commerce, Hobart, dated 28th January, 1895, conveying a Resolution in favour of free interchange between the various Colonies of such natural products as may appear to be to the mutual benefit of contracting parties.

(2.) A letter from the Secretary to the Council of Agriculture, dated 28th January, 1895, quoting a Resolution in favour of a free interchange of the Fruits of the various Colonies, and also as to the free admission of Queensland Sugar into Tasmania.

Certain Resolutions were submitted to the Conference, and accepted for further consideration.

THURSDAY, JANUARY 31, 1895.

The Conference met at 7:30 p.m.

All the Members present.

The Resolutions submitted at the last meeting of the Conference were considered and passed as follows:—

(1.) It was proposed by Mr. REID, and seconded by Mr. KINGSTON, That this Conference regards Federation as the great and pressing question of Australasian politics.

Carried unanimously.

(2.) Proposed by Mr. REID, and seconded by Mr. TURNER, That a Convention, consisting of Ten Representatives of each Colony, directly chosen by the Electors, be charged with the duty of framing a Federal Constitution.

Carried, Sir John Forrest dissenting.

(3.) Proposed by Mr. REID, and seconded by Mr. TURNER, That the Constitution so framed be submitted to the electors for acceptance or rejection by a direct vote.

Carried, Sir John Forrest and Mr. Nelson dissenting.

(4.) Proposed by Mr. REID, and seconded by Mr. TURNER, That such Constitution, if accepted by the electors of three or more Colonies, be transmitted to the Queen by an Address from the Parliaments of those Colonies praying for the necessary legislative enactment.

Carried, Sir J. Forrest dissenting.

(5.) Proposed by Mr. REID, and seconded by Mr. TURNER, That a Bill be submitted to the Parliament of each Colony for the purpose of giving effect to the foregoing Resolutions.

Carried, Sir John Forrest dissenting.

(6.) Proposed by Mr. REID, and seconded by Mr. TURNER, That Messrs. Turner and Kingston be requested to prepare a Draft Bill for the consideration of this Conference.

Carried unanimously.

Mr. NELSON, Premier of Queensland, stated:—"I agree to the above Resolutions, save and except in so far as they limit the mode of obtaining the approval of the Colonies to the Constitution as framed by the Convention, as in my opinion such approval should be obtained in such manner as each Colony may prescribe in the Act authorising such Convention."

Sir JOHN FORREST, Premier of Western Australia, stated:—"While agreeing that Federation is the great and pressing question of Australasian politics, I am opposed to the procedure proposed to be adopted, and I am of opinion (1) that the Draft Commonwealth Bill of 1891 should be first considered by the Parliaments of the respective Colonies; (2) that any amendments made by the several Parliaments should be referred to a second Convention to be appointed by the several Parliaments after a General Election, and that the Bill, as approved by this second Convention, be final, and be submitted for the necessary Imperial legislation."

Mr. KINGSTON, Premier of South Australia, added:—"As to Resolutions Nos. 4 and 5, I think that a better course would be for the local Legislatures to at once secure the passing by the Imperial Parliament of a Federal Enabling Act validating, as regards the accepting Colonies, without further Imperial legislation, any Constitution framed and accepted pursuant to Resolutions Nos. 2 and 3 and which receives the Royal Assent. I do not, however, think that this view should prevent South Australia's continued co-operation in the federal effort."

MONDAY, FEBRUARY 4, 1895.

The Conference met at 9 o'clock p.m.

Present: The Hon. G. H. REID.

The Hon. GEO. TURNER.

The Hon. Sir EDWARD BRADDON.

The Hon. C. C. KINGSTON.

Absent: The Hon. H. M. NELSON, through indisposition, and Sir JOHN FORREST.

The Draft Enabling Bill was submitted to the Conference, and considered, with some Amendments.

WEDNESDAY, FEBRUARY 6, 1895.

The Conference met at half-past 10 o'clock.

All the Members present.

Adjourned until 2:15 p.m., when all but Sir JOHN FORREST were present.

The Draft Bill prepared by the Hon. GEO. TURNER and the Hon. C. C. KINGSTON was considered, amended, and agreed to as the draft of a type of Bill suitable for giving effect to the Resolutions of the Conference.

Mr. REID intimated that so soon as practicable after the reassembling of the New South Wales Parliament his Government would introduce a measure providing for the chief objects of the Bill as defined in the draft.

Messrs. TURNER, NELSON, KINGSTON, and Sir EDWARD BRADDON intimated that as soon as New South Wales had passed the Bill their Governments would introduce measures providing for the same objects, Mr. NELSON reserving the right to dispense with the direct reference to the electors, required by the second object of the Bill.

It was resolved that, in view of the agreement arrived at by this Conference as to a general scheme of Federation, it was unnecessary at the present juncture to give consideration to many matters of Federal importance submitted by the several Premiers.

It was moved by Mr. REID, That a vote of thanks be accorded to the Chairman.

Carried unanimously.

Mr. REID also moved a vote of thanks to the Secretary.

Carried unanimously.

The Conference adjourned *sine die*.

JAS. ANDREW,
Secretary.

E. BRADDON,
Chairman.

A.D. 1895.

A BILL for an Act to enable Tasmania to take part in the framing, acceptance, and enactment of a Federal Constitution for Australasia.

Preamble.

WHEREAS it is proposed that legislative provision shall be made by the Colonies for the framing, acceptance, and enactment of a Federal Constitution for Australasia:

And whereas it is desirable to enable Tasmania to take part in the framing, acceptance, and enactment of the said Constitution, and this Act is necessary for the purpose:

Be it therefore enacted by His Excellency the Governor of Tasmania, by and with the advice and consent of the Legislative Council and House of Assembly, in Parliament assembled, as follows:—

Short title.

1. This Act may be cited as "The Australasian Federation Enabling Act (Tasmania)." 2.

2. In this Act the following terms bear the meanings set opposite to them respectively :—
- “Colonies”—The Colonies of New South Wales, New Zealand, Queensland, Tasmania, Victoria, and Western Australia, and the Province of South Australia, including the Northern Territory.
- “Convention”—The Convention provided for by this Act.
- “Tasmanian Representatives”—The Representatives of Tasmania in the Convention.
- “Governor”—The Governor in Executive Council.
- “House of Assembly”—The more numerous branch of the Legislature of a Colony.
- “Proclamation”—Proclamation by the Governor published in the *Government Gazette*.
- “Prescribed”—Prescribed by Regulation made under this Act.
3. The chief objects of this Act are to provide as follows :—
- (1.) For framing a Federal Constitution for Australasia by a Convention consisting of Ten Representatives of each Colony directly chosen by the electors of the House of Assembly in each Colony :
- (2.) For submitting the Constitution so framed to the electors for the House of Assembly in each Colony for acceptance or rejection by direct vote :—
- (3.) For transmitting the Constitution for Legislative enactment by the Imperial Parliament.
4. This Act shall come into operation on a day to be fixed by Proclamation, when two Colonies in addition to Tasmania have adopted legislation providing for the chief objects of this Act as declared in the preceding section.
5. This Act is divided into Four Parts, as follows :—
- PART I.—The Convention.
- PART II.—The submission to the Electors.
- PART III.—The transmission for Legislative enactment.
- PART IV.—Supplemental.
- PART I.
THE CONVENTION.
6. The Convention shall consist of Ten Representatives of each Colony represented.
7. Every Member and every person eligible for membership of either House of the Tasmanian Parliament shall be eligible for membership of the Convention as a Representative of Tasmania.
8. The seat of a Tasmanian Representative shall be vacated—
- (1.) By resignation under his hand addressed to the Governor.
- (2.) By failure, without leave of absence from the Convention, to attend any Five sittings thereof.
- (3.) By any circumstance, except resignation or absence, which in the case of a Member of the Tasmanian House of Assembly would vacate his seat in such House.
9. Every vacancy occurring pursuant to the preceding section shall forthwith be filled by a fresh election.
10. Every person qualified and entitled to vote for the election of a Member of the Tasmanian House of Assembly shall be qualified and entitled to vote for the election of Members of the Convention as Representatives of Tasmania.
11. The first election of Tasmanian Representatives as Members of the Convention shall take place on a day to be fixed by Proclamation, which day, as nearly as may be conveniently practicable, shall be the same as the day of first election of Representatives of other Colonies.
12. The voting shall be taken throughout Tasmania as one Electoral District, and every voter shall vote for the full number of Representatives required, otherwise the vote shall be rejected as informal.
13. No person shall vote more than once at the same election of Tasmanian Representatives.
14. If any question shall arise respecting the election qualification or disqualification of a Tasmanian Representative, the same shall be heard and determined as in the case of a question respecting the election qualification or disqualification of a Member of the Tasmanian House of Assembly.
15. The result of every election for Tasmanian Representatives shall be reported to and certified by the Chief Secretary in manner prescribed, whose certificates shall be conclusive, except in proceedings for contesting the validity of the election.
16. When the first elections have been held in three or more Colonies, a meeting of the Convention shall be convened for a time and place agreed to by the Governors of such Colonies, and, in default of agreement, at such time and place as a majority of such Governors shall decide, or, in case of an equal division, as the Governor of the senior of such Colonies shall fix.
17. The Convention may adopt Standing Orders, and may provide for keeping and publishing records and journals of its proceedings, and for the conduct of its business, in such manner as shall be thought fit; and, until otherwise provided, the proceedings of the Convention shall be regulated by the Standing Orders and practice of the House of Commons so far as applicable.
18. The Convention shall be charged with the duty of framing for Australasia a Federal Constitution under the Crown in the form of a Bill for enactment by the Imperial Parliament.
19. The Convention shall at its first meeting, before proceeding to the despatch of any other business, elect a Member of such Convention to be the President thereof.
20. The President may resign his office, or he may be removed from office by a vote of the Convention; and upon his ceasing to be a Member of the Convention his office shall become vacant.
21. In the case of the absence of the President the Convention may choose some other Member to perform his duties during his absence.
22. Whenever a vacancy shall occur in the office of President, such vacancy shall forthwith be filled by a fresh election.
23. The presence, exclusive of the President, of at least one half of the total number of the Members of the Convention shall be necessary to constitute a meeting of the Convention for the exercise of its powers.
24. The Convention may temporarily delegate any of its powers to any Committee of its Members, but the Constitution shall be submitted to and approved by the Convention.
25. Questions arising in the Convention shall be decided by a majority of the votes of the Members present, other than the President; and when on any division the votes are equal, but not otherwise, the President shall have a vote, and his vote shall decide the question.
- 26.

Interpretation.

Chief objects.

Commencement.

Parts.

Constitution of
Convention.
Members.

Vacancies.

Fresh election.

Electors.

First election.

Electoral
District.

One vote only.

Disputed
election.Certificate of
results.Meeting of
Convention.

Procedure.

Convention to
frame
Constitution.
President.Resignation or
removal of
President.Absence of
President.Supply of
vacancy.

Quorum.

Committees.

Voting.

- Adjourment of Convention. 26. When the Constitution shall have been framed and approved by the Convention, copies thereof shall be supplied to the Members of the Convention, and the President shall declare the sitting of the Convention adjourned to a time and place to be fixed by the Convention, not being less than Thirty nor more than Sixty days thereafter.
- Reassembling of Convention. 27. On the reassembling of the Convention, the Constitution as framed and approved prior to the adjournment shall be considered, with any amendments which may be proposed, and shall be finally adopted with any amendments that may be agreed to.
- Final adoption. 28. So soon as the Convention shall have finally adopted a Federal Constitution as required by the preceding section, and shall have disposed of all incidental business, copies certified by the President shall be supplied in duplicate to the Members of the Convention, and the President shall declare the proceedings of the Convention closed.
- Expiration of term of office. 29. Each Tasmanian Representative shall cease to hold office at the expiration of Fourteen days after the proceedings of the Convention have closed.
- Payment of Representatives. 30. Each Tasmanian Representative shall be entitled during his term of office to payment for his services at the rate of £ , to be paid by the Treasurer out of the General Revenue of the Colony.
- Payment of expenses of Convention. 31. Tasmania shall contribute to the payment of the expenses of the meeting and proceedings of the Convention in the proportion which the population of Tasmania bears to the total population of the Colonies represented at the Convention, and the Treasurer shall make such payment accordingly out of the General Revenue.

PART II.

THE SUBMISSION TO THE ELECTORS.

- Constitution to be certified to Governor. 32. Within Fourteen days after the close of the proceedings of the Convention, certified copies of the Constitution shall be forwarded by the President of the Convention and by the Tasmanian Representatives to the Governor.
- Submission to Electors. 33. So soon as practicable after the close of the proceedings of the Convention, the question of the acceptance or rejection of the Constitution shall be referred and submitted to the vote of all persons in Tasmania qualified and entitled to vote for the election of Members of the Tasmanian House of Assembly.
- Voting. 34. Each voter shall vote by ballot "Yes" or "No" on the question, in accordance with the direction on the Ballot-paper in the Schedule hereto, and all votes shall be taken on the same day.
- One vote only. 35. No person shall vote more than once on the question.
- Decision of question. 36. The majority of votes shall decide the question, and if the Constitution shall be thereby rejected, no further action shall be taken by Tasmania in reference thereto pursuant to this Act.

PART III.

TRANSMISSION FOR LEGISLATIVE ENACTMENT.

- Addresses to the Queen. 37. If two Colonies, in addition to Tasmania, accept the Constitution, both Houses of Parliament may adopt Addresses to the Queen praying that the same may be passed into law by the Imperial Parliament.
- Transmission. 38. When Addresses have been agreed to pursuant to the preceding section, the same shall be transmitted to the Queen with a certified copy of the Constitution.

PART IV.

SUPPLEMENTAL.

- Penalties. 39. If any person shall vote or attempt to vote more than once contrary to section 35 he shall be liable on summary conviction to a penalty not exceeding fifty pounds, or, at the option of the Court, to imprisonment not exceeding six calendar months.
- Writs. 40. For the purpose of holding elections of Tasmanian Representatives, and of submitting the Constitution to the electors, the Governor may cause writs to be issued by such persons in such form and addressed to such Returning Officers as he thinks fit.
- Application of general law. 41. Unless and until otherwise prescribed, the laws relating to the conduct of elections for the House of Assembly, the proceedings before and at and subsequent to such elections, the trial of disputed elections, electoral offences, and all incidental matters, shall apply, *mutatis mutandis*, to the election of Tasmanian Representatives, and to the proceedings for submitting the Constitution to the electors.
- Regulations. 42. The Governor may make Regulations prescribing the mode of holding elections of Tasmanian Representatives, and submitting the Constitution to the electors, and generally for the purposes of carrying this Act into effect.
- Publication of Regulations. 43. All such Regulations shall be published in the *Government Gazette*, and on such publication shall have the force of law; and all such Regulations shall be laid before both Houses of Parliament within fourteen days after the making thereof, if Parliament be then sitting, or if Parliament be not then sitting, within fourteen days after the next meeting of Parliament.
- Enforcement of Regulations. 44. Any such Regulation may provide for the summary enforcement thereof by a penalty not exceeding fifty pounds, or, at the option of the Court, by imprisonment not exceeding six calendar months.

THE SCHEDULE.

AUSTRALASIAN FEDERAL CONSTITUTION.

Ballot-paper.

Are you in favour of the proposed Federal Constitution Bill?

"Yes."

"No."

If you are in favour of the Bill strike out the above word "No."

If you are against the Bill strike out the above word "Yes."

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT ARCHITECT'S DEPARTMENT.

(RETURN RESPECTING.)

Ordered by the Legislative Assembly to be printed, 11 December, 1894.

RETURN to an Order of the Honorable the Legislative Assembly of New South Wales, dated 1st November, 1894:—

- “(1.) The total amount of contracts for buildings let in the Government Architect’s Branch of the Public Works Department (apart from furniture) for the year ending 31st August, 1894.
- “(2.) The total amount of contracts for furniture let in the Government Architect’s Branch during same period.
- “(3.) The salaries and other expenses, &c., and cost of stationery, &c., which have been paid for the year ending 31st August, 1894, in the Colonial Architect’s Department.
- “(4.) The percentage of cost on the total amount expended for the year ending 31st August, 1894.”

(Mr. O’Sullivan.)

(1.) Total amount of contracts let for year ending 31st August, 1894:—

Nature of Work.	No. of Contracts.	Amounts.		
		£	s.	d.
Erections	16	48,021	0	6
Additions	60	15,994	8	10
Alterations and repairs	469	16,728	15	6
Furniture, payable from Building Votes	41	1,423	3	7
Total	586	£82,167	8	5

The expenditure on buildings during that period amounted to £113,117 17s. 0d., comprising—

	£	s.	d.
Works over £500	64,762	8	5
„ above £100 and under £500	15,566	4	3
„ under £100... ..	32,789	4	4

The number of progress valuations and vouchers prepared amounted to 4,185, details of which are set forth in Schedule A.

The sum of £2,239 1s. 3d. was expended in 476 day-work accounts, averaging £4 14s. each, details of which are set forth in Schedule B.

The following services were also rendered during the same period:—

1. Plans and specifications prepared, and, in some cases, tenders called for twenty-seven works at an estimated cost of £45,647. (See Schedule C.)
2. Sketches and part plans prepared for twenty-nine works, estimated cost of portion only £51,920. (See Schedule D.)
3. Reports and valuations of projected improvements or repairs on 224 buildings, on thirty-six buildings for theatrical performances, valuation of City buildings for Rate Assessments, &c., also 260 corrected copies of plans of existing buildings were prepared, towards forming a complete Record Portfolio. (See Schedule E.)
4. Professional and clerical services in connection with building of Grafton Gaol and Sydney Hospital, £40,180 6s. 2d. (See Schedule A.)
5. Valuations of buildings for Government Valuator for resumption purposes, £30,110 11s. 2d. (See Schedule F.)
6. Clerical work, involving keeping accounts, correspondence, and preparing returns, &c., &c.

364—

(2.)

[770 copies—Approximate Cost of Printing (labour and material), £1 13s. 0d.]

(2.) The total amount expended from Furniture Vote, principally with annual contractors, £4,040; also work involved in receiving old furniture and redistributing same.

(3.) Salaries and other expenses were as follows:—

	£	s.	d.
Professional	4,902	15	4
Superintendence, District Inspectors, and Clerks of Works	3,801	1	0
Clerical Branch	3,242	6	1
Clerk in charge of Annual Contracts	222	10	0
Foreman of yard	164	0	0
Travelling, &c.	1,702	12	8
Messengers	438	0	0
Stationery, Stores Department	116	1	10
Printing, &c.	56	17	1
Incidental Expenses	214	15	2
Total	14,860	19	2

(4.) The percentage office cost is calculated as follows:—

	£
Professional, £4,902.	2,827
Schedule A. Expenditure, £113,117, at $2\frac{1}{2}$ per cent.	50
" " Grafton Gaol and Sydney Hospital... ..	
" B. Included in A.	
" C. Plans, Tenders, and Estimates, £45,647, at 2 per cent.	912
" D. Sketches, and Part Plans, £51,920, at 1 per cent.	519
" D. Sundries	45
" E. Reports and valuations, &c.	556
	<u>£4,909</u>

NOTE.—Schedule A, Buildings, cost an average of $2\frac{1}{2}$ per cent., whilst the several expenditures varied from £6,475 down to 1s. 6d.

Superintendence, £3,801.	2,827
Schedules A and B. Expenditure £113,117, at $2\frac{1}{2}$ per cent.	54
" C. Services, re 27 proposed Works, at £2	58
" D. " 29 Reports, at £2	448
" E. " 224 " at £2	
Preparation by District Officers of 260 corrected copies of existing Plans for Record purposes, at 30s.	390
Valuations for resumptions	20
	<u>£3,797</u>

NOTE.—The above services required travelling over the whole of the Colony, unavoidably incurring much additional time.

	£
Clerical, £3,242.	1,696
Schedule A. Expenditure, £113,117, at $1\frac{1}{2}$ per cent.	602
" A. Grafton Gaol and Sydney Hospital, £40,180, at $1\frac{1}{2}$ per cent.	
" B. Included in above.	
" C. Projected works	45,647
" D. Reports and valuations	51,920
Accounts, returns, &c., not valued	
	<u>£3,274</u>

Contingencies, travelling, &c.; stationery, &c., £2,528.

If calculated on the professional office work the rate would be £250,964 at 1 per cent., £2,509; but, as the total expenses cover many items having no reference to the professional office work, the percentage is actually lower than 1 per cent., though difficult to ascertain.

Summary.

The above details show the office cost on the year's expenditure to be:—

Professional	$2\frac{1}{2}$ per cent.
Superintendence	$2\frac{1}{2}$ "
Clerical	$1\frac{1}{2}$ "
Contingencies	1 "

W. L. VERNON,
Government Architect.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

ARCHITECTS EMPLOYED BY GOVERNMENT.

(RETURN RESPECTING.)

Ordered by the Legislative Assembly to be printed, 17 October, 1894.

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 2nd October, 1894,—That there be laid upon the Table of this House,—

“ A return showing the names of the various architects (other than the Government Architect) who have been entrusted with the construction of buildings for the Government since 1891 to the present time, specifying the names of the architects, the amount of the contracts, and the commission and other charges paid for in connection with the same.”

(*Mr. Cameron.*)

H. A. Wilshire, Grafton Gaol. Total cost, £18,861 17s.

	£	s.	d.	Comparison.	£	s.	d.
Mr. Wilshire's commission and other charges, at 5·65 per cent. ...	1,054	7	6	Cost of professional work for corresponding period in Government Architect's Office, at 2·33 per cent.	440	0	0
Other expenses of the competition..	327	10	0				
Total ...	£1,381	17	6				

NOTE.—The actual extra cost would have been less, inasmuch as the work could have been carried out by the working staff of the office, with additional assistance costing £200.

J. Kirkpatrick, Sydney Hospital. Total cost, £76,177 15s. 11d.

	£	s.	d.	Comparison.	£	s.	d.
Mr. Kirkpatrick's commission and charges, at 5·27 per cent. ...	3,974	0	7	Cost of professional work for corresponding period in Government Architect's Office, 2·33 per cent. on £71,177 15s. 11d. ...	1,660	8	0

NOTE.—The actual extra cost would have been less, inasmuch as the work could have been carried out by the working staff of the office, with additional assistance costing £600.

1894-5.

NEW SOUTH WALES.

FIRE BRIGADES' BOARD, SYDNEY.

(ELEVENTH ANNUAL REPORT.)

Presented to Parliament, Pursuant to Act 47 Vic. No. 3, sec. 7.

The Chairman to The Chief Secretary.

Fire Brigades' Board, Head Quarters Fire Station,

Sydney, 6 April, 1895.

Sir,

I have the honor to present the Report of the Fire Brigades' Board for the Metropolitan District upon their administration during the year 1894, as required by "The Fire Brigades' Act, 1884," section 7.

I have, &c.;

CHARLES BOWN,

Chairman.

REPORT OF THE FIRE BRIGADES' BOARD FOR THE YEAR 1894.

PURSUANT to Act 47 Victoria No. 3, section 7, we have the honor to furnish the following Report upon the work of the Fire Department for the Metropolitan District in the year 1894.

The biennial election to the Board took place in March, and resulted in the return of Alderman Board. J. C. Beare, J.P. (re-elected), by the Municipal Council of the city of Sydney; Walter Church, Esq., J.P. (re-elected), by the Fire Insurance Companies having their headquarters in New South Wales; John St. Vincent Welch, Esq., J.P., by the other Fire Insurance Companies carrying on business in the Colony; Alderman William Taylor, Mayor of Rockdale, by the proclaimed municipalities in the metropolitan area; and Edward J. Love, Esq. (re-elected), by the Volunteer Fire Companies. At the first meeting of the newly-constituted Board Mr. Walter Church was re-elected to office as Vice-chairman.

Thirty-two municipalities are included in the contributory list for the year [*Appendix II*], the total Municipalities. assessed value of whose ratable property was £5,296,891, on which the contribution to this department was equal to two shillings and nine-tenths of a penny (2s. 0'9d.) in every £100. Thirty-one were recorded in the previous return, but the erection of a portion of the Municipality of North Sydney, in June, 1893, into the Borough of Mosman accounted for the increase in the number. The sum of the assessments was £119,887 less than in that year. There was, however, an increase of £20,785 in the returns of the municipalities outside the metropolis; but the city returned a decrease of £140,672, which more than absorbed the increase of the other municipalities. During the year the Metropolitan District was largely extended by the addition of Auburn, Canterbury, Concord, Enfield, Hurstville, Rockdale, and Strathfield, but they were not called upon to contribute until the commencement of this year. By this extension the anomaly of isolated districts being outside the operation of the Act, while receiving more or less fire protection at the expense of neighbouring boroughs was abolished.

The statutory declarations of the amounts held at risk by the fire insurance companies within the Insurance Com- Metropolitan district recorded a total of £59,844,701. This represented a falling off of £1,341,014 upon panies. the previous return, and exhibited the first check in the regular yearly expansion from £36,690,987 in 1884 to £61,185,715 in 1893. The rate of contribution per £100 was two decimal two pence (2'2d.) The tendency to contraction in the number of Insurance Companies has been previously remarked, and a further reduction of one is shown in the list of forty-two furnished on page 4, the alteration being caused by the retirement of the Hong Kong Fire Insurance Company from the Colony, together with the cessation of the Pacific Fire and Marine Insurance Company, and of the New South Wales Assurance Corporation, from business. The two last-named were local offices, and their disappearance brought the number of fire offices having head quarters in the Colony down to six, while thirty-six others had branch establishments in Sydney. On the other hand, the Indemnity Fire and Marine Insurance Company of Australasia (Limited) and the Royal Exchange Assurance Corporation commenced business here.

The revenue levied upon the three contributory bodies was similar in amount to that of the Revenue. previous year, and the adopted estimate of the probable expenditure for the current year was £18,000.

Balmain, North
Sydney, new fire
stations at.

As anticipated in our last report, a fire station for the district centring in Balmain was erected on the site provided in Darling-street at a cost of £1,022, exclusive of electrical adjuncts and fittings supplied by the workshops of the Metropolitan Fire Brigade. The plans for the building were drawn by Mr. Charles Hellmrich, J.P., and the work of erection was carried out under his supervision by Messrs. Folster and Heels. Towards the close of the year a contract was entered into with Mr. Robert Wilkins to erect a station at North Sydney, where the Government had also provided a site, of similar design to that at Balmain, and the building is in progress under Mr. Hellmrich's direction.

Balmain.

The Balmain Volunteer Fire Company was placed in charge of the former station in August, but this being the first occasion upon which volunteers have been permitted to occupy a permanent fire station erected by the Board, a term of trial of six months was prescribed, and the question is now under consideration whether to continue the volunteer firemen in possession or to replace them by the Metropolitan Fire Brigade. In North Sydney, which, owing to its position on the north side of the harbour, is very difficult of access from the city, it has been decided to station a detachment of the Metropolitan Brigade with an equipment suitable for that large and hilly district; for it is recognised that serious loss of time must elapse before assistance of men and material could be forwarded thither in case of any outbreak. From this centre it is proposed to stretch telephone fire-alarm lines towards Mosman and Willoughby.

North Sydney.

Mosman and
Willoughby.
Paddington.

It is hoped that when better protection has been provided for the northern suburbs, the requirements of Paddington and the eastern suburbs will not be overlooked. Besides the vacant piece of Crown land adjoining the Paddington Town Hall, there is a highly desirable position for a fire-station in the Paddington water reservoir enclosure. As we are given to understand that the Department of Water Supply and Sewerage expect soon to have no further use for that reservoir, we would suggest the desirability of setting apart a piece of that ground for a fire-station, from whence protection could be promptly afforded to a large and populous area, and assistance rendered to the city in case of necessity. It is to be regretted that so far no progress has been made with regard to securing a fire-station site at

Burwood.

Burwood.

Fires.

In a time of general depression such as the Colony has lately experienced, and which is well indicated by the aforesaid falling-off in the value of ratable property in the municipalities, an abnormal increase in the number and importance of destructive fires is always expected; but we are pleased to report that the year 1894 was exceptional in this respect, and no extraordinary increase has to be remarked upon. This satisfactory result has no doubt been largely due to the continued efficiency of the Brigade, to the celerity with which, owing to the reticulation of the telephone fire alarm system throughout the city and elsewhere, firemen can be concentrated at an outbreak, with the best obtainable extinguishing appliances; and to the warning effect which our power to direct the City Coroner to institute an inquiry into the cause of any fire, has had upon incendiaries,—even though that power has been very moderately exercised. Four hundred and nine calls for the Brigade's assistance were received, of which, excluding false alarms and chimney fires, 270 were for actual fires,—3 being for vessels in the harbour which, under the existing Act is, strictly speaking, outside our jurisdiction. These figures, compared with those of the previous twelve months, exhibit an increase of 8 alarms and 12 fires. Among the latter are included fires at Messrs. John Lawler & Sons; the Offices of the Chief Secretary, and Public Works Department; Palings' Buildings; the "Royal," "Grosvenor," and "Imperial" Hotels; Parbury's Wharf; the large warehouses of Messrs. Holdsworth, Macpherson, & Co.; Messrs. Virgoe, Son, and Chapman; and others, of which details are supplied in the list of fires. [Appendix VIII.] The first was the only one of those cited which resulted in total destruction; in the others, the firemen succeeded in arresting the flames and saving the buildings.

Messrs. John
Lawler & Sons.

The premises occupied by Messrs. John Lawler & Sons, Nos. 608, 610, 612, George-street, consisted of a narrow six-story erection, heavily stocked with furniture and other goods, which towered high above the other business establishments in the vicinity. In consequence of its construction the building had always been looked upon with apprehension, from the fireman's point of view, and the fire which broke out there shortly before 7 o'clock on Saturday night, the 1st September, fully justified the anxiety with which it had been regarded. The firemen were at work in the building within 3 minutes after the fire was first observed, and all available appliances were despatched to their assistance. But the flames spread with such rapidity that the retreat of a number of the Metropolitan Fire Brigade was almost cut off, and a quantity of valuable hose, &c., which had been taken inside, could not be recovered. The high walls fell in masses, and unfortunately an officer of the Metropolitan Fire Brigade was crushed beneath the ruins. Some 250 lb. of gunpowder were stored in premises close to the burning edifice, and this enhanced the peril of the firemen, while the populace, which gathered in immense concourse to the spectacle, unwittingly risked terrible disaster. By unrelaxed effort the blaze was fortunately prevented from spreading to other premises, and streams of water saved the explosive from ignition until the collapse of the neighbouring wall finally covered and protected it.

Gunpowder,
risk from.

Inquests

Out of the 270 fires recorded, the City Coroner held inquests, at our instance, into six. Four of these resulted in verdicts of arson, and two in open verdicts. Inquiries were also made into the origin of some other fires, by desire of the police.

Water Supply.

The proposal of the Water and Sewerage Department to construct a large water reservoir on the heights of the Centennial Park, to take the place of that at Paddington, is one which we regard with much satisfaction in consequence of the increased pressure which will be available for extinguishing fires. With pleasure we acknowledge the courteous attention which the Board of Water Supply and Sewerage has invariably given to any representations with regard to the water supply for fire purposes.

Building Act,
need for.
Legislation re
Explosives.
Inflammable
Liquids Bill.

The oft urged need for legislation to regulate the erection of buildings in the city, and to better control the traffic in explosives, has received forcible illustration by the fatal fire at Messrs. John Lawler and Sons. The Bill prepared in 1891 to "Amend and Consolidate the Law relating to the Keeping, Selling, and Conveyance of Inflammable Liquids," was sent down for reconsideration in the month of October, and after due consideration was returned with a report upon certain questions raised in connection therewith.

Amendment of
Fire Brigades'
Act.

We again desire to impress upon the Government the urgent necessity which exists for the present Fire Brigades' Act to be thoroughly recast. It is generally acknowledged that the defects are many and serious; and acting upon experience of the practical working of the Act, we drafted a Bill several years ago for its amendment (*vide* 5th Annual Report, page 35, April 1889.) Nothing, however, has yet been done to give effect to our recommendation in this respect. The

The height of the numerous telegraph wires in the principal streets of Sydney is an element of danger which at any moment may have serious results. They impede the operation of escape ladders and other life saving appliances, as evidenced in the destructive conflagration of 2nd October, 1890, and recently at the fire at the "Liverpool Arms Hotel," Pitt and King streets. Telegraph Wires.

The telephone fire alarm system which has proved so admirably adapted for the requirements of modern fire service, has been still further extended. The six alarm telephones referred to last year as in course of installation in the Glebe, are now in working order. A similar number has been provided in Paddington, several in Marrickville, Petersham, Darlington, and other places; in all adding twenty-seven to those previously existing, and bringing the total number up to 114. These are kept in order by our own staff, and a great deal of work requiring special training is thereby entailed upon the Brigade. Telephone fire alarm system.

The Metropolitan Fire Brigade now numbers fifty-two of all ranks, or one more than in 1893, and continues to maintain its high standard of efficiency, although at times its strength is taxed to the utmost. The water-tower referred to in our last report has been added to the equipment. This can be affixed to the summit of the 80-feet extension ladder, and a stream of water directed from it by men on the ground, in any required direction. As the ladder is readily movable, and supports itself in a vertical position without resting against a wall, it is apparent that the addition of the water-tower may prove very valuable. A double vertical steam fire-engine of the most improved pattern, somewhat lighter than those hitherto in use, but capable of delivering 260 gallons a minute, was ordered from Messrs. Shand, Mason, & Company, of London, early in the year, and has lately arrived. Its trials have been thoroughly satisfactory, and its comparative lightness will give it special value in long distance runs to the suburbs, where buildings are not so lofty as in the city. Brigade.
Water-tower.
New light steam-engine.

It is our sad duty to report the death of Senior-Fireman Edward Charles Brown, Officer-in-Charge of our No. 5 Station, Newtown, at the before-mentioned fire on 1st September. He had been a member of the Brigade since its inception in 1884, and previously had been one of the Insurance Companies' Brigade. His record for the whole term of his service was unblemished, and he had proved himself capable, courageous, and active. While working at that fire he was unfortunately crushed by a portion of falling wall, and expired shortly after his recovery from beneath the debris. Fireman Brown left a widow and four young orphans, and the public sympathy aroused at the time took the form of a fund for the assistance of those dependent upon firemen killed or disabled in their perilous duty, who might require relief. The "Firemen's Widows and Orphans' Fund" for this object was inaugurated at a public meeting in the Town Hall on 6th September. Sir W. P. Manning, Mayor of Sydney, presided, and the Premier (Hon. G. H. Reid), Sir Henry Parkes, Sir George Dibbs, and other leading public men took active part in it. His Excellency the late Sir Robert Duff, and Lady Duff, kindly gave their countenance and practical assistance, and it is hoped that a sufficient sum will be raised to place the fund upon a permanent basis of usefulness. Death of Senior-Fireman Brown.

The list of registered Volunteer Fire Companies, furnished in an Appendix, numbers twenty-four, and pecuniary assistance to the amount of £2,762, was granted to them, an increase of £277 on the similar amount for the previous year. The Companies have always readily responded to calls to fire, and those within reach of the city have sent assistance to the permanent brigade when called upon. Besides the help thus afforded the volunteer firemen have performed much useful work in the suburban districts wherein they operate. Volunteer Fire Companies.

Superintendent Bear having obtained three months' leave of absence from the 1st August, Deputy-Superintendent Alfred Webb was gazetted Acting Superintendent, and ably performed the duties of that responsible position. It was during this period that the great fire at Messrs. John Lawler and Sons occurred; and officers and men under his command acquitted themselves admirably. Acting Superintendent

In the Superintendent's report, and tables herewith, more particular information of the year's work is furnished.

CHARLES BOWN,
Chairman.

Adopted at a meeting of the Metropolitan Fire Brigades' Board, held in the Board-room, Headquarters Fire Station, Sydney, on the 20th March, 1895.

APPENDIX I.
INSURANCE COMPANIES.

Contributory Company.	Amount at risk, 31 Dec, 1893	Contribution, 1894.	Contributory Company.	Amount at risk, 31 Dec, 1893.	Contribution, 1894.
	£	£ s. d.		£	£ s. d.
The Alliance Assurance Co.	1,611,701	148 2 5	Mutual Union Insurance Co. (Ltd.)	180,000	16 10 10
Atlas Assurance Co.	433,531	39 16 10	The National Fire and Marine Insurance Co. of New Zealand.....	1,218,966	112 0 7
Australian Alliance Assurance Co..	414,411	38 1 9	Netherlands-India Sea and Fire Insurance Co. (Ltd)	113,009	10 7 9
Australian Mutual Fire Insurance Society	8,175,954	751 8 2	New Zealand Insurance Co.	2,017,754	185 8 10
Batavia Sea and Fire Insurance Co	244,449	22 9 4	North British and Mercantile Insurance Co.	1,183,725	108 15 9
British and Colonial Insurance Co (Ltd.)	770,553	70 16 4	North Queensland Insurance Co. (Ltd.)	328,676	30 4 2
Caledonian Insurance Co.	428,635	39 7 10	Northern Assurance Co	736,210	67 13 3
City Mutual Fire Insurance Co (Ltd)	3,303,753	303 12 7	Norwich Union Fire Insurance Society	2,239,704	205 16 9
Colonial Mutual Fire Insurance Co. (Ltd)	1,230,763	113 2 3	Palatine Insurance Co. (Ltd.)	485,145	44 11 9
Commercial Union Assurance Co.	6,004,716	551 17 3	Phoenix Assurance Co of London .	1,060,335	97 9 0
Cornwall Fire and Marine Insurance Co. (Ltd)	352,218	32 7 5	Queensland Mutual Insurance Co (Ltd.)	149,462	13 14 9
Derwent and Tamar Fire and Marine Assurance Co.	340,795	31 6 5	Royal Insurance Co.	2,214,538	203 10 6
Fire Underwriters' Association of N.S.W. — for offices outside N.S.W.	388,775	35 14 7	Royal Exchange Assurance Corporation	141,654	13 0 4
Guardian Fire and Life Assurance Co. (Ltd.)	641,234	58 18 8	Scottish Union and National Insurance Co	430,211	39 10 9
Imperial Insurance Co. (Ltd) of London	1,315,168	120 17 5	South British Fire and Marine Insurance Co. of New Zealand	1,438,203	132 3 7
Indemnity Fire and Marine Insurance Co of Australasia (Ltd)	86,244	7 18 6	Standard Fire and Marine Insurance Co. of New Zealand	867,039	79 13 8
Lion Fire Insurance Co. (Ltd.)	278,721	25 12 4	Straits Fire Insurance Co. (Ltd) .	241,733	22 4 4
Liverpool and London and Globe Insurance Co. ..	2,672,210	245 11 9	Sun Insurance Office of London	763,581	70 3 6
London and Lancashire Fire Insurance Co	718,623	66 0 11	United Insurance Co. (Ltd) ..	3,837,117	351 14 7
Manchester Fire Assurance Co.	363,084	33 7 5	United Australian Mutual Fire Insurance Co. (Ltd.) ..	479,400	44 1 2
Mercantile Mutual Insurance Co.	8,422,402	774 1 2	Victoria Insurance Co. (Ltd.) ..	1,530,300	140 12 10
			Totals	59,844,701	5,500 0 0

APPENDIX II.
MUNICIPALITIES.

Municipality.	Assessment, 1893	Contribution, 1894	Municipality.	Assessment, 1893	Contribution, 1894.
	£	£ s. d.		£	£ s. d.
City of Sydney	2,495,960	2,591 13 4	Mosman	33,288	34 11 3
Alexandria	62,000	61 7 7	Newtown	166,991	173 7 11
Ashfield	145,221	150 15 10	North Botany	19,615	20 7 4
Balmain	187,740	194 18 9	North Sydney	213,724	221 18 5
Botany	19,214	19 19 0	Paddington	178,389	185 4 7
Burwood	86,412	89 14 6	Parramatta	74,404	77 5 2
Camperdown	44,576	46 5 8	Petersham	122,592	127 5 10
Darlington	27,726	28 15 9	Randwick	115,499	119 18 7
Drummoyne	24,047	24 19 5	Redfern	182,065	189 0 11
Erskineville	33,443	34 14 7	Rookwood	18,788	19 10 2
Five Dock	14,325	14 17 6	St. Peters	32,452	33 13 11
Glebe	158,400	164 9 6	Waterloo	68,281	70 18 0
Granville	48,400	50 5 1	Waverley	124,767	129 11 0
Kogarah	42,277	43 18 0	Willoughby	69,683	72 7 1
Leichhardt	136,992	142 4 11	Woollahra	154,299	160 4 4
Manly	56,184	58 6 9			
Marrickville	139,132	144 9 4	Totals	£ 5,296,891	5,500 0 0

APPENDIX III.

SUMMARY of ATTENDANCES at Board Meetings during the year 1894.—(Number of Meetings, 27, exclusive of Committee Meetings.)

Names.	Meetings.	
	Present.	Absent
Charles Bown, Esq., J.P. (Chairman)	27	0
Walter Church, Esq., J.P. (Vice-Chairman)	27	0*
Alderman J. C. Beare, J.P.	27	0*
Edward J. Love, Esq.	27	0*
Charles Hellmrich, Esq., J.P.	5	1†
W. C. Goddard, Esq., J.P.	6	0†
J. St Vincent Welch, Esq., J.P.	21	0‡
Alderman Wilham Taylor	21	0‡

NOTE.—The biennial term of office expired in March * Re elected † Retired ‡ Elected

APPENDIX IV.

APPENDIX IV.
FIRE BRIGADES' BOARD, SYDNEY.
ABSTRACT of RECEIPTS and EXPENDITURE for the Year ending 31st December, 1894.

RECEIPTS		EXPENDITURE	
	£ s d	£ s d	£ s d
1 January, 1894			
To Balance—			
Commercial Banking Co of Sydney (Ltd)	641 17 1	By Plant, stores, &c	1,396 6 8
Superintendent's Petty Cash	50 0 0	Clothing	419 7 9
„ Watching Duties	20 0 0	Printing stationery, postage, &c	136 3 11
		Rates and taxes	420 7 0
	711 17 1	Life premiums	282 8 6
Insurance Companies—		Guarantee premiums	10 0 0
Alliance	148 2 5	Cab hire and cartage	24 15 1
Atlas	39 16 10	Rewards for calls	10 6 0
Australian Alliance	38 1 9	Rewards to turncocks	7 7 0
Australian Mutual	751 8 2	Petty expenses	31 8 8
Batavia	22 9 4	Services rendered	63 2 6
British and Colonial	53 2 3	Law costs	28 7 0
Caledonian	39 7 10	Miscellaneous	88 6 0
City Mutual	303 12 7	M F B Benefit Club	19 9 10
Colonial Mutual	113 2 3	Repairs to stations	300 2 1
Commercial Union	551 17 3		3,237 18 0
Cornwall	32 7 5	Balmain Fire station—Erection	1,022 6 10
Derwent and Tamar	31 6 5	North Sydney Fire station—Erection	20 0 0
Fire Underwriters	35 14 7		1,042 6 10
Guardian	58 18 8	Salaries	8,112 18 6
Imperial	120 17 5	Board fees	300 0 0
Indemnity	7 18 6	Auditors' fees	35 0 0
Lion	25 12 4	Medical fees	4 4 0
Liverpool and London and Globe	245 11 9		8,452 2 6
London and Lancashire	66 0 11	Lighting	451 14 7
Manchester	33 7 5	Fuel	71 10 0
Mercantile Mutual	774 1 2		523 4 7
Mutual Union	16 10 10	Horses—	
National of New Zealand	112 0 7	Purchase	160 9 2
Netherlands India	10 7 9	Fodder	398 10 4
New Zealand	185 8 10		558 19 6
North British and Mercantile	108 15 9	Harness	26 13 0
North Queensland	30 4 2	Telephones, Fire alarms, &c—Installations	
Northern	67 13 3	and maintenance of lines	753 15 0
Norwich Union	205 16 9	Subsidies to Volunteer Fire Companies—	
Palatine	44 11 9	Alexandria	140 0 0
Phoenix	97 9 0	Ashfield	110 0 0
Queensland Mutual	13 14 9	Balmain	256 5 0
Royal	203 10 6	Burwood	110 0 0
Royal Exchange	13 0 4	Drummoyne	150 0 0
Scottish Union and National	39 10 9	Glebe	160 0 0
South British of New Zealand	132 3 7	Granville	75 0 0
Standard of New Zealand	79 13 8	Leichhardt	75 0 0
Straits	16 13 3	Manly	75 0 0
Sun	70 3 6	North Botany	50 0 0
Limited	351 14 7	North City	100 0 0
United Australian Mutual	44 1 2	Paddington	200 0 0
Victoria	140 12 10	„ Brewery	200 0 0
	5,476 14 10	Parianatta (No 1)	100 0 0
Pacific Insurance Co (in liquidation)	32 11 0	„ (No 2)	85 0 0
Colonial Treasurer	5,500 0 0	Randwick	50 0 0
Municipalities—		Rookwood	50 0 0
City of Sydney	2,591 13 4	Rockdale	25 0 0
Alexandria	64 7 7	Standard Brewery	200 0 0
Ashfield	150 15 10	St Leonards	200 0 0
Balmain	194 18 9	Waterloo	141 0 0
Botany	19 19 0	Waverley	110 0 0
Burwood	88 18 5	Woollahra	200 0 0
Camperdown	46 5 8		2,762 5 0
Darlington	28 15 9	Volunteer Firemen employed in watching	
Drummoyne	6 4 11	duties	42 12 6
Erskineville	8 6 6	Balance—	
Five Dock	34 14 7	Commercial Banking Co of Sydney (Ltd)	576 7 6
Glebe	7 10 7	Superintendent's petty cash	50 0 0
Granville	164 9 7		626 7 6
Kogarah	50 5 1		
Leichhardt	10 7 1		
Manly	43 18 0		
Marrickville	142 4 11		
Mosman	58 6 9		
Newtown	144 9 4		
North Botany	34 11 3		
North Sydney	173 7 11		
Paddington	20 7 4		
Parramatta	221 18 6		
Petersham	185 4 7		
Randwick	77 5 2		
Redfern	127 5 10		
Rookwood	119 18 7		
St Peters	189 0 11		
Waterloo	19 10 2		
Waverley	33 13 11		
Willoughby	70 18 0		
Woollahra	129 11 0		
	54 5 4		
	160 4 4		
	3,473 14 6		
Rent of quarters	569 15 3		
Watching duties	44 7 6		
Fines	1 6 4		
Services rendered	50 0 0		
Sale of old hose	11 4 0		
„ horses	15 10 0		
Life premiums	94 15 7		
Law costs	26 5 0		
Woollahra Municipal Council—Cost of telephone			
from police to fire station	18 2 6		
Liquidator—Mutual Fire and Marine Insurance			
Company of Australasia	0 0 10		
	831 7 0		
Total	£18,026 4 5	Total	£18,026 4 5

Z COLLIS BARRY, Secretary.

Having examined the books and vouchers of the Fire Brigades' Board for the year ending 31st December, 1894, and also this Abstract of Receipts and Expenditure, I certify the same to be correct

JAMES ROBERTSON, F S I A, F I A V,
Auditor.

11 January, 1895.

APPENDIX V,

APPENDIX V.
VOLUNTEER FIRE COMPANIES, 1894.

Name of Station	Situation of Station	No of Members registered on Roll	Plant		Subsidy
			Engines, Reels, &c	Hose, feet of	
CITY COMPANIES					
North City	Cumberland street	12	1 hose waggon, 1 reel, 2 horses	900	£ s. d. 100 0 0
Paddington Brewery	Dowling-street	18	1 manual, 2 reels, 2 horses	900	200 0 0
Standard Brewery	Foveaux street	13	1 hose cart, 1 reel, 2 horses	1,019	200 0 0
SUBURBAN.					
Alexandria	Genard street	17	1 manual, 1 reel	753	140 0 0
Ashfield	Liverpool Road	17	1 manual	754	110 0 0
Balmain	Darling street (new station)		2 manuals, 1 reel, 1 horse	1,650	256 5 0
Burwood	Belmore street	17	1 manual, 1 hose reel, 1 horse	831	110 0 0
Drummoyne	Lyons Road	18	1 reel	595	50 0 0
Glebe	Mitchell street	16	1 manual, 1 reel, 1 horse	1,000	160 0 0
Granville	Good street	25	1 manual, 1 reel	940	75 0 0
Leichhardt	Marion street	15	1 hose cart, 1 reel, 1 horse	840	75 0 0
Manly	Market lane	16	1 manual, 1 reel	792	75 0 0
North Botany	Rickety street	16	1 manual, 1 horse	603	50 0 0
Paddington	Oxford-street	22	1 manual, 1 waggon, 1 reel	800	200 0 0
Parramatta No 1	Church street	20	1 manual, 1 reel	1,300	100 0 0
Parramatta No 2	Church street	23	1 manual, 1 reel, 1 hose and ladder cart	1,400	85 0 0
Randwick	Council Chambers	19	1 reel	648	50 0 0
Rockdale	..	15	1 manual, &c		25 0 0
Rookwood	Joseph street	22	1 manual	600	50 0 0
St. Leonards (2 stations)	Mount street, and at Alfred street.	24	2 reels	700	200 0 0
Waterloo	Kellick street	16	1 manual, 1 hose cart, 1 reel, 1 horse	850	141 0 0
Waverley	Carrington Road	16	1 manual, 1 reel	790	110 0 0
Woollahra	Moncur-street	17	1 manual, 1 hose waggon, 1 hose cart, 3 horses.	720	200 0 0
					£2,762 5 0

APPENDIX VI.

ATTENDANCE of Volunteer Companies at Actual Fires for the Year 1894.

Volunteer Companies	Total number of fires	Number of men attending
CITY COMPANIES—		
North City	61	480
Paddington Brewery	83	816
Standard Brewery	74	760
SUBURBAN—		
Alexandria	20	260
Ashfield	22	286
Balmain	9	126
Botany	5	48
Burwood	8	112
Drummoyne	5	46
Glebe	17	153
Granville	8	112
Leichhardt	52	320
Manly	0	0
Paddington	28	336
Parramatta No. 1	4	52
Parramatta No 2	4	49
Randwick	0	0
Rookwood	1	6
Rockdale	2	24
St Leonards	6	72
Waterloo	13	137
Waverley	8	81
Woollahra	21	273

NOTE.—This return is incomplete, owing to the failure of several companies to furnish fire reports

APPENDIX VII.

APPENDIX VII.

Mr. Superintendent Bear's Report.

To the Fire Brigades' Board,—
Gentlemen,Metropolitan Fire Brigade,
Head-quarters Station, 1 March, 1895.

I do myself the honor to submit my Eleventh Annual Report of the working and general efficiency of your Brigade and the several Volunteer Companies, together with the details of fires attended in the city and suburbs for the year ending 31st December, 1894.

The total number of alarms for fires, or supposed fires, was 409; of these 49 were false alarms, 90 proved to be only chimney alarms, and 270 were calls for fires. Of the fires 206 were slight or trifling, 23 were serious, and 41 resulted in total destruction. Of the 270 fires 146 were insured, 65 not insured, and in 59 instances the insurances on the buildings or contents could not be ascertained. In addition to the ordinary fires there have been 56 chimney fires, requiring the attendance of firemen with hand-pumps only, making an aggregate total of 409 calls for fires, false alarms, and chimney fires.

The fires of 1894, as compared with those of 1893, show an increase of 12; in the chimney fires attended with engines a decrease of 19; those attended by firemen with hand-pump only an increase of 10.

In the fires which were slight there has been a decrease of 4; in serious the same, viz., 23; and in fires which resulted in total destruction an increase of 16. Among the buildings totally destroyed are classed sheds, weatherboard cottages, &c. Attached are detailed statements of the various fires attended by the Brigade and the Volunteer Fire Companies, as well as those unattended, but which have been reported to the Brigade from various sources, and a member of the Brigade has been sent to obtain the necessary particulars. The various summaries appended show the particular dates, times of call, time of outbreak, trades, localities, insurances, hourly and daily, weekly and monthly. There is also appended a summary of the supposed origin of fires for the year.

Referring to the summary of localities, it will be noticed that in the City of Sydney alone there were 173 calls, 96 of which were for actual fires, 17 were false alarms, 23 were for chimney fires reported as houses on fire, and 37 were for chimney fires attended by firemen with hand-pumps only.

Of the fires in the city, there were in Phillip and Denison Wards, 17 each; Macquarie Ward, 14; Fitzroy and Gips Wards, 11 each; Bourke and Cook Wards, 10 each; and Brisbane Ward, 6.

In the suburbs there were 236 calls, of which 174 were for fires, 32 were false alarms, 11 were chimney fires reported as houses on fire, and 19 were for chimney fires attended by firemen with hand-pumps only. The suburbs affected in regard to fires only were as follows, viz.:—Newtown, 20; Paddington, 13; Leichhardt, Petersham, and Woollahra, 10 each; Glebe, 9; Balmain, 8; Granville, 8; Ashfield, Marrickville, North Sydney, and Redfern, 7 each; Annandale, 6; Waverley, 5; Alexandria, Drummoyne, Parramatta, and Rockdale, 4 each; Botany, Burwood, Darlington, Macdonaldtown, Randwick, The Harbour, and Willoughby, 3 each; Waterloo, 2; Auburn, Canterbury, Concord, St. Peters, Narrabeen,* Smithfield,* Hurstville, and Rookwood, 1 each.

In summarising the trades it will be found that private dwellings have been mostly affected by fires, the number for all classes of damage being ninety-six; but taking the actual trades into consideration the most notable stand in the following order, viz.:—Grocers, 15; licensed victuallers, 13; grass paddocks and parks, 9; commission agents and produce merchants, stables, unoccupied premises, 8 each; butchers, hairdressers, and tobacconists, 7 each; builders and contractors and sheds, 6 each; boarding houses, printers and stationers, and restaurants, 5 each; bakers and confectioners, drapers and milliners, 4 each; bedding manufacturers, coach builders, dairies, fruiterers and greengrocers, furniture dealers, Government buildings, omnibus proprietors, offices, painters and decorators, ships, workshops, 3 each; bootmakers, churches, coffee palaces, timber merchants, sail-makers, warehouses, railway sidings and banks, 2 each; other trades affected, 1 each. These are to be found in the "Summary of Trades."

The strength of the Brigade is as follows:—Two large steam fire engines, 5 small steam fire engines, 2 7-inch manual engines, 3 6-inch manual engines, 6 under 6-inch manual engines, 4 telescope ladders, 1 ladder van, 1 hose van, 1 steam engine tender, 12 hose reels, 24,017 feet of hose, most of which is in good and fair condition; 23 horses, 58 telephones erected, 9 telephone switchboards and 114 telephone fire alarms erected; 52 firemen, including Superintendent, Deputy-Superintendent, and coachmen.

The undermentioned Volunteer Fire Companies hold plant on loan from your Board, viz.:—Alexandria, Ashfield, Drummoyne, Burwood, Granville, Leichhardt, Manly, North Botany, North City, Paddington Brewery, Randwick, St. Leonards, Standard Brewery, Waverley and Woollahra. Seven Volunteer Fire Stations are also vested in the hands of your Board.

The following comprise the Volunteer Fire Companies within your Board's jurisdiction:—Alexandria Volunteer Company, subsidised, £100; Ashfield Volunteer Company, £110; Balmain Volunteer Company, £256 5s.; Burwood Volunteer Company, £110; Drummoyne Volunteer Company, £50; Glebe Volunteer Company, £160; Granville Volunteer Company, 75; Leichhardt Volunteer Company, £75; Manly Volunteer Company, £75; North Botany Volunteer Company, £50; North City Volunteer Company, £100; Paddington Volunteer Company, £200; Paddington Brewery Volunteer Company, £200; No. 1 Parramatta Volunteer Company, £100; No. 2 Parramatta Volunteer Company, £85; Randwick Volunteer Company, £50; Rockdale Volunteer Company, £25; Rookwood Volunteer Company, £50; St. Leonards Volunteer Company, £200; Standard Brewery Volunteer Company, £200; Waterloo Volunteer Company, £141; Waverley Volunteer Company, £110; Woollahra Volunteer Company, £200.

The total amount paid as subsidies and bonuses to the various Volunteer Fire Companies during the year was £2,762 5s. In addition to the subsidies new plant has been supplied in many cases to Volunteer Companies to replace that condemned as unfit for further use. The approximate value of the whole of your Board's plant, together with the land and stations held in trust, is £85,675 9s. The value of the Volunteer Companies' own plant is not included in this sum.

Outside the M.F.B. area.

MEMBERS

MEMBERS OF THE BRIGADE.

No. 1 Station (Head-quarters), Castlereagh-street, Sydney ; No. 2 Station, George-street West ; No. 3 Station, Circular Quay ; No. 4 Station, Marrickville ; No. 5 Station, Newtown.

Name.	Rank.	Where stationed.
William Douglas Bear	Superintendent of Fire Brigades, and Inspector of Kerosene.	Head-quarters.
Alfred Webb	Deputy Superintendent	do
John F. Ford	Foreman	Officer in charge No. 2 Station.
Sydney Watson	do	do No. 3 Station.
John Snelson	do	do No. 4 Station.
William M'Knight*	Engineer	Head-quarters.
John H. M'Knight	do	do
George Lang	Senior fireman	do
Thomas P. Gordon	Officer in charge	No. 5 Station.
Thomas Gorman	Senior fireman	No. 2 Station.
Samuel Holman	do	Head-quarters.
James Hancock	do	No. 3 Station.
Thomas G. Cutts	do	No. 2 Station.
Robert W. Nash	do	No. 3 Station.
George C. Gray	1st class fireman	No. 4 Station.
Joseph Stanchell	do	Head-quarters.
Harris S. Davis	do	No. 2 Station.
Francis Howard	do	No. 3 Station.
Stephen H. Eyre	do	Head-quarters.
Frank Jackson	do	No. 3 Station.
John Graham	do	No. 2 Station.
George J. Parsons	do	do
George H. Dadd	do	Head-quarters.
Augustus J. Gerard	do	do
George Alchin	do	No. 4 Station.
Albert E. Pickering	do	Head-quarters.
Charles May	do	No. 3 Station.
Harrie B. Lee	do	No. 5 Station.
Thomas E. Clarke	do	Head-quarters.
Edward Smith	do	No. 3 Station.
John A. Becker	do	No. 4 Station.
William T. Corkull	do	No. 2 Station.
Joseph Morris	2nd class fireman "A"	No. 5 Station.
James W. Morris	do do	Head-quarters.
Harry Skelton	do do	No. 2 Station.
Robert Hunter	do do	do
Edward Pember	do do	Head-quarters.
John A. Nicoll	2nd class fireman "B"	do
Alexander Jamieson	3rd class fireman "A"	do
John F. Arnold	do do	No. 2 Station.
Francis W. Brooks	do do	Head-quarters.
Ephram Stoneham	do do	do
Edward J. Roberts	do do	do
Herbert J. Houghton	do do	do
James Jones	do do	No. 3 Station.
George W. Barry	3rd class fireman "B"	Head-quarters.
David Killa	On Probation	do
Christopher G. Digby	do	do
Charles L. Birmingham	do	No. 3 Station.
George E. J. Wills	do	Head-quarters.
Arthur Houghton	do	do
William Best	do	do
<i>Auxiliaries.</i>		
William R. Pinfold	Fireman	No. 5 Station.
Thomas H. Cook	do	do
James F. Cook	do	do
David Anderson	do	do
Walter D. Taylor	do	do

* Died 16th February, 1895.

During the year twenty-seven additions have been made to the Telephone Fire Alarm System, viz., Nos. 88 to 114 inclusive, their position being given in the following list of Telephone Fire Alarms.

TELEPHONE FIRE ALARMS.

No. of Box.	Fire Station to which the Alarm is connected	Locality of Alarm.	Approximate Distance from Station; in yards.
1	Head Quarters, Castlereagh-street	Corner of George and Park Streets	396
2	" " " "	" York and King Streets	990
3	" " " "	" Pitt and King Streets	810
4	" " " "	" Elizabeth and King Streets	715
5	" " " "	" Liverpool and College Streets	484
6	" " " "	" William-street and Boomerang Road	836
7	" " " "	" William and Victoria Streets	1,540
8	" " " "	" Park and Elizabeth Streets	330
9	" " " "	Macquarie-street, opposite Parliament House	1,012
10	No. 3 Station, George-street North	Corner of Hunter and Bligh Streets	817
11	" " " "	" Hunter and George Streets	660
12	Head Quarters	" Pitt and Market Streets	116
13	" " " "	" King and Sussex Streets	1,144
14	" " " "	" Sussex and Erskine Streets	1,386
15	No. 3 Station, George street North	" Kent and Margaret Streets	1,430
16	Head Quarters	" Elizabeth and Hay Streets	572
17	" " " "	Messrs. A Hordern & Sons, George-street, Haymarket	836
18	" " " "	Corner of Sussex and Liverpool Streets	528
19	" " " "	" Kent and Bathurst Streets	418
20	" " " "	" Kent and Market Streets	792
21	" " " "	" Oxford and Riley Streets	740
22	" " " "	" George-street and Union-lane	396
23	" " " "	" George and Goulburn Streets	616
24	" " " "	" York and Market Streets	790
25	" " " "	" Factory and Harbour Streets (J. Bridge & Sons)	824
26	No. 4 Station, Stanmore Road, Marrickville	" Norton-street and Parramatta Road, Leichhardt	1,127
27	" " " "	" Railway premises and Lackey-street, Summer Hill	2,667
28	" " " "	" Marrickville and Illawarra Roads, Marrickville	2,420
29	" " " "	Council Chambers, St Peters	1,760
30	Waverley Volunteer Station, Carrington Road, Waverley	" " Randwick	2,310
31	No. 3 Station, George-street North	George-street North, opposite Manners' Church	330
32	" " " "	Corner of George-street North and Lower Fort-street	880
33	" " " "	" Lower Fort-street and Windmill-street	1,264
34	" " " "	" Argyle and Playfair Streets	330
35	" " " "	" Argyle and Kent Streets	1,154
36	" " " "	" Victoria Terrace, opp. Eye Hospital, Miller's Point	1,567
37	" " " "	" Young-street and Circular Quay	330
38	" " " "	" Macquarie street North and Circular Quay	797
39	" " " "	" Bridge and Pitt Streets	440
40	" " " "	Opposite Terry's lane, Pitt-street	800
41	" " " "	Corner of Church Hill and Charlotte place	384
42	" " " "	Kent-street, near Gas-lane	714
43	" " " "	Corner of Bent and O'Connell Streets	934
44	No. 2 Station, George-street West	" Elizabeth and Devonshire Streets	880
45	" " " "	" George-street West and Newtown Road	852
46	" " " "	" Regent and Cleveland Streets	907
47	" " " "	" Redfern and Botany Streets, Redfern	1,369
48	" " " "	Elizabeth-street, Redfern, opposite Hordern's stables	1,650
49	" " " "	Corner of M'Arthur and Harris Streets	797
50	" " " "	" Figg and Harris Streets	1,740
51	" " " "	" Bowman and Harris Streets	2,504
52	G.P.O.	" George and Barrack Streets	1,154
53	No. 4 Station, Stanmore Road, Marrickville	" Parramatta Road and Johnston-street, North Annandale	2,094
54	" " " "	Corner of Johnston and Booth Streets	2,889
55	" " " "	" Illawarra and Warren Roads, Marrickville	3,393
56	No. 5 Station, Newtown	" King and Hordern Streets, Newtown	540
57	" " " "	Intersection of Newtown and Darlington Roads, and Forbes-street, Newtown	1,244
58	" " " "	Corner of Camden-street and Cook's River Road, Newtown	748
59	" " " "	Intersection of Wells-street, Cook's River Road, and Rochford-street, Newtown	1,180
60	" " " "	Corner of Enmore Road and Wilford-street, Newtown	450
61	" " " "	" Enmore and Stanmore Roads, Newtown	1,385
62	" " " "	In front of Council Chambers, Erskineville Road, Macdonaldtown	902
63	" " " "	Corner of Parramatta Road and Parkes-street, Camperdown	1,400
64	No. 2 Station	" Abercrombie Place and Cleveland-street	510
65	" " " "	" Abercrombie and Shepherd Streets	702
66	Woollahra Volunteer Station, Moncur-st	" Queen-street and Old South Head Road	550
67	" " " "	" Nelson-street and Old South Head Road	825
68	" " " "	" Cowper and Oxford Streets, Waverley	1,540
69	" " " "	" Ocean-street and Point Piper Road	770
70	" " " "	" South and Bay Streets	1,790
71	" " " "	" Darling Point Road and New South Head Road	1,540
72	" " " "	" Yarranabee and Darling Point Roads	2,220
73	" " " "	" Forth-street and Edgecliff Road	467
74	Darlinghurst and Randwick Police Stations	" Carlton-street, Kensington Estate	3,520
75	No. 3 Station, George-street North	" Watson's Road and Upper Fort-street	532
76	" " " "	" Essex and Harrington Streets	330
77	" " " "	" Bridge and Macquarie Streets	916
78	Head Quarters	" Erskine-street and York-lane	1,484
79	" " " "	" Drunt-street, opposite Weighbridge	844

APPENDIX VIII.

DETAILS of Fires which have occurred within the Metropolitan District, during the Year ending December, 1894.

Date	When discovered	Time of outbreak	Locality	Name of tenant.	How premises occupied	Construction of premises.	Origin or supposed cause of fire	Insurances		Extent of damage, &c	Extinguished by
								Contents	Building.		
1894 Monday, 1 January	2 55 a m	3 3 a m	149, Pymont Budge Road, Glebe.	James T Horton	Builder	Weatherboard, and non roof	Unknown	North British and Mercatile, £70	North British and Mercatile, £30	A weatherboard building of one floor, about 22 x 32 ft., used as a workshop, together with contents, consisting of a quantity of building materials burned out and fallen down	Glebe Vol F Co & M F B, with two hydrants
Wednesday, 6 January	2 40 a m	2 47 a m	122, Oxford street, Paddington.	Martin Begg	Tobacconist	Brick, and non roof	"	Phoenix, £350	Liverpool & London & Globe	Shop and contents consisting of a quantity of tobacconists materials burned out, rest of building and contents damaged by fire, heat, and water.	Paddington Brewery Vol F Co, with hydrant, assisted by M F B and several Vol F Cos
"	8 5 p m	None rec'd	1, Alice st., Newtown	Mrs Peveell	Private dwelling	"	Candle	None	Unknown	Window curtains burned and window frame slightly damaged by fire in front room on ground floor	Inmates, with buckets of water
Thursday, 4 January	1 50 p m	"	72, Upper Fort street, City	T. W Cairns	"	Stone, and non roof	Matches, careless use of	London and Jan cashire, £200	Imperial	Bedding damaged by fire in back room on ground floor	"
Sunday, 7 January	5 14 a m	5 19 a m	Oxford st., Woollahra	A H Warner and others	Stables	Wood, and non roof	Unknown	None	Mercatile Mutual	A range of stables, about 120 x 21 ft., together with contents, burned out, four horses burned to death	Woollahra, Waverley, and Paddington Vol F Cos, with three hydrants
"	10 45 a m	10 47 a m	May street, off George street West, City	H. Bent	Rag merchant	Brick, and non roof	"	None	"	A building of two floors, about 50 x 14 ft., and a shed of one floor, about 80 x 20 ft., and contents, consisting of about 50 tons of rags, severely damaged by fire and water, and part of roof burned off	M F B and Glebe Vol F Co, with two hydrants
Sunday, 7 January	10 47 a m	10 51 a m	Millwright's Wharf, the Harbour.	ss Nairnshie, Capt C Olsen	"	Iron	Unknown	Unknown	Unknown	A number of carcasses of mutton slightly damaged by fire in after part of main lower hold.	M F B, with four steam fire engines, assisted by several Vol F Cos
Tuesday, 9 January	6 30 p m	6 33 p m	273, George street, City	Commercial Bank of Australia Manager, John Blain.	Bank	Stone, brick and slate roof	Gas stove	United, £1,500	Commercial Union £2,000, with 11 Ind-India £2,000, British, £2,000, and Alliance, £2,000 Total, £12,000	Middle room on second floor, used as a lunch room, and contents, very severely damaged by fire and heat, ceiling of room under damaged by breakage, and contents by water and debris	M F B, with one hydrant, assisted by several Vol F Cos
Wednesday, 10 January	12 30 a m	None rec'd	Gipp st., Drummoyne	John Kennedy, junior	Dairy man	Wood, and non roof	Incendiarism	Building and Contents Mercatile Mutual, £1,200	None	Wall of hay shed slightly damaged by fire	Inmates, with buckets of water
"	2 19 p m	2 20 p m	52, George-street West, City	John McKellar	Restaurant	Brick, & shingle roof.	Spark from adjoining chimney	None	Unknown	About 3 x 6 ft. of shingle roof damaged by fire, ceiling under slightly damaged by fire and water in back kitchen on ground floor	M F B, with buckets of water
Thursday, 11 January	2 59 p m	3 0 p m	46 Glebe street, Glebe	Henry Rafton	Basket factory	Wood and non, and non roof	Unknown	Imperial, £125	None	A building of two floors, about 36 x 15 ft., used as a basket factory, and contents, burned out and fallen down	Glebe V F Co and M F B, with 3 hydrants
"	"	"	Ebenezer-place, off Glebe street	Chas Rodgeis	Private dwelling	Weatherboard, and non roof	"	None	"	Roof severely damaged by fire and cutting away, furniture by water and removal	"
"	"	"	"	Walter Luther	"	"	"	None	"	Roof severely damaged by fire and cutting away, furniture by water and removal	"
Friday, 12 January	9 55 a m	10 10 a m	Unwin Bridge Road, Marrickville	Rev. A. A. Aspinall	Grass paddock	Paddock	Spark from locomotive	None	None	About 8 panels of fencing and a quantity of grass destroyed by fire	M F B and neighbours, with buckets of water
"	2 10 p m	None rec'd	Havelock street, Drummoyne	David R Muir	Private dwelling	Brick, and non roof	Burning rubbish	Unknown	Unknown	About 18 ft. of lattice work adjoining house and stable, together with about 40 ft square of grass, &c, in paddock, damaged by fire	Drummoyne V F Co, with hydrant
Sunday, 14 January	9 6 p m	9 19 p m	Canterbury Park, Canterbury.	Trustees—Messrs Redman, Slocomb, & Davis	Park	Park	Unknown	None	None	A quantity of grass burned in park	Ashfield V F Co and M F B
Tuesday, 16 January	3 15 a m	2 37 a m	Union street, North Sydney	Charles G Kleicker	Private dwelling	Weatherboard, and non roof	Kerosene lamp, upsetting of	Commercial Union, £500	Liverpool, London, & Globe, £200	Weatherboard cottage of six rooms and contents severely damaged by fire and water	St Leonards V F Co, with hydrant
Wednesday, 17 January	9 10 a m	None rec'd	153, Goulburn - street, City	Paul Williams	Butcher	Brick, and non roof.	Kerosene lamp, explosion of	None	Unknown	A small quantity of wearing apparel burned in back room on ground floor	Inmates, with buckets of water.
Thursday, 18 January	1 20 p m	1 27 p m	20, Roslyn-street, City	Henry Williams	Private dwelling	Stone, and shingle roof	Spark from chimney.	"	Commercial Union, £900	A small portion of shingle roof slightly damaged by fire	Inmates, with buckets of water
"	2 25 p m	2 30 p m	18, Wyld-street, City	Mrs D. Mitchell	"	Stone, and non over shingle roof	Burning rubbish	"	None	Roof of hayloft severely damaged by fire and cutting away	M F B with hydrant, assisted by several Vol Fire Co's
Friday, 19 January	12 0 noon	12 10 p m	Holden-street, Ashfield	Charles Nutter	Grass paddock	Paddock	Burning rubbish	"	"	A quantity of grass and some fencing burned	Ashfield V F Co, with hydrant, assisted by M F B.
Saturday, 20 January	2 38 p m	2 43 p m	700, Harris-street, City	T Elliott and Co.	Butchers	Weatherboard, and non roof	Unknown	"	"	About half ton of fodder damaged by fire and water in shed on ground floor	Employees and M F B., with buckets of water.
Tuesday, 23 January	3 55 p m	3 57 p m	23 Dailing-street, Glebe	John Brisbane	Private dwelling	Brick, and shingle roof	Children playing with matches	Commercial Union, £130	Mercatile Mutual, £300	A small quantity of wearing apparel damaged by fire and water in back room on first floor	Inmates, with buckets of water.

* Outside the M.F.B. area.

† Previous fires—August 27, 1893, October 2, 1893, October 15, 1893

DETAILS of Fires which have occurred within the Metropolitan District.—continued.

Date.	When discovered.	Time of call	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire	Insurances.		Extent of damage, &c	Extinguished by
								Contents	Building		
1894. Sunday, 28 January	4 44 a.m.	4 49 a.m.	31 Wynard Square, City	Miss M. T. Hartley	Boarding house	Stone, and slate roof.	Unknown	Allas Insurance Co, £600	Unknown	Contents of store room in basement, consisting of groceries, &c, slightly damaged by fire and water.	M F B, with hydrant.
Tuesday, 30 January.	2 25 a.m.	2 36 a.m.	Off Terry-street, Balmain.	S Dickson	Store room	Weatherboard, and non roof	"	None	None	A building of one floor, about 10 ft x 18 ft, used as a store room, and contents burned out and fallen down, side of shed adjoining severely damaged by fire	Employees, and Balmain V F Co, with hydrant
Friday, 2 February.	9 1 p.m.	9 6 p.m.	Mitchell Road, Alexandria.	Richard Drills	Private dwelling	"	"	Building and contents, Australian Mutual, £115		A building of one floor, 14 ft x 22 ft, in rear of premises, used as a kitchen, together with contents burned out and fallen down, back room and contents damaged by fire	Alexandria V F Co, with one hydrant, assisted by M F B
Sunday, 4 February	1 34 p.m.	1 37 p.m.	424 George street, City	Miss Fynn, manageress, "Royal Hotel."	Licensed victualer	Brick, and lead roof	Spark from chimney.			Roof severely damaged by fire and cutting away, ceilings of 19 rooms on third floor and contents severely damaged by water, ceilings of 7 rooms and contents on second floor damaged by water, and ceilings of 6 rooms and contents on first floor very slightly damaged by water	M F B, with two hydrants, assisted by several Vol Fire Companies
"	"	"	428 George street	Wm Dymock	Bookseller and stationer	"	"	Col Mutual £500 Manchester, £970, Cornwall, £350 City Mutual, £450 N Zealand, £450 London and I L Cashire £150 Standard, £150 N of N Z, £960 N Queensland £500—total, £7,570		Contents of shop of two floors damaged by water	" "
"	"	"	424, George street	W E Toose	Jeweller and optician	"	"	Palatine Ins Co, £500		Contents of ground floor and basement slightly damaged by water	" "
Monday, 5 February.	1 30 a.m.	None rec'd	*Pittwater Road, Narra- been.	Unoccupied premises	Private dwelling	Weatherboard, and iron roof	"	None	United Ins Co, £300	A cottage of four rooms burnt out and fallen down	Burned itself out
Tuesday, 6 February	11 15 a.m.	11 24 a.m.	87 Young-street, Leich- hardt.	Wm. Hall	Private dwelling	Brick, and non roof	Matches, children playing with	"	Unknown	Bed and bedding damaged by fire and water in front room on first floor, ceilings of two rooms under damaged by water	M F B, with hydrant
Friday, 9 February.	10 50 a.m.	10 58 a.m.	Cumberland street, City	Unoccupied premises	Private dwelling	Stone, and slate roof	"	"	"	A small quantity of rubbish burned in front room in base- ment	M F B with buckets of water
Saturday, 10 February	7 40 p.m.	7 46 p.m.	43, Yule street, Petersham.	W G French	Private dwelling	Brick, weather- board, and iron roof	Unknown	Aust Mutual, £200	United Insurance Co	Middle bedroom on ground floor and contents damaged by fire	Neighbours, with buckets of water
Sunday, 11 February	1 24 a.m.	1 26 a.m.	118 and 120, Sussex- street, City.	D. Hardie and Co.	Sailmakers	Brick, and non roof.	"			Shops on ground floor and contents, consisting of sails, canvas, &c, damaged by fire and water.	M F B, with hydrant
Monday, 12 February	12 42 a.m.	12 45 a.m.	2 Dean's-place, City...	Messrs Fuenth and Hall	Paperbox makers and printers	"	"	New Zealand £500 British, £600, Nor- wich Union, £162 National, £262 Liverpool London, and Globe, £300 Manchester, £300— £1,624	Commercial Union	Second floor and contents, consisting of printing machinery, &c, and ceiling of roof damaged by fire, contents of three floors under damaged by water	M F B, with hydrant, as- sisted by several Volun- teer Fire Cos
Thursday, 15 February	8 32 a.m.	8 34 a.m.	332 Kent-street, City	Messrs. Harrington and Co.	Photographic mat- erial importers	"	"	Imperial, £3,900	Lion Ins Co.	A small portion of flooring damaged by fire on second floor, ceiling under slightly damaged by fire, and contents under slightly damaged by water	M F B, with buckets of water.
Friday, 16 February.	9 40 p.m.	9 44 p.m.	124, Victoria street, City	E J. King	Private dwelling	Brick, and slate roof.	Gas bracket	Unknown	Liverpool, London and Globe, £666	Window curtain burned and frame slightly scorched in back room on second floor	Inmates and neighbours, with buckets of water
Sunday, 18 February	9 44 p.m.	9 45 p.m.	34, Campbell-street, City	Messrs. T Lee and Co.	Produce merch- ants	Brick, and iron roof	Escape of gas	None	Unknown	Some bags damaged by fire in front shop on ground floor.	Inmates, with water
Tuesday, 20 February.	7 48 a.m.	7 50 a.m.	13, Bridge street, City	Messrs Marcus and Andrews.	Printers and sta- tioners	"	Spontaneous igni- tion	S British, £3,300 Guardian, £500, N Queensland, £1,700 United £300, Lion, £300—£5,800	N British and Mercantile	Back part of basement and contents, consisting of printers' materials, &c, severely damaged by fire, heat, and water, contents of rest of building of three floors damaged by smoke	M F B, with two hydrants, assisted by several Volun- teer Fire Cos
"	10 42 p.m.	10 44 p.m.	135, George street N, City.	Richard Brandon	Private dwelling	Stone, brick, and slate roof	Unknown	None	Unknown	Bed curtains in front room on first floor burned, bedding slightly damaged by fire	Inmates, with buckets of water
Wednesday, 21 February.	9 41 a.m.	9 43 a.m.	171-173, Riley-street, City.	Wm. Buckingham	Draper and milliner.	Brick, and non roof	Plumbers at work	"	United Insurance Co, £2,000	About 3 x 3 ft of ceiling on first floor damaged by fire	Employees, with buckets of water
"	6 30 p.m.	None rec'd	Walker street, North Sydney.	J W. Challand	Grocer	Brick, and iron roof.	Candle	Mercantile Mutual	Unknown	A small quantity of paper burned in back room on ground floor.	Inmates, with buckets of water.
Saturday, 24 February.	10 30 p.m.	None rec'd	17, Union-street, Newtown.	Albert Whightman	Private dwelling.	Wood, brick, and iron roof	Curtain in contact with candle.	Unknown	"	Mosquito curtain burned in front bedroom on ground floor	Inmates and neighbours, with buckets of water.
Sunday, 25 February.	2 35 a.m.	2 42 a.m.	280, Parramatta Road, Petersham.	John J. O'Connell	Grocer	Brick, and iron roof	Unknown	Aust Mutual, £450		Shop and contents, consisting of groceries, &c, severely damaged by fire, heat, and smoke.	Leichhardt Vol. Fire Co and M F B, with hydrant, assisted by several Vol. Fire Companies.

* Outside M.F.B. area.

DETAILS of Fires which have occurred within the Metropolitan District—continued.

Date.	When discovered.	Time of call.	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire.	Insurances.		Extent of damage, &c.	Extinguished by
								Contents.	Building.		
1894. Sunday, 25 February	10 30 p.m.	10 46 p.m.	27, Bruce street, Balmann.	W. H. Dunsford . . .	Private dwelling	Weatherboard, & shingle roof.	Unknown	None	Aust Mutual, £100	A cottage of three rooms, together with part of contents, burned out and fallen down.	Balmann Vol. Fire Co. and M.F.B., with 3 hydrants.
"	"	"	*29, Bruce-street.....	Denis Daniels . . .	"	"	"	Aust Mutual, £100	Aust Mutual, £200	A cottage of seven rooms severely damaged by fire, and roof partly fallen in; furniture slightly damaged by removal	"
Tuesday, 27 February.	8 20 p.m.	8 24 p.m.	Rose and Raglan streets, Darlington	Michl. Moran . . .	Baker	Brick, and non roof	Candle	Commercial Union, 100	Unknown	Bed, bedding, and a small quantity of wearing apparel damaged by fire and water.	Inmates and M.F.B., with buckets of water.
Wednesday, 28 February	5 40 p.m.	5 45 p.m.	20, Noiwood-street, Petersham.	Basil Wooley	Private dwelling	Brick, and slate roof	Matches, children playing with.	None	None	Contents of back bedroom on first floor slightly damaged by fire	Inmates and neighbours, with buckets of water
Thursday, 1 March.	10 50 p.m.	None rec'd	349, Elizabeth street, City.	O. Westernhagen & Co.	Confectioners	Brick, and slate roof	Kerosene lamp, upsetting of	South British, £200	Unknown	Contents of shop on ground floor, consisting of fancy con- fectionery, &c., slightly damaged by fire and water	Inmates, with buckets of water
Saturday, 3 March	2 15 p.m.	None rec'd	293, Castlereagh-street, City.	Charles T. Flavis ..	Restaurant ..	Brick, and non roof	Unknown	None	"	Some wearing apparel in front room on first floor damaged by fire	Inmates, with water.
Monday, 5 March.	12 25 a.m.	None rec'd.	Station street, Granville	Alfred Lawrence ..	Private dwelling	Weatherboard, and iron roof	" ..	Mercantile Mutual £100	Industrial Invest- ment Society, £200	Two back rooms on ground floor very severely damaged by fire and water, contents damaged by removal	Granville Volunteer Fire Company, with hydrant.
Monday, 5 March	9 50 p.m.	9 55 p.m.	390, Parramatta-road, Petersham.	A. F. Howe	Public hall . .	Brick, and non roof	"	New Zealand, £300	Unknown	Back part of premises consisting of dwelling and stage, with contents, nearly burned out, and part of roof off, rest of hall slightly damaged by water	M.F.B., assisted by several Vol Fire Companies, with three hydrants.
"	"	"	Queen-street, Peter- sham	W. Cousins .	Private dwelling	"	"	None	Commercial Union	Roof slightly damaged by fire, and contents by removal.	"
Monday, 5 March	11 45 p.m.	11 50 p.m.	316, Crown street, City	C. H. Thomas	Grocer . .	Brick, and non roof	Rats at matches	"	Commercial Union, £800	Back store and contents consisting of groceries, &c., severely damaged by fire, heat, and water, front shop and contents damaged by heat	M.F.B. and Paddington Brewery Vol Fire Com- pany, with two hydrants
Thursday, 8 March.	9 30 p.m.	None rec'd	†53, Castlereagh street, Redfern *	R. C. Carpenter	Private dwelling	Brick, and slate roof.	Candle	Liverpool, Lon- don, and Globe	Unknown	Bed, bedding, window curtains, and a small quantity of wearing apparel damaged by fire and water.	Inmates, with buckets of water
(Sunday, 11 March	11 0 p.m.	None rec'd	St. Peter's street, St. Peter's.	Mrs. M. Crosslands	"	Brick, and non roof	Unknown	None	None	Bed curtains and bedding damaged by fire and water in front room on ground floor	Inmates, with buckets of water
Wednesday, 14 March	12 50 a.m.	12 55 a.m.	123, Glebe Road, Glebe	Frederick Memer . . .	Tobacconist and hairsdressei	Brick, and iron roof.	Unknown	N. Zealand, £300	Aust Mutual, £800	Front shop and saloon, together with contents, severely damaged by fire and water; two rooms at rear damaged by smoke and water.	Glebe V.F. Co and M.F.B., with hydrant
"	10 10 p.m.	10 30 p.m.	Smithfield	Francis Forbes	Private dwelling	Weatherboard, and iron roof	"	City Mutual, £130	City Mutual, £200	A weatherboard cottage of eight rooms, with contents, con- sisting of furniture, &c., burned out and fallen down.	Granville Vol Fire Co
Thursday, 15 March	2 15 p.m.	2 38 p.m.	Percival-street, Leich- hardt.	Sydney Firelight Co. Manager, Mr. Pollit	Workshop . .	Wood, and non roof	Resin boiling over	None	None	A shed, about 25 x 10 ft., together with contents, con- sisting of firelight material, burned out and fallen down	Leichhardt Vol Fire Co and M.F.B. with hydrant
"	7 21 p.m.	7 24 p.m.	99 Parramatta Road, Leichhardt.	J. O'Hara	Tobacconist and hairsdressei.	Brick, and non roof.	Candle in contact with gas	Royal, £300	Unknown	Woodwork near gas meter slightly damaged by fire in front shop on ground floor.	Inmates, with buckets of water
Saturday, 17 March.	8 0 p.m.	8 2 p.m.	365, King-street, New- town.	Wm Berkman	Pawnbroker	"	Candle	Aust Mutual, £1,000.	City Mutual, £800	Back room on first floor, used as a store room, containing a number of pledges, &c., severely damaged by fire, walls and ceilings of three rooms on first floor damaged by heat and smoke	M.F.B., with hydrant
Wednesday, 21 March.	2 10 a.m.	2 13 a.m.	447, Pitt-street, City	Yee Chung and Co. . .	Produce mei- chants.	Brick, wood and non roof.	Unknown	Alliance, £400	None	Shed in rear of premises, containing a quantity of straw, hay, and other produce, severely damaged by fire and water	M.F.B., with hydrant.
Friday, 23 March.	1 40 p.m.	1 44 p.m.	9, Petersham street, Petersham.	Joshua Dyason	Jam factory	Weatherboard, and shingle roof.	Unknown	Merc'ile Mutual, £100	Merc'ile Mutual, £300	About 40 ft. of roof burned; ceiling of back bedroom slightly damaged by fire, and furniture slightly damaged by removal	M.F.B., with hydrant
Saturday, 24 March.	3 10 a.m.	3 14 a.m.	Paik st., Marrickville..	W. A. McFadden	Private dwelling	Brick, and iron roof	Light thrown down	None . . .	Unknown	Two front rooms on ground floor, together with contents, burned out and roof off	"
"	8 46 p.m.	8 51 p.m.	211, King st., Newtown	Chas Kerrigan	Butcher	Weatherboard, and iron roof	Smoking meat	"	"	Smoke house in rear of premises slightly damaged by fire	Inmates and neighbours, with buckets of water
Sunday, 25 March.	8 30 p.m.	8 35 p.m.	219, Elizabeth st., City	Mrs. Howard . . .	Boarding house	Brick, with non roof	Matches, children playing with.	"	"	Bed and bedding damaged by fire in back room on first floor.	Inmates, with buckets of water.
Monday, 26 March.	9 30 p.m.	None rec'd	Albert st., Leichhardt .	Walter Wildman . . .	Private dwelling	Weatherboard, and non roof.	Candle	"	"	Bed curtains burned and bedding slightly damaged by fire and water.	Police and neighbours, with buckets of water
Wednesday, 28 March.	7 30 a.m.	7 36 a.m.	Church-st., Paddington	Mrs. Smith	"	"	Unknown . . .	Building and contents, Australian Mutual, £350	"	About 4 x 4 ft. of flooring burned, and a small portion of wooden partition damaged by fire in loft over stables at rear of premises	Police, with buckets of water.
Thursday, 29 March.	1 25 a.m.	1 55 a.m.	Dover Road, Botany ..	Frederick Negus .	"	"	"	None	None	A cottage, consisting of two rooms and kitchen, with part of contents, burned out and fallen down.	Botany Vol. F. Co and M.F.B., with hydrant.
"	"	"	"	Charles Dean	"	"	"	"	"	A cottage of two rooms and kitchen burned out and fallen down, furniture damaged by removal	"
Friday, 30 March.	6 40 p.m.	6 45 p.m.	14, Australia-st., New- town.	Mrs. Gibbons	Private dwelling	Stone, and slate roof.	Candle . . .	None	Norwich Union	Window curtains damaged by fire in front room on ground floor	Inmates and M.F.B., with buckets of water
Sunday, 1 April	12 40 p.m.	12 52 p.m.	Parramatta and Park Roads, Burwood.	J. Gilbert & Co.	Produce merch- ants.	Weatherboard, and iron roof.	Overheat of hay	None . . .	None . . .	A shed in rear of premises, about 53 x 13 ft., together with about 29 tons of hay, corn, straw, &c., burned out and fallen down; chaff-cutting machinery and cart dam- aged by fire; stables adjoining slightly damaged by fire.	Burwood Vol. Fire Co. and M.F.B., with hydrant, assisted by the Leich- hardt Vol. Fire Co.

* W. H. Dunsford, aged about 50 years burned to death.

† Sarah Dorothy (servant), severely burned about the head and body; was taken to Sydney Hospital for treatment.

DETAILS of FIRES which have occurred within the Metropolitan District—*continued*

Date	When discovered	Time of call	Locality	Name of tenant	How premises occupied	Construction of premises	Origin or supposed cause of fire	Insurances		Extent of damage, &c	Extinguished by
								Contents	Building.		
1894 Thursday, 5 April	2 45 a m	None rec'd	Port View Estate, Wil- loughby	John Fife	Private dwelling	Weather board, and iron roof	Unknown	None	Austral n Mutual, £75	A cottage of three rooms and contents burned out and fallen down	Burned itself out
Friday, 6 April	8 20 p m	8 25 p m	169 Campbell street, City	Mrs Mayo	"	Brick, and non roof	Candle	None	Unknown	Window curtains burned, and door frame slightly burned in front room on second floor	Inmates, with buckets of water
Sunday, 8 April	2 33 a m	2 40 a m	Marlborough st., Leich- hardt	James Andrews	Omnibus proprie- tor	Weather board, and iron roof	Unknown	Col Mutual, £60, Com'l Union, £70—£130	" ..	One omnibus in open shed damaged by fire, also one in yard adjoining shed damaged by fire, shed slightly damaged by fire and heat	Neighbours, with buckets of water
Monday, 9 April	2 30 a m	2 38 a m	73, George st N., City	John Ryan, licensed victualler "P & O Hotel	"	Brick, and slate roof	Unknown	Austral n Mutual, £600	N British and Mer, £1 500	Kitchen in basement burned out back part of basement severely damaged by fire, and rest of contents damaged by heat	M F B, with hydrant
Tuesday, 10 April	11 25 p m	None rec'd	Sydney Road, Glanville	Independent Free Church	"	Brick, and non roof	Unknown	Phoenix, £100	None	An American organ destroyed by fire in church	Glanville Vol Fire Co, with hydrant
Wednesday, 11 April	11 12 p m	11 18 p m	Allen street, Leichhardt	A W Patchett	Butcher	Weather board, and iron roof	Smoking meat	None	"	A shed, about 15 x 5 ft comprising smoke house and feed house, together with contents, burned out and fallen down	Inmates and M F B, with hand pump
Thursday, 12 April	10 26 p m	10 31 p m	3 Regent street, Paddington	Mrs Bolton	Private dwelling	Brick stone, and non roof	Candle	"	Unknown	Window curtains and blind burned in front room on ground floor	Inmates, with buckets of water
Monday, 16 April	7 0 p m	None rec'd	Forest Road, Ancliffe	Mrs Logan, "Highbury Bain Hotel	Licensed victualler	Brick and non roof	"	"	None	Bed and bedding damaged by fire and water in front room on first floor	Inmates, with water
Thursday, 20 April	11 33 p m	11 40 p m	Spring street, Burwood	Unoccupied premises	Private dwelling	Brick and non roof	Unknown	"	Unknown	Door and door posts slightly damaged by fire	Burwood Vol Fire Co, with hydrant
Tuesday, 24 April	7 0 p m	None rec'd	177 King street, Newtown	R G Geddes	Butcher	Weather board, and non roof	"	"	"	Four boxes of rubbish burned in yard at rear of premises	Neighbours, with buckets of water
Friday, 27 April	7 0 p m	7 9 p m	28 Elizabeth street, Redfern	A Lowden	Boot and shoe manufacturer	Brick, and non roof	"	West Mutual £2 500 Sun £1 500 Atlas £1 000 Total £5 000	West Mutual £1 400 Sun £ 50 Atlas £50 Total £1 950	Contents of first floor, consisting of boots, shoes, slippers and bootmakers materials, damaged by fire and water contents under, of similar material, slightly damaged by water ceiling of first floor and roof damaged by fire	M F B, with hydrant, assisted by several Vol Fire Companies
Sunday, 29 April	12 25 p m	None rec'd	Hollingshed street, North Botany	D Lee	Bedding manu- facturer	Open yard	Tar boiling over	None	None	About 20 gallons of tar destroyed by fire in open yard in rear of premises	Burned itself out
Monday, 30 April	10 26 a m	10 28 a m	Harboui street, City	Fresh Food and Ice Co	Produce mer- chants	"	Tar boiling over	None	None	About 40 gallons of tar destroyed by fire in open yard	Employees, with sand
Tuesday 1 May	9 15 p m	None rec'd	Church street, Parra- matta	Messrs Murray Bros	Furniture ware house	Brick and non roof	Unknown	Royal, £4,000	Royal, £3,500	Contents of basement consisting of carpets, &c, damaged by fire and water	Parramatta V F Cos, with private hydrant
Thursday, 3 May	1 24 a m	1 27 a m	*Wynyard Square, City	Walter Sydney, "Im- perial Hotel	Licensed victualler	Brick and slate roof	Candle	Com'l Union, £3 900	United	Bed and bedding burned in front room on first floor	Inmates and M F B, with buckets of water
Thursday, 3 May	3 0 a m	None rec'd	Smith street, Parra- matta	Messrs Murray Bros	Furniture ware house	Brick, and non roof	Unknown	"	"	A quantity of furniture severely damaged by fire in store room on ground floor flooring and joisting of first floor damaged by fire, and contents on first floor damaged by fire	Parramatta Vol Fire Co's, with stand pipes
"	"	"	"	F W Belbridge	"	"	"	Merit Mutual, £300	"	A quantity of furniture severely damaged by fire in store room on ground floor	"
Friday, 4 May	12 18 a m	12 21 a m	335 1/2, George street, City	F Pallant Cox	Accountant	Stone and brick, with slate roof	Candle	Royal, £100	Merit Mutual, £10 000	A small quantity of paper burned in office on first floor	M F B, with water
Saturday, 5 May	8 0 a m	None rec'd	124 Newton street, Newtown	Unoccupied	Private dwelling	Brick and non roof	Light thrown down	None	City Mutual, £350	About 5 x 2 ft of lining boards burned in front room on first floor	Police, with buckets of water
"	11 7 a m	11 12 a m	Omnibus lane, off Uth- mo street, City	The Sydney Tram and Omnibus Co., Ltd Gen Manager, O A Rayson	Podder store	Wood and non and non roof	Unknown	Victoria, £3,000	Victoria, £3,250	About 900 bars of coin 10 tons of bran 5 tons of oats and 10 tons of mixed feed severely damaged by fire and water, upper part of building severely damaged by fire and part of roof off	M F B, with two steam fire engines
"	7 25 p m	None rec'd	Wrights Estate Drum- moyne.	John McGivan	Private dwelling	Stone and wea- therboard, with shingle roof	Candle	None	None	Bed curtains burned and bedding damaged by fire in front room on ground floor	Inmates and Drummoyne V F Co, with buckets of water
Wednesday, 9 May	7 30 p m	7 55 p m	Bondi Aquarium, Waverley	J V Lachaume	Aquarium	Wood and non, with non roof	Unknown	None	None	A wood and non building, about 36 x 20 ft, used as an engine and boiler house, burned out and fallen down machinery for electric lighting damaged by fire and heat	Waverley and Paddington V F Cos, with three hydrants
Friday, 11 May	2 5 p m	2 13 p m	37 Wellington street, Waterloo	James Melville	Private dwelling	Brick, and shingle roof	Candle	None	Unknown	Bed and bedding damaged by fire and water in front room on first floor	Inmates, with buckets of water
Saturday, 12 May	1 0 a m	1 15 a m	Bay street, Rockdale	Messrs Drutt & Quam	Workshop and dwelling	Weatherboard, and non roof	Spark from bush fire	Aust Mutual, £100	Aust Mutual, £60	A weatherboard building of two floors about 30 x 12 ft with contents, consisting of tools clothing, bedding, &c burned out and fallen down	Rockdale V F Co, with two hydrants
Thursday, 17 May	2 30 a m	2 44 a m	Windsor Road, Peter- sham	Unoccupied	Private dwelling	" "	Unknown	None	United, £60	A cottage of two rooms burned out and fallen down	M F B, with hydrant
"	7 32 a m	7 30 a m	12, Campbell street, City	Ty On Wong & Co	Grocers	Brick and iron roof	Matches	New Zealand £500 Alliance £1 100 S Brit sh £300— £2 100	City Mutual, £1,200	Contents of back part of shop on ground floor and on staircase leading to first floor, consisting of 4,000 cases &c, severely damaged by fire, heat, and water	" "

* J B Mack, aged about 35 years, burned about the face and hands

DETAILS of Fires which have occurred within the Metropolitan District—continued.

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Date	When discovered	Time of call	Locality.	Name of tenant	How premises occupied	Construction of premises	Origin or supposed cause of fire	Insurances		Extent of damage, &c	Extinguished by.
								Contents	Building		
1894 Sunday, 10 June	8 45 p m	8 50 p m	Liverpool road, Burwood	W H Ireland, "Ireland's Family Hotel"	Licensed victualler	Brick, and iron roof	Candle	Unknown	Merc tile Mutual, £1,200	Bed curtains and bedding in back bedroom on first floor damaged by fire	Inmates with buckets of water
Tuesday, 12 June	3 30 a m	None rec'd	*13, Sydney street,	George Sykes	Private dwelling	Brick, and slate roof	"	None	Unknown	Bed, bedding, and curtains in front room on first floor damaged by fire and water	" "
Friday, 15 June	5 15 p m	5 26 p m	92, Elizabeth Bay Road, City	E Newton	"	"	Light thrown down	Liverpool & London & Globe, £900	"	Window curtains burned, and frames scorched in back room on ground floor, rest of contents slightly damaged by fire and water	" "
"	7 15 p m	7 20 p m	22, Oxford street, City	Messrs Taubman Bros	Ham and beef vendors	Brick, and iron roof	Defect in adjoining chimney	None	British & Colonial, £1100	About 6 ft x 6 ft of roof and wooden ceiling damaged by fire and cutting away	M F B, with one hydrant, assisted by Vol F Co's
Saturday, 16 June	2 3 a m	2 8 a m	228-230, Pitt street, City	Abraham Kuitz	Furniture dealer	"	Defect in hearth	Merc tile Mutual £300	None	A quantity of furniture damaged by fire in shop on ground floor	" "
Sunday, 17 June	6 45 p m	None rec'd	Petersham Road, Marrickville	Maurice Handley	Private dwelling	"	Candle	None	Unknown	Toilet cover and looking glass slightly damaged by fire in bedroom on ground floor	Inmates, with buckets of water
Wednesday, 20 June	2 30 p m	2 35 p m	11, Otto street, City	J Wright	"	"	Matches, children playing with	"	None	Some wearing apparel damaged by fire, rest of contents of back room on first floor damaged by heat and smoke	" "
Thursday, 22 June	5 15 p m	None rec'd	McKenzie st, Waverley	Syvester Ryan	"	Brick, and slate roof	"	"	Unknown	Bed and bedding slightly damaged by fire and water in back room on ground floor	Waverley Vol F Co, with buckets of water
"	7 45 p m	None rec'd	Thomas street, North Willoughby	Chas Robinson	"	Weatherboard, and iron roof	Kerosene lamp, explosion of	"	"	A weatherboard cottage of five rooms, together with contents, burned out and fallen down	Burned itself out
Friday, 22 June	12 30 a m	12 36 a m	103, Cleveland street, Redfern	A M'Neill	Grocer	Brick, and slate roof	Light thrown down	Unknown	Australian Mutual, £1,500	Office, and contents in back part of shop on ground floor slightly damaged by fire and smoke	Inmates with buckets of water
Sunday, 24 June	4 8 a m	4 10 a m	49, Ann street, City	John Conlon, Albion Flour Mills	Baker	Brick, and iron roof	Unknown	Merc tile Mutual, £1,000	"	A building of two floors, about 60 ft x 30 ft, used as a bakery and store room top floor and contents, consisting of a large quantity of flour, nearly burned out and roof off Contents of a building of four floors adjoining, about 60 ft x 30 ft, used as a mill, &c, very severely damaged by fire and water	Standard Brewery Vol Fire Co, M F B and Paddington Brewery Vol Fire Company, with four hydrants
Wednesday, 27 June	11 47 a m	11 49 a m	Castlereagh and Devonshire streets, City	James Farragher, "Royal Exhibition Hotel"	Licensed victualler	Brick, and slate roof	Gas explosion	None	Unknown	About 2 ft x 2 ft of wooden ceiling slightly damaged by fire, and gas pipe broken in basement	Inmates with buckets of water
Wednesday, 27 June	6 50 p m	None rec'd	Avoca street, Randwick	A Gealey	Private dwelling	Brick, and iron roof	Candle	"	None	Curtains and hangings burned on stair landing	Randwick Vol Fire Company with buckets of water
Sunday, 1 July	6 a m	None rec'd	Deaf and Dumb Institution, Newtown road, Darlington	Mr Watson, superintendent	Deaf and Dumb Institution	Brick, and slate roof	Hot ashes	Unknown	Unknown	A small portion of wooden fencing damaged by fire	Inmates and police with buckets of water
"	11 25 p m	11 29 p m	115, Mansfield st, Balmain	Henry Roderick	Grocer	Weatherboard, and iron roof	Unknown	Merc tile Mutual, £290	National of New Zealand, £450	A building of one floor, about 20ft x 30ft, together with contents, severely damaged by fire, and roof partly fallen in	Balmain Vol Fire Co and M F B, with 2 hydrants
"	"	"	117, Mansfield st, Balmain	Thomas Hammond	Private dwelling	"	"	None	"	A building of three floors, together with contents, severely damaged by fire and water	" "
Monday, 2 July	5 5 p m	5 16 p m	15, Harrow Road, Petersham	Abram Abraham	"	Brick, and slate roof	Gas bracket	Australian Mutual, £700	Unknown	Bed and bedding severely damaged by fire and water, rest of contents damaged by fire in side room on ground floor	Inmates and M F B, with buckets of water
"	9 40 p m	None rec'd	105, George st, Redfern	Lewis Mahon	"	Brick, and slate roof	Candle	None	"	Window blind, bed and bedding, damaged by fire and water in back room on ground floor	Member of M F B and police, with buckets of water
Thursday, 5 July	5 15 a m	5 19 a m	Cowper st, Waverley	R J Chapman	Greengrocer	Weatherboard, and iron roof	Unknown	"	None	Buggy and a small quantity of fodder burned	Woolwhia Vol Fire Co, with hydrant
Sunday, 8 July	11 45 p m	11 51 p m	73, Surry street, Darlinghurst	Wm Cabban	Private dwelling	Brick, and iron roof	Candle	"	Unknown	Kitchen and contents nearly burned out Staircase leading to first floor, very severely damaged by fire	Inmates and neighbours, with buckets of water
Monday, 9 July	3 40 a m	3 52 a m	111, Parramatta Road, Annandale	Messrs Moodie & Creak	Marble works	Wood, and iron roof	Unknown	Royal £450	Royal, £100	A workshop of two floors, about 40 ft x 20 ft First floor and contents nearly burned out, and roof off Contents under damaged by water	M F B, with hydrant
Monday, 9 July	6 31 p m	6 33 p m	†Bridge and Phillip sts, City	*The Chief Secretary's Office and Department of Public Works	"	Stone, and slate roof	"	None	None	A building of three floors, basement, and attic Six rooms in attic, containing a large number of plans, draughts mens, surveyors' and photographers' materials, burned out and roof off Seven rooms on second floor, with contents, consisting of a number of plans, &c, and passages severely damaged by water and breakage Ten rooms on first floor, consisting of the Executive Council Chamber, Minister for Public Works' room, Under Secretary's room, Chief Clerks room, &c, and contents damaged by water, ceilings also damaged by water Contents of four rooms on ground floor, used as offices, &c, slightly damaged by water	M F B, with two steam fire engines and one hydrant
"	7 30 p m.	7 34 p m.	Crown street, City	L R Wilson	Steam laundry	Brick, and iron roof.	Over heat of flue	N'th Queensland, £2,400	British & Colonial, £2,050	About 6 ft x 6 ft of iron roof damaged by fire	Employees, with steam jet.

* George Sykes, aged about 35 years, slightly burned about the hands, and attended to at home
 † An inquest was held on the 11th and 18th instant. The jury returned an open verdict, as there was no evidence to show whether the fire was caused accidentally or otherwise.

DETAILS of Fires which have occurred within the Metropolitan District—continued.

Date.	When discovered	Time of call.	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire.	Insurances.		Extent of damage, &c.	Extinguished by
								Contents.	Building.		
1891 Wednesday, 1 August.	1 20 a.m.	None rec'd	Lorid-street, Leich- hardt.	Anne Chall's	Private dwelling	Weatherboard, and iron roof.	Kero-sene lamp, explosion of Candle	Merc'ile Mutual, £150.	United, £200 . .	Bed, bedding, and some wearing apparel damaged by fire in middle room on ground floor.	Neighbours, with buckets of water.
Thursday, 2 August.	7 56 p.m.	8 2 p.m.	113, Gipp street, Ultimo	Edward Arthur Turner	"	Brick, and iron roof.	"	None	Unknown	Window curtain burned in front room on ground floor	Inmates, with buckets of water.
Friday, 3 August.	5 0 a.m.	5 6 a.m.	Lane Cove Road, North Sydney.	Messrs. Brown and Tapson.	Buildes and contractors.	Wood, and iron roof.	Unknown . . .	Building and contents, London and Lancashire, £1,700.	"	Buildings, of one and two floors, covering an area of 80 x 100 ft., with contents, burned out and fallen down. One horse burned to death.	St Leonards V.F. Co. and M.F.B., with 4 hydrants.
"	"	"	"	Thomas Hyde	Fruiterer and tobacconist	Weatherboard, and iron roof	"	None	Unknown . . .	Side of building and fencing and stable in rear severely damaged by fire.	"
"	11 0 p.m.	11 7 p.m.	236, Botany Road, Alexandria	Ah Sing	Shop and dwell- ing.	Brick, and iron roof.	"	"	"	Front shop and contents slightly damaged by fire and water.	Alexandria V.F. Co. and M.F.B., with buckets of water.
Tuesday, 7 August	8 7 p.m.	8 12 p.m.	85, Cavendish street, Enmore.	Unoccupied	Private dwelling	Brick, and slate roof.	Hot ashes	"	Alliance, £,1800	About 6 feet of fencing burned at rear of premises	Neighbours, with buckets of water.
"	5 30 p.m.	None rec'd	Annandale street, Annandale.	J. E. Pople	"	Weatherboard, and iron roof.	Unknown . . .	City Mutual, £250	Aust. Mutual, £400.	Furniture in bedroom on ground floor damaged by fire	Inmates, with buckets of water.
Wednesday, 8 August.	4 41 p.m.	4 42 p.m.	Hunter and Blgh-sts., City	North Union Cham- bers.	Offices	Brick and stone, and slate roof.	Light thrown down.	None	Norwich Union	Waste paper burned and partition slightly damaged by fire in offices on third floor	"
Friday, 10 August	10 3 a.m.	10 6 a.m.	King street, New town	Andrew Gardner	Stationer	Yard	Carelessness with fire.	Col Mutual	Unknown	A quantity of waste paper burned in yard at rear of premises	"
Sunday, 12 August.	2 0 a.m.	2 10 a.m.	Grove-st., Leichhardt	Thomas Palmer	Stables	Weatherboard, and iron roof	Unknown . . .	City Mutual	City Mutual	Buildings, of about 15 ft x 48 ft., and contents, consisting of a cab, harness, fodder, &c., burned out and fallen down	Lilyfield V.F. Co. and M.F.B., with hydrant.
"	"	"	Grove and O'Neill sts, Leichhardt.	Richard Coo'sey	Dealer	"	"	None	"	Stables and fodder room slightly damaged by fire, and fence by breakage.	"
"	7 0 p.m.	None rec'd	Commercial Bank, Glanville.	H. G. Buncll	Bank	Brick, and iron roof.	Candle	Merc'ile Mutual	Unknown	Window curtains, carpet, and wearing apparel damaged by fire and water in bedroom on first floor	Inmates, with buckets of water.
Monday, 13 August	10 18 p.m.	10 21 p.m.	447, Kent-street, City .	Edward Butler and Sons	Wholesale Sad- dles.	"	Unknown . . .	Royal, £3,000, National, £1,250, Palatine, £1,000, Northern, £1,000 —£6,250.	Merc'ile Mutual, £1,466	Part of stock on shelves on first floor very severely damaged by fire and water; contents on ground floor slightly damaged by water.	M.F.B., with hydrant, assisted by V.F. Co's.
Thursday, 16 August	8 27 p.m.	8 29 p.m.	27, George-street, N., City.	Messrs. Vergo, Son, and Chapman.	Wa. chouse	"	Light thrown down.	Royal, £3,800, Nor- thern, £3,000, New Zealand, £2,000, National, £3,000, London and Lan- cashire, £1,000— £15,000.	Aust. Mutual, £1,000	A large number of paper bags damaged by fire and water, in front part of warehouse on ground-floor. Contents on ground and basement-floors slightly damaged by water	M.F.B., with hydrant, assisted by Vol Fire Co's.
Friday, 17 August	7 54 a.m.	7 58 a.m.	114, Windsor-street, Paddington.	Bartholomew Welby . .	Private dwelling	"	Foul chimney	Unknown	Unknown	Roof slightly damaged by fire, in kitchen on ground-floor	Paddington V. F. Co., with hand-pump
Tuesday, 21 August	2 40 a.m.	2 43 a.m.	76 1/2, Bathurst-street, City.	Wm. Gardner	Grocer	"	Unknown	South British, £170	"	Counter very severely damaged by fire, and rest of contents of front shop on ground floor damaged by fire, heat and smoke.	M.F.B., with hydrant
Friday, 21 August.	4 30 p.m.	4 36 p.m.	31, Glenmore Road, Paddington.	Mrs Smith	Private dwelling	Brick, and slate roof.	Matches, children playing with.	None	"	Bed and bedding slightly damaged by fire and water, in bedroom on first-floor.	Police, with buckets of water.
Sunday, 26 August.	8 45 p.m.	8 55 p.m.	29, Taylor-street, City	Patrick Stanley	"	"	"	"	"	Bed, bedding, and furniture damaged by fire and water, in back room on first-floor.	Paddington Brewery V.F Co., with hand-pump.
Monday, 27 August	10 15 p.m.	10 34 p.m.	Off Terry-st., Balmain	Messrs. Cludgey Bros	Timber merchants	Weatherboard, with iron and shingle roof.	Unknown	Col Mutual . . .	Col. Mutual . . .	Storing shed of two floors, about 70 ft x 70 ft., containing a large quantity of timber, burned and fallen down Four drays destroyed, and several stacks of timber in yard destroyed by fire.	Several Vol. Fire Co's and M.F.B., with one steam fire engine and six hy- drants.
Tuesday, 28 August	10 30 a.m.	10 34 a.m.	"Symington," Parra- matta Road, Ashfield	W McIntyre	Private dwelling	Brick, and slate roof.	Matches, children playing with.	None	None	Bedding destroyed and window frame damaged by fire in front bedroom on first floor.	Inmates and neighbours, with buckets of water.
Wednesday, 29 August	5 17 a.m.	5 20 a.m.	Riley Lane, off Riley- street, City.	W. Fiddick	Stable	Wood, and iron roof.	Unknown	"	City Mutual . . .	Stable, about 30 x 20 ft., very severely damaged by fire. One horse burned to death, and three carts severely damaged by fire	M.F.B., with hydrant
"	"	"	1, Riley Lane	A. Sargent	Private dwelling	Brick, and shingle roof.	"	"	Unknown	Roof and window damaged by fire and cutting away . .	"
"	12 27 p.m.	12 32 p.m.	7, Francis-street, City .	Elsie Fraser	"	"	Spark from chim- ney.	"	"	A small portion of shingle roof damaged by fire and cutting away.	M.F.B., with buckets of water.
Saturday, 1 September	6 52 p.m.	6 55 p.m.	608, George street, City	John Lawler and Sons.	Bedding manufact- urers & furniture warehousemen.	Brick, and iron roof.	Unknown	Several offices, £9,500	Several offices, £7,500.	A building of six floors, about 30 ft x 100 ft., together with contents, burned and fallen down.	M.F.B., with seven steam fire engines, assisted by several Vol. Fire Co's.
"	"	"	606, George street . .	Paul Ferris	Palms	"	"	None	Northern, £500 . .	A building of two floors, destroyed by falling walls.	"
"	"	"	604, George street . .	Carl and Leman	Photographers . . .	"	"	Standard, £250	"	First floor, together with contents, destroyed by falling walls.	"
"	"	"	602, George street	H. R. Leach	Gunsmith	"	"	North British Im- perial, £2,250.	"	A building of two floors and contents damaged by falling walls and water.	"

DETAILS of Fires which have occurred within the Metropolitan District.—*continued.*

Date.	When discovered.	Time of call.	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire.	Insurances.		Extent of damage, &c.	Extinguished by
								Contents.	Building.		
1894. Saturday, 1 Sept.	6 52 p.m.	6 55 p.m.	600, George-street .	Charles French . . .	Jeweller	Brick, and iron roof.	Unknown . . .	None	London & Lancashire, £1,500.	Building and contents slightly damaged by water.	M.F.B., with seven steam fire engines, assisted by several Vol. Fire Co's.
"	"	"	612, " George-street . . .	Frederick Dobinski John Lawler & Sons	Tobacconist Furniture ware- house.	"	"	United, £810 London & Lancashire, £2,000. Imperial, £275.	Norwich Union, £1,500. City Mutual, £1,500 —2,000	Ceilings of buildings slightly damaged by water.	" "
"	"	"	610, George street	Shamrock Club	Club	"	"	South British, Unknown . . .	None	A building of three floors and contents damaged by falling walls and water.	" "
"	"	"	614, George street . . .	Patching & Bond	Drapers	"	"	United, £150 . . .	None	Contents of shop on ground floor damaged by water and breakage	" "
"	"	"	"	Alfred Read . . .	Dancing academy	"	"	United, £150 . . .	None	Contents of first and second floors damaged by water and breakage	" "
"	"	"	3, Wilmot-lane	Thomas Atkinson Ideneu Adamu . . .	Stables Private dwelling . . .	"	"	Aust. Mut., £150 None	None	Stables and contents destroyed by falling walls.	" "
"	"	"	"	"	"	"	"	"	"	Back part of premises damaged by falling walls and breakage.	" "
"	"	"	9, Roxburgh lane . . .	S. C. Simonds	"	"	"	"	"	Roof and contents of building damaged by falling walls.	" "
"	"	"	4, Union lane	John Lawler & Sons	Bedding ware- house.	"	"	"	"	A building of one floor, 40 ft. x 50 ft., used as a storeroom, and contents, burned and partly fallen down.	" "
"	"	"	Union Lane	Central Police Station.	"	"	"	"	None	Four cells and roof of passage damaged by falling walls	" "
"	"	"	*1, 3, & 5 Union-lane	John Lawler & Sons . .	Bedding ware- house.	"	"	Norwich Union, £530 on No. 3 only.	Norwich Union, £1,500.	Building and contents damaged by falling walls	" "
Wednesday, 5 Sept.	5 20 p.m.	5 25 p.m.	Thomas street, Ashfield	Unoccupied	Private dwelling	"	"	None	Unknown	A quantity of old bedding destroyed by fire; door and window frames damaged by heat in middle room of cottage.	Neighbors, with buckets of water.
Thursday, 6 Sept.	2 49 a.m.	2 51 a.m.	107 Pitt street, City	George Bauman	Cafe	Brick, and slate roof.	"	Imperial, £1,000, South British, £1,000—£2,000	Phoenix, £4,000	A building of three floors, about 40 ft. x 140 ft., used as a bakehouse, store, and kitchen, burned out and roof off; front premises of two and three floors, about 30 ft. x 120 ft., back part burned out and roof off; front part severely damaged by fire, heat, and water.	M. F. B., with three steam fire engines and two hydrants, assisted by several V. F. Co's.
Friday, 7 Sept.	8 50 a.m.	8 56 a.m.	194, Glebe Road, Glebe	F. Ashwell	Private dwelling	"	Vapour coming in contact with flame.	Building and contents, Victoria, £3,000.	Unknown	About 7 ft. of wooden partition damaged by fire in bath- room on first-floor; ceilings of passage and room damaged by heat and smoke.	Inmates with buckets of water.
"	1 20 p.m.	1 26 p.m.	346, Crown-street, City	Everard Thomas	"	Brick, and slate roof.	"	None	Unknown	Manfelpiece slightly damaged by fire in bedroom on second floor.	M. F. B., with hand-pump.
Saturday, 8 Sept.	2 50 a.m.	2 57 a.m.	41, Glebe road, Glebe.	Charles Schofield	Butcher	Brick, and iron roof.	Unknown	United, £200	"	A small quantity of beef in a cask in back yard damaged by fire.	Glebe Vol. Fire Co., with hydrant.
"	3 10 a.m.	3 14 a.m.	137, King-street, New- town.	W. H. Johnston	Grocer	Brick, and slate roof.	"	None	"	Back part of shop and contents severely damaged by fire, heat, and water, front part severely damaged by heat.	M. F. B., with hydrant.
Sunday, 9 Sept	12.24 p.m.	12.26 p.m.	Rear of 54, Goulburn street, City.	Goon Ping & Co. . .	Storekeepers . . .	Brick, and iron roof.	Defect in flue	Alliance	"	Front room on first floor and contents severely damaged by fire and water.	Inmates and M. F. B., with garden hose.
Wednesday, 12 Sept.	3 20 a.m.	None rec'd.	Sorell-st., Parramatta	J. E. Bowden	Shed	Wood, and shingle roof.	Unknown	None	None	Outhouse burned and fallen down	Parramatta Vol. Fire Co., No. 2, with one hydrant.
"	4 55 p.m.	5 0 p.m.	8 Gloucester st., City . .	Unoccupied	Private dwelling	Stone, and slate roof.	Matches, children playing with.	"	Unknown	A quantity of rubbish burned in basement, flooring dam- aged by breakage.	M. F. B., with hand pump.
"	9 26 p.m.	9 28 p.m.	145, King-street, New- town.	Anthony Licciardo . . .	Fruiterer	Brick, with iron over shingle roof.	Spark from chim- ney.	"	"	About 12 ft. x 12 ft. of shingle and iron roof damaged by fire and cutting away.	M. F. B., with buckets of water
Friday, 14 Sept.	1 9 a.m.	1 13 a.m.	51, Hopewell-st., Pad- dington.	Chas. Campbell . . .	Private dwelling	Brick, and slate roof.	Hot ashes	Unknown	"	A box and some rubbish burned in yard at rear of prom- ises.	Paddington Brewery V. F. Co., with buckets of water.
"	4 5 a.m.	4 10 a.m.	" "Keira," Thornton st., Woollahra.	Duncan M'Master	Stables	Brick, and iron roof.	Unknown	Building and contents. Mercantile Mutual, £550.	"	Stables and coachhouse, with loft over, and contents, nearly burned out, and part of roof off. Two horses burned to death.	Woollahra V. F. Co., assisted by other V. F. Co's and M. F. B.
Sunday 16 Sept.	7 50 p.m.	7 58 p.m.	305, King st., Newtown	A. G. White	Fruiterer	Brick, and iron roof.	Matches, children playing with.	None	Unknown	Bed and bedding damaged by fire and water in back room, on first floor.	M. F. B., with buckets of water.
Monday, 17 Sept.	8 38 a.m.	8 43 a.m.	*Off Cowper Wharf, Woolloomooloo, City	Ship "Star of Bengal," Captain Hart.	Ship	Iron	Unknown	Unknown	"	A small quantity of bagging damaged by fire	Crew, with buckets of water
"	10 15 a.m.	10 20 a.m.	"Goderich," 17, Bays- water Road, City.	Capt. C. Smith . . .	Garden	Garden	"	None	None	About 20 gallons of tar destroyed by fire in garden in front of premises	Employees, with sand.
"	8 30 p.m.	None rec'd.	Wentworthville, Gran- ville.	Unoccupied	Private dwelling	Weatherboard, and iron roof.	Vagrants smoking.	"	Unknown	A weatherboard cottage, of four rooms, burned and fallen down.	Granville Vol. F. Co., with hydrant.

* Senior-fireman Edward Charles Brown killed during the fire by falling walls. An inquest was held on the 3rd instant, when the jury returned a verdict of accidental death. An inquest into the cause of the fire was held on the 11th instant, when an open verdict was returned.
 † Previous fire, 9th December, 1880. ‡ Dr. F. Ashwell, aged about 36 years, burned about the head, face, and hands. Attended to at home.
 § Previous fires:—16th December, 1893; 9th February, 1894.
 ¶ Duncan Brown, aged about 27 years, burned to death. *† Outside M.F.B. area.

DETAILS of Fires which have occurred within the Metropolitan District.—continued.

Date.	When discovered.	Time of call	Locality	Name of tenant	How premises occupied.	Construction of premises.	Origin or supposed cause of fire	Insurances		Extent of damage, &c.	Extinguished by
								Contents	Building		
1894 Wednesday, 19 Sept.	4 24 a m	4 26 a m	*Off Manly Wharf, Culculla Quay, City	S S 'Admiral,' Captain Thomas Clayton		Wood	Hot ashes	Unknown	National of N Z, £1,800	Deck, deck fittings, and lining boards in fore part of engine room damaged by fire, underneath portion of bridge damaged by heat	M F B, with one hydrant and one steam fire-engine.
Thursday, 20 Sept.	11 10 a m	11 15 a m	207, Coulburn street, City	John Sutcliffe	Private dwelling	Brick, and shingle roof	Defective flue	None	Unknown	A small portion of shingle roof damaged by fire and cut away	M F B, with buckets of water
Friday, 21 Sept	6 42 p m	None rec'd	Good street, Granville	Michael Bouke, 'Granville Hotel'	Licensed victualler	Brick, and non roof	Candle . . .	Coml Union	"	Bedding and wearing apparel damaged by fire and water in front bedroom on first floor.	Granville Vol F Co, with buckets of water
Saturday, 22 Sept	8 50 p m	8 55 p m	29, Trafalgar street, Annandale	Ernest T Simons	Provision dealer	Weatherboard, and non roof	Unknown	Building and contents	Australian Mutual, £100	A weatherboard building, of two rooms, about 12 x 24 ft, and contents nearly burned out, and part of roof off	M F B, with one hydrant
Tuesday, 25 Sept	9 45 p m	None rec'd	Mount street, North Sydney	Mrs Guest	Private dwelling	Brick, and non roof	Candle	None	Coml Union, £400	Window curtains burned and frames damaged by fire in front room on first floor	St Leonards V F Co, with buckets of water
Thursday, 27 Sept	9 30 a m	9 32 a m	2, Budge street, City	Henderson and Macfarlane	Offices	Brick, with non over shingle roof	Spark from chimney.	Unknown	Alliance, £2,000	A small quantity of straw burned in attic	Inmates, with buckets of water.
Monday, 1 October	10 35 a m	10 45 a m	60, Victoria street, Balmain	Denis O Sullivan	Private dwelling	Weatherboard, & shingle roof	Unknown	City Mutual, £100	Mercile Mutual, £200	A four roomed cottage, together with contents, burned out and fallen down	Balmain V F Co, with hydrant, assisted by M F B
"	"	"	53, Victoria street, Balmain	Mrs H Gash	Laundress	Weatherboard, and iron roof	"	None	Colonial Mutual, £120	Side and roof of dwelling severely damaged by fire, furniture damaged by removal	"
"	10 55 p m	10 58 p m	508, George street, City	M Moss	Tobaccoist	Brick, and slate roof	Rats at matches	National of N Z, £200	Unknown	A small portion of flooring damaged by fire behind counter on ground floor	M F B, with buckets of water
Tuesday, 2 October	1 19 p m	1 32 p m	73, Gloucester street, City	Mrs A Tow	Grocer	Brick, with non over shingle roof	Defect in chimney	None	Aust Alliance, £300.	Roof burned, and contents severely damaged by water and removal	M F B, with one steamer and one hydrant, assisted by V F Cos
"	"	"	71, Gloucester st, City	John Carroll	Private dwelling	Brick, and non roof	Hot ashes	"	"	Roof severely damaged by fire and cutting away	"
"	3 18 p m	3 22 p m	1, San Jose Terrace, Stat on st, Newtown	Samuel Mathews	"	"	"	"	Unknown	A small portion of woodshed at rear of premises damaged by fire	Neighbors, with buckets of water
Wednesday, 3 October	10 50 p m	10 53 p m	97½, Bathurst street, City	Co-operative Printing Company, H L Holland, manager	Printers	Wood and non, and iron roof	Light thrown down	Aust Mutual, £750	"	A small portion of flooring and joisting burned in machine room.	M F B, with one hydrant
Thursday, 4 October	4 21 a m	4 21 a m	Fairfield . . .	Hancock, 'Hancock's Railway Hotel'	Licensee	Weatherboard, and non roof	Candle	Commercial Union, £450	"	Hotel, containing nine rooms, and building adjoining used as a ballroom, with contents, burned out and fallen down	Burned itself out
Wednesday, 10 October	1 35 a m	1 43 a m	181 Bryswater Road, City	Bartholomew San Martin.	Private dwelling	"	Candle	None	"	A weatherboard cottage of three rooms and contents burned out and fallen down	Paddington Brewery V F Co, with one hydrant, assisted by several Vol Fire Companies
"	1 45 a m	None rec'd	*Railway Road, Merrylands	Henry Kiammer	"	"	"	Mercant Mutual, £40	Mercant Mutual, £150.	A weatherboard cottage of four rooms with contents burned out and fallen down	Burned itself out
Friday, 12 October	12 45 p m	12 48 p m	Toxeth Road, Glebe	Griffiths Brothers	Cab proprietors	Brick, and shingle roof	Spark from chimney	None	Aust Mutual, £1,200	Stables, coachhouse, and dwelling, about 50 x 50, roof nearly burned off, and ceilings under damaged by water and breakage	M F B, with one steam fire-engine
Saturday, 13 October	11 10 p m	11 22 p m	111, Weston Road, Balmain.	Henry Johnson	Private dwelling	Weatherboard, and non roof	Unknown	London and Lancashire, £130	Unknown	A small portion of wooden partition damaged by fire, and bed and bedding damaged by fire and water in back bedroom on ground floor	Inmates, with buckets of water
Sunday, 14 October	5 8 p m	5 10 p m	†252, George street, City	Holdsworth, Macpherson & Co	General merchants	Brick, and non roof.	"	Several offices, £22,000	"	A number of crates and cases of glass and crockery ware damaged by fire on second floor of Hamilton street ware house, contents on the floor under damaged by water	Sprinklers and M F B with buckets of water
Tuesday, 16 October	12 55 p m	1 0 p m	Bathurst and George Streets, City.	J A Eaton	Contractor	Building in course of erection	Tar boiling over	None	None	A small quantity of tar destroyed at side of excavation	M F B, with sand.
Wednesday 17 October	4 30 a m	None rec'd	129, George street West City	Morris Herman	Grocer	Stone, and non roof	Smoking tobacco	"	Unknown	A small quantity of straw burned in stable at rear of premises	Night watchman with buckets of water
Thursday, 18 October	6 0 p m	"	Esplanade Road, Eskmeville	Municipal Council	Open yard	"	Unknown	None	None	A small quantity of asphalt and asphalters' tools destroyed by fire	Employees, with sand
Friday, 19 October	5 0 a m	"	53, Australian street, Newtown	Alice Johnson	Private dwelling	Brick, with shingle and iron roof	Matches, careless use of	Victoria, £200	Victoria, £500	Some wear apparel on back verandah on ground floor damaged by fire and water, a small portion of verandah damaged by heat	Inmates, with buckets of water
"	9 49 p m	9 49 p m	Lackey street, City	A W Coismack	Cooperage	Brick, and non roof	Unknown	Building and contents, Australian Mutual, £1,100.	"	First floor of cooperage and contents severely damaged by fire, and part of roof off	M F B, with two steamers and Standard Brewery with one hydrant, assisted by several Vol Fire Cos
"	11 45 p m	None rec'd	‡50, King street, City	G. W. Ellis	Coffee Palace	"	Seeking for an escape of gas with a light	Building and contents, City Mutual, £9,000.	"	Ceilings of rooms on second floor severely damaged by explosion, doors and windows broken	"

* Outside M F B area.

† Previous fire, 17th February, 1886.

‡ Sidney Baldwin, night porter, severely burned about the face, neck, and arms, and taken to the Sydney Hospital Previous fires—25th November, 1832, 31st October, 1893.

DETAILS of Fires which have occurred within the Metropolitan District.—*continued.*

Date.	When discovered.	Time of call.	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire.	Insurances.		Extent of damage, &c.	Extinguished by
								Contents.	Building.		
1894. Saturday, 20 October.	3-55 a.m.	4-1 a.m.	Hardie's Chambers, Hamilton street, City.	Norman Shelley ... H. W. Cary & Co .	Wine, spirit, and tea merchant. Tea brokers ..	Brick, and iron roof.	Unknown .	Alliance, £1,500 .	Mercantile Mutual, £3,500.	Stock on second floor damaged by fire, heat, and water .	M.F.B., with one hydrant, assisted by Vol. Fire Co's.
"	"	"	"	"	"	"	"	Scottish Union & National, £100.	"	Stock on first floor slightly damaged by water	"
Sunday, 21 October.	7-55 a.m.	8-2 a.m.	Railway goods depôt, Darling Harbour.	N.S.W. Government .	Railway siding .	.....	Lime slaked by rain.	None	None	A small quantity of lime slaked, and a railway truck and tarpaulin slightly damaged by fire	M.T.B.
Monday, 22 October.	2-45 a.m.	2-52 a.m.	Haj-street, City ...	— Marshall	Contractor .	Building in course of erection	"	"	"	A small quantity of lime slaked, and some bags burned in basement.	"
Wednesday, 24 October.	12-30 p.m.	None rec'd.	West Botany Road, Arncliffe.	Sun King War .	Private dwelling.	Wood, and iron roof.	Matches, carelessness with.	"	"	A weatherboard cottage of three rooms burned out and fallen down.	Rockdale V.F. Co., with hydrant.
"	"	"	Tillock-street, Ashfield..	R. B. Barton	Fowl house .	"	Incendiarism	"	"	A small portion of fowl-house damaged by fire .	Neighbours, with buckets of water.
Thursday, 25 October.	8 p.m.	"	Nowranie street, Ash- field.	Mrs. C. Gent . . .	Private school .	Weatherboard, and iron roof.	"	"	Unknown	Floor of building slightly damaged by fire	"
Sunday, 28 October.	12-29 a.m.	12-34 a.m.	"Linwood House," Glebe Road, Glebe.	E. Jardine	Dairyman ..	Brick, and iron roof.	Smoking tobacco	"	"	One wheel and one oiled sheet destroyed by fire in stable	Inmates, with buckets of water.
Wednesday, 31 October	10-14 a.m.	10-14 a.m.	355 and 357, Sussex- street, City.	Foley Brothers . .	Produce mer- chants.	"	Spark from chimney.	City Mutual	City Mutual ..	Sign-board slightly damaged by fire at rear of building .	Inmates and M.T.B., with buckets of water.
"	8-50 p.m.	8-54 p.m.	Burwood Road, Bur- wood.	Unoccupied premises.		Weatherboard, and iron roof.	Unknown . . .	None	"	Back part of building and roof severely damaged by fire; rest of building by heat.	Burwood Vol. Fire Co., with two hydrants.
"	"	"	"	Chas Loyal ..	Offices	"	"	Unknown . . .	"	Shop and two rooms, with contents, damaged by fire . . .	"
"	"	"	"	A. E. Bishop	Bootmaker	"	"	"	"	Roof damaged by fire; stock slightly damaged by water .	"
"	"	"	"	Fredk Lockyer	Plumber	"	"	"	"	Stock slightly damaged by water	"
Monday, 5 Nov.	5-34 p.m.	5-36 p.m.	24, Cumberland street, City.	Unoccupied premises.		Brick, and slate roof.	Matches, children playing with.	None	None	A small quantity of rubbish burned in front room on ground floor.	M.F.B., with buckets of water.
Thursday, 8 Nov.	6-55 p.m.	6-57 p.m.	602, George-street, City	Building in course of demolition.		"	Light thrown down.	None	None	A quantity of wood burned on ruins	M.F.B., with one hydrant.
Friday, 9 Nov.	11-0 a.m.	11-7 a.m.	220, Riley street, City	Henry Abrahams	Private dwelling..	Brick, and shingle roof	Spark from chim- ney.	"	Unknown	A small portion of shingle roof damaged by fire and cutting away.	M.F.B., with buckets of water.
Saturday, 10 Nov.	1-30 p.m.	None rec'd	512, George street, City	Sheiman and Snider .	Florists . . .	Brick, and iron roof.	Gas explosion	Unknown . . .	"	Showcase and shop window on ground floor damaged by explosion.	Inmates.
Sunday, 11 Nov.	8-30 p.m.	8-32 p.m.	49, Pitt street, Redfern	E. Everett	Private dwelling..	Weatherboard, and iron roof.	Spark from chim- ney.	Scottish Union, £200.	Scottish Union, £500.	A small portion of wooden partition on first floor damaged by fire and cutting away.	M.F.B., with hand pump.
Monday, 12 Nov.	9-0 a.m.	None rec'd.	Gordon Road, Willoughby.	Richard Jeffreys	"	Wood, and iron roof.	Unknown	None..	None	A building of four rooms and contents burned out and fallen down.	Burned itself out.
"	10-30 a.m.	10-31 a.m.	371, Bourke street, City	M. Summers	"	Brick, and shingle roof.	Foul chimney...	Building and contents, Umou, £200.	Commercial	A small portion of shingle roof damaged by fire and cutting away.	Inmates and M.F.B., with buckets of water.
Tuesday, 13 Nov.	8-12 p.m.	8-15 p.m.	786a, George street, City	J. F. Lawrence .	Tea merchant . .	Brick, and iron roof.	Unknown . . .	Scottish Union, £150.	Unknown . .	Shop and contents very severely damaged by fire, heat, and smoke.	M.F.B., with one hydrant.
"	10-53 p.m.	None rec'd.	George and Smith Sts., Parramatta	Joshua Aidill ...	Shed	Wood, and iron roof.	"	None	None	A small quantity of wood damaged by fire in shed at rear of premises.	Parramatta V.F. Co. No 1, with buckets of water.
Wednesday, 14 Nov.	1-42 a.m.	1-46 a.m.	Darlinghurst Road and Burton-street, City	C. H. Brown	"	"	"	"	"	A shed, about 14 ft x 20 ft, used as a store and fodder- room, burned out and fallen down.	Paddington Brewery V.F. Co. and M.F.B., with one hydrant.
Thursday, 15 Nov.	5-51 p.m.	5-54 p.m.	61, Moncur-street, Wool- lahra.	D. T. Holmes	Private dwelling..	Brick, and shingle roof	Spark from chim- ney.	Colonial Mutual £300.	Unknown	A small portion of shingle roof damaged by fire and cutting away.	Woollahra V.F. Co., with buckets of water.
"	8-10 p.m.	8-15 p.m.	31, Thornley-street, Le chhardt.	George Wood	"	Brick and iron roof.	Light thrown down	Unknown	"	Bed, bedding, and furniture slightly damaged by fire in back bedroom on first floor.	Neighbours, with buckets of water.
Friday, 16 Nov.	7-20 p.m.	7-7 p.m.	Thames street, Balmam	James McDonald	"	"	Unknown . . .	None	None	A quantity of rubbish burned in yard at rear of premises.	Inmates, with buckets of water
Saturday, 17 Nov.	7-29 a.m.	7-32 a.m.	342, Castlereagh-street, City.	William Hall . . .	"	Brick, and shingle roof.	Defect in flue ad- joining	"	"	A small portion of shingle roof damaged by fire and cutting away; chimney cracked.	M.F.B., with hand-pump.
"	7-30 p.m.	7-38 p.m.	"Green Oaks Lodge," Darling Point Road, Woollahra.	E. Harding	"	Stone, and shingle roof.	Candle	"	"	Bed and bedding damaged by fire in attic	Cabman, with buckets of water.
"	10-9 p.m.	10-9 p.m.	179, William-street, City.	Edward Dawes	"	Brick, and slate roof.	"	"	"	Bed and window curtains damaged by fire in front room on first floor.	Inmates, with buckets of water.
Friday, 23 Nov.	4-20 a.m.	4-25 a.m.	Oxford-street, Padding- ton.	G. Mortimer	Butcher	Brick, and slate roof.	Smoking meat .	City Mutual, £250.	Unknown . . .	A small portion of smoke-house, at rear of premises, damaged by fire.	Paddington V.F. Co., with one hydrant.
"	2-40 p.m.	2-41 p.m.	Parbury's Wharf, City	Dalgely & Co.	General mer- chants.	Stone, and slate roof.	Spontaneous com- bustion.	Unknown . . .	Vic. Ins. Co. . .	A small quantity of earthenware in crates damaged by fire and removal, on fourth floor of warehouse.	Employees, with buckets of water.
Saturday, 24 Nov.	8-43 a.m.	None rec'd.	Good-street, Granville	L. Grimwood	Draper	Brick, and iron roof.	Unknown . . .	Mercantile Mu- tual, £600.	Mercantile Mu- tual, £800.	Bed and bedding damaged by fire in front room on first floor; contents of shop under slightly damaged by water.	Granville V.F. Co., with one hydrant
Monday, 26 Nov.	12-58 a.m.	1-1 a.m.	84, Edward street, Darlington.	Amelia Pitt	Private dwelling..	Weatherboard, and iron roof.	Kerosene lamp, explosion of.	City Mutual, £250.	Aust'n Mutual, £150.	Furniture and contents of back kitchen on ground floor slightly damaged by fire, heat, and smoke.	Inmates and neighbour with buckets of water.

* Previous fires:—16th December, 1893; 9th February, 1894; 12th September, 1894.

DETAILS of Fires which have occurred within the Metropolitan District—continued

Date.	When discovered.	Time of call.	Locality.	Name of tenant.	How premises occupied.	Construction of premises.	Origin or supposed cause of fire.	Insurances.		Extent of damage, &c.	Extinguished by
								Contents.	Building.		
1894. Monday, 26 Nov.	12:35 p.m.	12:40 p.m.	Wallis-street, Woollahra	Hon. Judge Dowling ..	Garden .....	.. . . .	Unknown	None	None	A portion of fencing damaged by fire	Woollahra Vol. F. Co.
"	8:22 p.m.	8:24 p.m.	Station-street, Newtown	Landsey Browne	Stables	Brick, and iron roof.	" ..	"	"	Stables and feed house, about 50 x 13 ft., containing a small quantity of fodder, burned out, and part of roof off.	M.F.B., with one hydrant
Tuesday, 27 Nov.	9 10 a.m.	9 13 a.m.	221½, Castlereagh street, City.	Edwd. Calham	Hairdresser ..	"	Candle	"	"	Stock and fixtures damaged by fire and water in front part of shop.	Inmates, with buckets of water.
Wednesday, 28 Nov.	1:50 a.m.	1:54 a.m.	Annandale-street, Annandale.	Wm. G. Winton	Stables	Weatherboard, and iron roof.	Light thrown down.	City Mutual, £50	Unknown	Stables and coach-house, about 27 x 13 ft., with contents, burned out and fallen down.	M.F.B., with one hydrant
Thursday, 29 Nov.	4:25 p.m.	None rec'd	Aderley st., Rookwood	Francis McMahon A. Carter	Private dwelling	"	Unknown	Aust'n Mutual None	" None	Roof of stables partly burned off. Front bedroom on ground floor, together with contents, damaged by fire.	Sydney Meat Preserving Co's employes, with buckets of water.
Saturday, 1 Dec.	4:19 p.m.	4:24 p.m.	Valentine Lane, City ..	Henry Goodwin	Wheelwright and waggon builder.	Wood and iron, and iron roof.	"	"	"	Workshops and offices, with contents, covering an area of about 40 x 90 ft., nearly burned out and fallen down.	M.F.B., with two hydrants.
"	8:45 p.m.	8:49 p.m.	Nelson street and Parramatta Road, Annandale.	W. H. Hinton, junr. ..	Coach builder ..	Weatherboard, and iron roof.	"	Building and contents, Imperial, £200.	"	Two weatherboard buildings, about 25 x 18 ft. each, together with a quantity of coachbuilders' materials, etc., burned out and fallen down.	"
Monday, 3 Dec.	1 20 a.m.	1 27 a.m.	Bourke Rd., Alexandria	Georgina Peterson ..	Dairy	Wood and iron, and iron roof.	Unknown	None	None	A building of one floor, about 100 x 30 ft., containing a quantity of fodder, milk-carts, buggy and harness, burned out, and roof off.	M.F.B., with one hydrant, assisted by Vol. Fire Cos.
Wednesday, 5 Dec.	2 0 a.m.	None rec'd.	Miller and Ridge streets, North Sydney.	C. T. Clarke	Coffee stall	Wood, and iron roof.	"	"	"	Coffee stall and contents severely damaged by fire	Inmates, with water.
"	4 23 a.m.	4:28 a.m.	Oxford-street, Paddington.	Abraham Myers	Draper	Brick, and slate roof.	"	Austral'n Mutual, £250.	Unknown	A small quantity of drapery damaged by fire in rear part of shop on ground floor.	Paddington Vol. Fire Co., with one hydrant.
Friday, 7 Dec.	1:24 a.m.	1:27 a.m.	"The Strand" Arcade, George-street, City.	Harjell & Co.	Woollen merch'nts	Brick, and iron roof.	"	Scottish Union, £1,000.	} Several offices, } } £55,000. }	Stock in storeroom severely damaged by fire, smoke, and water.	} Wadchman with private hydrant, and M.F.B., with buckets of water. }
"	"	"	"	T. H. Williams	Refreshment rooms.	"	"	None		Contents of two rooms under, damaged by water	
"	2:35 a.m.	2:45 a.m.	"Maryville," Walker-street, North Sydney.	Mrs. Dunbar	Private dwelling	"	"	Merc'ile Mutual, £500.	City Mutual, £	Front room on ground floor and contents severely damaged by fire and water; back room and contents slightly damaged by fire.	Inmates and St. Leonards V. F. Co., with buckets of water.
Sunday, 9 Dec.	8 5 p.m.	8 19 p.m.	35S, Cleveland-st., City	Arthur Pettigrew	Boot and shoe maker.	"	Defect in gas-pipe.	Atlas, £200 ..	Unknown	A small quantity of carboard boxes on first floor, and bedding and wearing apparel in bedroom on same floor, slightly damaged by fire.	Inmates and neighbours, with buckets of water.
Monday, 10 Dec.	1:25 a.m.	1:28 a.m.	43, Riley-street, City ..	Dominick Hogan	Stables	Wood, and iron roof.	Candle	None	None	Side of stable slightly damaged by fire	Inmates, with buckets of water.
Saturday, 15 December	11 40 a.m.	11 52 a.m.	Douglas street, Marrickville.	Thomas Wilkinson ..	Shed	Weatherboard, and iron roof.	Children playing with matches.	"	"	A shed, about 5 ft. x 6 ft., burned and fallen down; side fence slightly damaged by fire.	Inmates and neighbours, with buckets of water.
"	10 56 p.m.	10 59 p.m.	26, Burton-street, City ..	Mrs. E. Riley	Private dwelling	Brick, and iron roof.	Candle	"	City Mutual, £800	Bed, bedding, and side of partition damaged by fire in front room on ground floor.	Inmates, with buckets of water.
Tuesday, 18 December	6 15 p.m.	None rec'd.	Rocky Point Road, Rockdale.	J. Buckler	Oil and colour store.	"	Children playing with matches.	"	None	Bed and bedding; damaged by fire and water in front bedroom on first floor.	"
Thursday, 20 December	2 25 a.m.	2:30 a.m.	59, Mitchell-street, Glebe	Alfred Attwater	Private dwelling	"	Gas bracket	"	"	Bed, bedding, and a small quantity of wearing apparel damaged by fire and water; walls of room damaged by heat.	"
Friday, 21 December	2 30 p.m.	2:35 p.m.	Devonshire-street, City	.....	Cemetery .....	.. . . .	Light thrown down.	"	"	A quantity of grass burned, and a portion of fencing damaged by fire and cutting away.	M. F. B., with bushes and buckets of water.
"	3 37 p.m.	3 39 p.m.	Cowper Wharf, City* ..	Standard Paint Co.	Paint manufactory	Wood and iron, and iron roof.	Unknown	Building and contents (several offices), £5,375.	"	Partition on second floor, and part of roof, slightly damaged by fire; stock slightly damaged by water.	Employees, with private hydrant.
Saturday, 22 December	7:30 a.m.	7:54 a.m.	Elizabeth-street, Redfern.	D. Hadkins	Steam joinery works.	Brick, and iron roof.	"	Unknown	Unknown	An ice-chest and an incubator damaged by fire under stair-case on ground floor.	Neighbours, with buckets of water.
"	7:45 p.m.	7:49 p.m.	Loyalty Buildings, Enmore Road, Newtown.	J. S. Greig	Fancy diaper ..	"	Gas bracket	Australian Mutual £750.	"	Contents of front window, consisting of drapery and fancy goods, damaged by fire and water.	Inmates and M. F. B., with buckets of water.
"	10:19 p.m.	10 22 p.m.	8, Nelson-st., Woollahra	Mrs. Kemmis	Private dwelling.	Brick, and slate roof.	Candle	None	Unknown	Bed and bedding damaged by fire in back bedroom on second floor.	Inmates, with buckets of water.
Tuesday, 25 December	12 4 a.m.	12 7 a.m.	7, Castlereagh st., City	Sale & Dare	Paper hangers and decorators.	"	Unknown	N. Zealand, £400	Unknown	Stock and partition in shop on ground floor slightly damaged by fire.	M.F.B., with one hydrant.
"	11:10 p.m.	11 14 p.m.	Silver-street, Marrickville.	John Cook	Private dwelling.	Brick, and iron roof.	Candle	None	"	Bed and bedding in front bedroom on first floor slightly damaged by fire.	Inmates, with buckets of water.
Friday, 28 December	12 15 a.m.	12 20 a.m.	82, Kent street, City ..	Patrick Hynes	Boarding house	Brick, and slate roof.	"	"	"	Bed and bedding damaged by fire in back room on second floor; ceiling under, damaged by water.	Inmates and police, with buckets of water.
Saturday, 29 December	12 24 p.m.	12:24 p.m.	Carlington-road, Waverley.	W. Hickey	Produce store	Wood, and iron roof.	Rats at matches	Building and contents, Australian Mutual, £300.	"	A quantity of straw, pollard, chaff, &c., damaged by fire and water, in store on ground floor.	Waverley Vol Fire Co., with one hydrant.
Sunday, 30 December	1 46 p.m.	1:47 p.m.	Belleveue hill, Woollahra	T. F. Knox	Private dwelling.	Brick, & shingle roof.	Spark from chimney.	Building and contents, United Insurance Co.	"	About 12 ft x 14 ft. of shingle roof damaged by fire and cutting away; furniture under, damaged by water.	Inmates and V.F. Cos., with private hose and buckets of water.

* Previous fire, 7th October, 1933.

APPENDIX IX.
SUMMARY of Localities for 1894.

City and suburbs	Casualties.	Class of Fire.									Total No. of fires.	False alarms.	Chimney fires.		Grand total.
		Slight.			Serious.			Total destruction.					Attended with engines, and reported as house fires.	Attended with hand-pump only.	
		In-sured.	Not in-sured.	Insur-ance un-known.	In-sured.	Not in-sured.	Insur-ance un-known.	In-sured.	Not in-sured.	Insur-ance un-known.					
CITY—															
Bourke Ward		5	...	...	4	1	...	...	...	...	10	2	2	2	16
Brisbane „		5	1	...	...	...	...	...	...	...	6	4	2	...	12
Cook „		4	...	5	1	...	...	...	...	...	10	2	3	3	18
Denison „		3	6	4	2	...	...	...	2	...	17	1	5	5	28
Fitzroy „		5	2	2	...	...	...	...	1	1	11	1	2	4	18
Gipps „		5	2	3	1	...	...	...	...	...	11	...	4	12	27
Macquarie „		5	5	2	1	...	...	1	...	...	14	3	4	8	29
Phillip „		6	4	6	1	...	...	...	...	...	17	4	1	3	25
Total		38	20	22	10	1	...	1	3	1	96	17	23	37	173
SUBURBS—															
Alexandria		1	...	1	...	...	...	2	...	...	4	...	2	...	6
Anndale		2	...	...	1	...	...	3	...	...	6	...	...	...	6
Ashfield.....		1	3	3	...	...	...	...	...	...	7	2	...	...	9
Auburn	1	...	...	1	...	...	...	1
Balmain.....		2	1	...	2	...	...	2	1	...	8	1	...	...	9
Botany	2	...	...	...	...	...	1	...	3	1	...	...	4
Burwood	1	1	...	...	...	1	...	3	...	...	...	3
Camperdown	1	1	...	...	1
Canterbury		1	1	...	...	...	...	...	...	...	1	1	...	...	2
Concord.....		1	...	...	...	...	...	...	...	...	1	...	...	...	1
Darlington		2	...	1	...	...	...	...	...	...	3	1	1	2	7
Drummoyne.....		1	1	1	...	...	...	1	...	...	4	...	...	...	4
Granville		5	...	...	...	...	...	2	...	1	8	...	...	...	8
Glebe.....		5	1	...	1	...	...	2	...	...	9	1	2	5	17
Hurstville.....		1	...	...	1	...	...	...	1
Kogarah	1	...	...	1
Leichhardt		4	1	2	...	...	...	1	2	...	10	4	...	1	15
Macdonaldtown	1	2	...	...	...	...	...	...	3	1	...	1	5
Marrickville.....		...	2	2	...	...	...	1	2	...	7	1	...	...	8
*Narrabeen	1	...	1	...	...	...	1
Newtown		10	3	7	...	...	...	...	...	...	20	3	1	5	29
North Sydney		3	1	...	1	...	...	2	...	...	7	1	...	...	8
Paddington		6	...	6	1	...	...	...	...	...	13	4	1	...	18
Parramatta		2	1	...	...	...	...	1	...	...	4	...	...	...	4
Petersham.....		5	1	1	2	...	...	1	...	...	10	...	...	1	11
Randwick.....		1	2	...	...	...	...	...	...	...	3	...	...	...	3
Rockdale		1	2	...	...	...	...	1	...	...	4	3	...	...	7
Redfern		4	...	2	1	...	...	...	...	...	7	2	2	...	11
Rookwood.....		...	1	...	...	...	...	...	...	...	1	...	...	...	1
St. Peters	1	...	...	...	...	...	...	...	1	2	...	...	3
*Smithfield.....		1	...	...	1	...	...	...	1
Waterloo	1	...	...	...	...	...	1	2	1	2	4	
Waverley		2	2	...	...	...	...	...	1	...	5	...	...	...
Willoughby	1	1	1	3	...	...	...	3
Woollahra.....		3	4	1	2	...	...	...	...	...	10	1	...	...	11
*The Harbour		1	...	2	...	...	...	...	...	...	3	...	...	...	3
Totals		100	51	55	22	1	...	24	13	4	270	49	34	56	409

* Outside the Metropolitan Fire Brigade area.

APPENDIX X.

SUMMARY of Trades for 1894.

Trades	Class of Fire.									Totals.
	Slight.			Serious.			Total.			
	Insured.	Not insured.	Insurance Unknown.	Insured.	Not insured.	Insurance Unknown.	Insured.	Not insured.	Insurance Unknown.	
Auctioneers .....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Amusement, places of.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Bakers and Confectioners	1	2	1	.....	.....	.....	.....	.....	.....	4
Bedding Manufacturers .....	.....	1	.....	.....	.....	.....	1	.....	1	3
Boarding-houses	2	1	2	.....	.....	.....	.....	.....	.....	5
Basket Factories.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Bootmakers	1	.....	.....	1	.....	.....	.....	.....	.....	2
Builders and Contractors .....	.....	3	1	.....	.....	.....	2	.....	.....	6
Butchers	2	1	3	.....	.....	.....	.....	1	.....	7
Banks.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2
Cabinet-makers & Upholsterers .....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Chemists .....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Churches	1	1	.....	.....	.....	.....	.....	.....	.....	2
Coachbuilders .....	.....	.....	.....	.....	.....	.....	1	2	.....	3
Coffee Palaces	1	1	.....	.....	.....	.....	.....	.....	.....	2
Commission Agents & Produce Merchants.	3	2	.....	.....	.....	.....	1	2	.....	8
Coopers.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Dairies	2	.....	.....	.....	.....	.....	.....	1	.....	3
Drapers and Milliners.....	4	.....	.....	.....	.....	.....	.....	.....	.....	4
Fancy Goods, &c.	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Fruiterers and Greengrocers ...	.....	2	1	.....	.....	.....	.....	.....	.....	3
Furniture Dealers	3	.....	.....	.....	.....	.....	.....	.....	.....	3
Government Buildings	1	.....	1	.....	1	.....	.....	.....	.....	3
Grass Paddocks and Parks.....	.....	9	.....	.....	.....	.....	.....	.....	.....	9
Grocers	10	1	2	2	.....	.....	.....	.....	.....	15
Hairdressers and Tobacconists	4	1	1	1	.....	.....	.....	.....	.....	7
Jam Factories	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Laundries.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Licensed Victuallers	5	1	4	2	.....	.....	1	.....	.....	13
Offices	3	.....	.....	.....	.....	.....	.....	.....	.....	3
Omnibus proprietors	1	.....	.....	2	.....	.....	.....	.....	.....	3
Open Yards .....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Painters and Decorators.....	2	1	.....	.....	.....	.....	.....	.....	.....	3
Photographic Material Im- porter.	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Printers and Stationers	2	.....	.....	3	.....	.....	.....	.....	.....	5
Private Dwellings	37	16	30	1	.....	.....	10	2	.....	96
Public Halls .....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Rag Merchants	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Railway Sidings .....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Restaurants	1	.....	2	2	.....	.....	.....	.....	.....	5
Sail Makers.....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Schools .....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Sheds.....	.....	1	.....	.....	.....	.....	1	3	1	6
Ships	1	.....	2	.....	.....	.....	.....	.....	.....	3
Stables	1	2	.....	2	.....	.....	2	.....	1	8
Store Room .....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Timber Merchants .....	.....	.....	.....	1	.....	.....	.....	.....	1	2
Unoccupied Premises	2	1	2	1	.....	.....	2	.....	.....	8
Warehouses	2	.....	.....	.....	.....	.....	.....	.....	.....	2
Workshops	1	.....	.....	1	.....	.....	1	.....	.....	3
	100	51	55	22	1	.....	24	13	4	270

APPENDIX XI.
HOURLY and Daily Summary of Calls for 1894.

Hour.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Total.
A.M., 1st	2	3	2	3	0	3	0	13
" 2nd	2	3	1	7	2	2	1	18
" 3rd	3	4	2	2	4	2	2	19
" 4th	2	2	2	1	1	0	3	11
" 5th	3	1	1	3	1	2	1	12
" 6th	1	1	1	1	1	3	1	9
" 7th	1	0	0	2	1	5	1	10
" 8th	1	0	4	1	4	1	1	12
" 9th	0	2	0	2	2	1	3	10
" 10th	1	0	1	2	2	0	0	6
" 11th	4	5	1	1	1	3	0	15
" 12th	1	2	4	1	1	3	5	17
P.M., 1st	6	2	3	6	0	5	0	22
" 2nd	1	0	1	1	3	3	3	12
" 3rd	1	0	0	3	3	4	2	13
" 4th	2	2	3	1	4	1	0	13
" 5th	6	0	4	2	1	3	4	20
" 6th	3	3	4	6	3	2	1	22
" 7th	3	3	2	6	3	4	6	27
" 8th	2	3	7	6	6	3	6	33
" 9th	5	5	7	3	7	3	6	36
" 10th	3	7	4	1	2	5	3	25
" 11th	1	4	5	3	2	0	3	18
" 12th	5	1	1	2	0	4	3	16
	59	53	60	66	54	62	55	409

APPENDIX XII.
WEEKLY Summary of Calls for 1894.

Week.	Casualties.	False Alarms.	Chimney Alarms.	Fires.	Totals.	Week.	Casualties.	False Alarms.	Chimney Alarms.	Fires.	Totals.
1st ending Jan. 7	2	6	7	15	28th ending July 15 .....	...	1	2	8	11
2nd " " 14	1	2	7	10	29th " " 22 .....	...	2	3	5	10
3rd " " 21	2	3	6	11	30th " " 29 .....	...	1	5	5	11
4th " " 28	2	5	2	9	31st " Aug. 5 .....	...	1	5	5	11
5th " Feb. 4	2	4	3	9	32nd " " 12 .....	...	3	1	6	10
6th " " 11	1	1	5	7	33rd " " 19 .....	...	1	2	3	6
7th " " 18	0	2	4	6	34th " " 26 .....	...	0	3	3	6
8th " " 25	0	2	6	8	35th " Sept. 2 .....	...	0	0	5	5
9th " Mar. 4	1	3	4	8	36th " " 9 .....	...	0	3	7	10
10th " " 11	0	1	5	6	37th " " 16 .....	...	1	2	6	9
11th " " 18	0	1	5	6	38th " " 23 .....	...	1	1	7	9
12th " " 25	1	0	5	6	39th " " 30 .....	...	1	1	2	4
13th " April 1	0	1	5	6	40th " Oct. 7 .....	...	1	1	6	8
14th " " 8	0	2	2	4	41st " " 14 .....	...	2	1	5	8
15th " " 15	1	1	4	6	42nd " " 21 .....	...	1	1	8	10
16th " " 22	0	2	3	5	43rd " " 28 .....	...	3	0	5	8
17th " " 29	0	1	3	4	44th " Nov. 4 .....	...	1	2	2	5
18th " May 6	0	2	8	10	45th " " 11 .....	...	4	0	5	9
19th " " 13	0	1	3	4	46th " " 18 .....	...	1	0	10	11
20th " " 20	0	1	6	7	47th " " 25 .....	...	0	0	5	5
21st " " 27	3	2	6	11	48th " Dec. 2 .....	...	0	1	9	10
22nd " June 3	0	2	8	10	49th " " 9 .....	...	2	0	6	8
23rd " " 10	0	2	5	7	50th " " 16 .....	...	0	1	3	4
24th " " 17	0	0	6	6	51st " " 23 .....	...	0	4	7	11
25th " " 24	0	0	5	5	52nd to end of year .....	...	2	0	6	8
26th " July 1	1	2	4	7						
27th " " 8	3	2	4	9	Total .....	...	49	90	270	409

APPENDIX XIII.

MONTHLY Summary of Calls for 1894.

Months.	Casualties.	Chimney Alarms.			Class of Fire.									Grand Total.	
		False Alarms.	Attended with engines, and reported as house fires.	Attended with hand-pump only	Slight.			Serious.			Total destruction.				
					Insured	Not insured.	Insurance unknown.	Insured	Not insured.	Insurance unknown.	Insured	Not insured.	Insurance unknown.		
January	9	2	5	7	6	5	2	...	.....	2	1	.....	39	
February	2	1	1	6	5	2	4	...	.....	3	0	.....	24	
March	1	1	0	11	4	2	1	...	.....	1	2	.....	23	
April	1	2	7	2	3	4	2	...	.....	1	2	.....	24	
May	6	1	6	11	2	5	2	...	.....	3	1	.....	37	
June	1	5	4	8	3	4	1	...	.....	1	2	2	31	
July	7	10	11	11	2	6	3	1	.....	3	0	.....	54	
August	5	6	6	10	1	6	1	...	.....	2	0	.....	37	
September	3	2	6	7	2	8	2	...	.....	2	1	1	34	
October	8	3	4	10	6	3	3	...	.....	3	1	.....	41	
November	4	0	2	7	11	6	1	...	.....	1	1	1	34	
December	2	1	4	10	6	4	0	...	.....	2	2	.....	31	
Totals	1894	...	49	34	56	160	51	55	22	1	24	13	4	409
		...	68	29	46	118	48	44	19	2	2	17	7	1	401

APPENDIX XIV.

COMPARISON of Calls for the period 1885 to 1894.

	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	Total.
Casualties .....	...	...	...	...	...	2	1	1	...	...	4
False alarms	42	32	14	35	33	44	52	47	68	49	416
Chimney alarms	64	40	60	61	45	52	33	75	75	90	595
Fires, slight	160	150	174	222	179	205	216	270	210	206	1,992
,, serious	13	21	18	19	17	12	27	21	23	23	194
,, total destruction	23	34	15	25	29	18	19	23	25	41	252
Totals	302	277	281	362	303	333	348	437	401	409	3,453

APPENDIX XV.

SUMMARY of Causes of Fire for 1894.

Boiling over fat, oil, tar, &c.....	6	Lamp, kerosene, carelessness with	1
Burning rubbish.....	3	,, ,, explosion of	3
Candle	43	,, ,, upsetting of	4
Children playing with matches.....	19	Light thrown down	13
Doubtful and Unknown	101	Lime slaked by rain	2
Fire, careless use of	1	Matches, careless use of.....	7
Fireworks.....	2	,, rats at	4
Flue, defect in.....	6	Smoking meat	3
Foul chimney	4	,, tobacco.....	3
Gas bracket or burner	4	Spark from another fire.....	2
,, explosion	2	,, chimney, house	14
,, heating apparatus	1	Spontaneous ignition	3
,, pipe, defect in	5	Vapour of spirit coming in contact with flame	2
Hearth, defect in.....	2		
Hot ashes	5	Total.....	270
Incendiarism	5		

APPENDIX XVI.

SUMMARY of how Fires were reported to the Brigade for 1894.

Calls given by.	Casualties.	Fires.	False Alarms.	Chimney Alarms.		Total.
				Reported as House Fires.	Attended by hand-pump only.	
Alexandria Volunteer Fire Company		4	.....	3	.....	7
Ashfield Volunteer Fire Company		4	1	.....	.....	5
Balmain Volunteer Fire Company		4	1	.....	.....	5
Burwood Volunteer Fire Company		5	.....	.....	.....	5
Cabmen		1	2	.....	5	8
Citizen		32	7	3	20	62
Drummoyne Volunteer Fire Company		2	.....	.....	.....	2
Fire Alarm Telephones		88	21	17	12	138
G.P.O., per telephone		39	4	2	10	55
Glebe Volunteer Fire Company		4	.....	1	1	6
Granville Volunteer Fire Company		8	.....	.....	.....	8
Insurance Companies		1	.....	.....	.....	1
Leichhardt Volunteer Fire Company		5	2	.....	1	8
Newspaper Reports		3	.....	.....	.....	3
Night Watchmen		4	.....	.....	.....	4
North Botany Volunteer Fire Company		2	.....	.....	.....	2
North City Volunteer Fire Company	1	.....	1
Paddington Volunteer Fire Company		5	3	.....	.....	8
Paddington Brewery Volunteer Fire Company		5	1	1	.....	7
No. 1 Parramatta Volunteer Fire Company		3	.....	.....	.....	3
No. 2 Parramatta Volunteer Fire Company		1	.....	.....	.....	1
Pilot Steamer
Police at fires		2	.....	.....	.....	2
Police—No. 1 Station		1	1	.....	.....	2
Police—No. 2 Station		3	.....	.....	.....	3
Police—No. 3 Station		3	.....	1	.....	4
Police—No. 4 Station
Police—Ashfield Station		2	.....	.....	.....	2
Police—Central Station		1	.....	.....	.....	1
Police—Botany Station		1	.....	.....	.....	1
Police—Manly Station		1	.....	.....	.....	1
Police—Newtown Station		7	.....	.....	.....	7
Police—North Sydney Station
Police—Petersham Station
Police—Pymont Station		1	.....	2	.....	3
Police—Redfern Station		2	.....	.....	.....	2
Police—Water Station
Police—Woolloomooloo Station		1	.....	.....	.....	1
Railway
Randwick Volunteer Fire Company		1	.....	.....	.....	1
Rockdale Volunteer Fire Company		2	2	.....	.....	4
Turncocks, per telephone		1	.....	.....	.....	1
Seen from Station		1	2	.....	3	6
Standard Brewery Volunteer Fire Company
St. Leonards Volunteer Fire Company		7	.....	.....	.....	7
Tower, Head-quarters		4	2	.....	.....	6
Waterloo Volunteer Fire Company		1	.....	3	4	8
Waverley Volunteer Fire Company		2	.....	.....	.....	2
Woollahra Volunteer Fire Company		6	.....	.....	.....	6
Totals		270	49	34	56	409

1894-5.

NEW SOUTH WALES.

FIRE BRIGADES ACT, 1884.

(WOLLONGONG FIRE BRIGADES BOARD.—REPORT FOR YEAR ENDED 31 MARCH, 1895.)

Presented to Parliament, pursuant to Act 47 Vic. No. 3, sec. 7.

The Chairman of the Wollongong Fire Brigades Board to The Chief Secretary.

Sir,

Wollongong Fire Brigades Board Office, 30 April, 1895.

We have the honor to present you with the Annual Report of the Wollongong Fire Brigades Board for the year ending 31st March, 1895.

The Board have to report that no contributions were received by them during the year from either the Borough Council or the insurance companies, both having taken advantage of defects in the "Fire Brigades Act of 1884." With the exception of small donations from two insurance companies the only revenue received by the Board during the year was from the Government. From this cause they have been unable to procure a quantity of additional plant and clothing which they anticipated being able to purchase, and which are urgently required in order to add to the efficiency of the brigade under their control. The Borough Council has also neglected to strike a rate under the Fire Brigades Act for the ensuing year. Therefore the Board have to look to the Government for sufficient revenue to carry on their operations for the ensuing year. In view of these facts the Board would again respectfully urge the necessity that exists for the immediate passing into law of such a measure as will render it compulsory for Borough Councils and fire insurance companies to contribute their quota towards the expenses incurred by country Boards in maintaining the efficiency of brigades under their control.

Fortunately no fires occurred within the Borough during the year, thus materially lessening the expenditure of the Board.

The Board have pleasure in reporting that the members of the brigade are thoroughly efficient, and that the plant and appliances are in good order.

A statement of revenue and expenditure is appended herewith.

We have, &c.,

FRAS. WOODWARD,
Chairman.J. A. BEATSON,
Mayor.A. CAMPSHIRE,
Representative of Fire Insurance Companies.

REVENUE and Expenditure of the Wollongong Fire Brigades Board for the year ending 31st March, 1895.

Revenue.			Expenditure.				
	£	s. d.	£	s. d.	£	s. d.	
To Balance in E., S., & A. Bank at last Audit			58	17	0		
Donation from Mercantile Mutual Insurance Company	3	3	0				
Donation from Liverpool, London, and Globe Insurance Company	3	0	0				
Interest	14	11	7				
Government Subsidy	109	18	10				
			130	13	5		
	£		189	10	5		
By Subsidy to Fire Brigade ...	74	5	0				
J. T. Bown & Co., new hose, &c.	42	13	9				
Goods and repairs	1	18	9				
Rates, freight, and cartage ...	0	14	2				
Interest, cheque book, &c. ...	0	10	10				
Audit fee	1	1	0				
Caretaker	11	5	0				
Secretary	25	0	0				
Board fees	23	2	0				
						180	10
Balance in E., S., & A. Bank						8	19
						189	10
	£					189	10

Examined and found correct,—

HENRY STUNTLES,
Auditor.

1894-5.

NEW SOUTH WALES.

FIRE BRIGADES ACT, 1884.

(GOULBURN FIRE BRIGADES BOARD NINTH ANNUAL REPORT.)

Presented to Parliament pursuant to Act 47 Vic. No. 3, sec. 7.

The Chairman of the Goulburn Fire Brigade Board to The Chief Secretary.

Sir, Goulburn Fire Brigades Board, Goulburn, 9th January, 1895.

We have the honor to submit to you the Ninth Annual Report of the Goulburn Fire Brigades Board.

There have been no fires of a serious nature in Goulburn during the past year.

The members of the brigade have maintained their efficiency by regular attendance at practice, the average being forty out of a possible fifty-two. The roll numbers twenty-eight full members and three call-boys.

Owing to the imperfect state of the law, as decided by the Supreme Court in the Deniliquin case several years ago, country boards have no power to enforce the payment of contributions by the insurance companies. Only one of the thirty-eight companies having risks in this city contributed for 1894.

The Board cannot but speak in terms of strongest condemnation of the conduct of the insurance companies in availing themselves of a technical defect in the law to evade the responsibilities the legislature intended to impose upon them. No one benefits more than these companies by the maintenance of fire brigades. So far as Goulburn is concerned, it has been admitted that the assessment of the Board is reasonable in amount, and the brigade has proved its efficiency, both at fires and in intercolonial competitions. It is no wonder that in some districts we hear of brigades disbanding or threatening to disband, and the responsibility of bringing this about must lie at the door of the insurance companies.

Seeing that frequent applications to the Colonial Secretary for an amending Bill had been ineffectual, Dr. Hollis, Member for Goulburn, was requested to take up the matter, and he kindly consented to do so, and obtained leave for the introduction of a Bill; but after consultation with the Parliamentary Draftsman, whose services the Government kindly placed at his disposal, he found that a Message from the Governor was necessary. It is hoped that at an early date after the reassembling of Parliament the Message will be obtained, and that an effective Bill will be passed.

Statement of receipts and expenditure for the year is herewith forwarded.

Yours, &c.,

A. M. BETTS,
Chairman.

SUMMARY of Receipts and Payments for the year 1894.

Dr.				Cr.	
1894.		£ s. d.	1894.	£ s. d.	£ s. d.
1 Jan...	To Balance brought forward....	99 0 1	31 Dec..	By Brigade subsidy	150 0 0
31 Dec...	Insurance Companies	37 15 11	31 "	Superintendent's salary	50 0 0
31 " ...	Colonial Treasurer	187 9 5	31 "		200 0 0
31 " ...	Borough Council	84 0 0	31 "	Board's fees	34 13 0
31 " ...	Interest on Government Stock	15 1 2	31 "	Secretary's salary.....	26 0 0
			31 "	Postage stamps.....	1 4 10
			31 "	Rent of northern fire-station	1 10 0
			31 "	Fee for preparing inventory.	1 1 0
			31 "	Auditor's fee.....	1 1 0
			31 "	Printing and stationery	1 10 0
			31 "	Insurance on fire stations ...	1 13 9
			31 "	Gas	0 14 11
			31 "	Repairs to central station ...	0 12 6
			31 "	Exchange on cheques	0 5 0
					70 6 0
			31 "	Balance carried forward.....	153 0 7
		£ 423 6 7			£ 423 6 7

A. M. BETTS, Chairman.

Examined and found correct,—

C. E. MACKENZIE,

9th January, 1895.

Auditor.

1894.

(SECOND SESSION.)

NEW SOUTH WALES.

TREATY WITH LIBERIA.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

Department of Justice,
Sydney, 7th June, 1894.

His Excellency the Governor directs the publication, for general information, of the following Despatch, dated 21st March, 1894, from the Secretary of State for the Colonies.

T. M. SLATTERY.

(Circular.)

Downing-street,
21st March, 1894.

Sir,

I have the honour to transmit to you, for publication in the Colony under your Government, a copy of an order of Her Majesty the Queen in Council, dated the 10th of March, 1894 [The London Gazette, 13th March, 1894. *Extract*], for giving effect to the Treaty between Her Majesty and the President of the Republic of Liberia, for the mutual extradition of Fugitive Criminals, signed at London on the 16th of December, 1892, the ratifications of which were exchanged at London on the 31st of January, 1894.

I have, &c.,
RIPON.The Officer Administering
the Government of New South Wales.**ORDER IN COUNCIL.****EXTRADITION TREATY WITH LIBERIA.***Windsor, 10th March, 1894.*

At the Court at Windsor, the 10th day of March, 1894.

*Present:***THE QUEEN'S MOST EXCELLENT MAJESTY.**LORD PRESIDENT.
LORD PRIVY SEAL.
EARL OF KIMBERLEY.MR. SECRETARY FOWLER.
MR. LEFFEVRE.
MR. BRYCE.

WHEREAS by the Extradition Acts, 1870 and 1873, it was amongst other things enacted that, where an arrangement has been made with any Foreign State with respect to the surrender to such State of any fugitive criminals, Her Majesty may, by Order in Council, direct that the said Acts shall apply in the case of such Foreign State; and that Her Majesty may, by the same or any subsequent Order, limit the operation of the Order, and restrict the same to fugitive criminals who are in or suspected of being in the part of Her Majesty's dominions specified in the Order, and render the operation thereof subject to such conditions, exceptions, and qualifications as may be deemed expedient; and that if, by any law made after the passing of the Act of 1870 by the Legislature of any British possession, provision is made for carrying into effect within such

possession the surrender of fugitive criminals who are in or suspected of being in such British possession, Her Majesty may, by the Order in Council applying the said Acts in the case of any Foreign State, or by any subsequent Order, suspend the operation within any such British possession of the said Acts, or of any part thereof, so far as it relates to such Foreign State, and so long as such law continues in force there and no longer:

And whereas by an Act of the Parliament of Canada passed in one thousand eight hundred and eighty-six, and entitled "An Act respecting the Extradition of Fugitive Criminals," provision is made for carrying into effect within the dominion the surrender of fugitive criminals:

And whereas by an Order of Her Majesty the Queen in Council, dated the seventeenth day of November, one thousand eight hundred and eighty-eight, it was directed that the operation of the Extradition Acts, 1870 and 1873, should be suspended within the Dominion of Canada so long as the provision of the said Act of the Parliament of Canada of 1886 should continue in force and no longer:

And whereas a Treaty was concluded on the sixteenth day of December, one thousand eight hundred and ninety-two, between Her Majesty and the President of the Republic of Liberia for the mutual extradition of fugitive criminals, which Treaty is in the terms following:—

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, and his Excellency the President of Liberia, having judged it expedient, with a view to the better administration of justice and to the prevention of crime within their respective territories, that persons charged with or convicted of the crimes hereinafter enumerated, and being fugitives from justice, should, under certain circumstances, be reciprocally delivered up; the said High Contracting Parties have named as their Plenipotentiaries to conclude a Treaty for this purpose, that is to say;

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, the Right Honourable Archibald Philip, Earl of Rosebery, Knight of the Most Noble Order of the Garter, Her Majesty's Principal Secretary of State for Foreign Affairs; and

His Excellency the President of Liberia, Henry Hayman, Esq., Consul-General of the Republic of Liberia in London;

Who, having communicated to each other their respective Full Powers, found in good and due form, have agreed upon and concluded the following Articles:—

ARTICLE I.

The High Contracting Parties engage to deliver up to each other those persons who, being accused or convicted of a crime or offence committed in the territory of the one Party, shall be found within the territory of the other, under the circumstances and conditions stated in the present Treaty.

ARTICLE II.

The crimes or offences for which the extradition is to be granted are the following:—

1. Murder, or attempt, or conspiracy to murder.
2. Manslaughter.
3. Assault occasioning actual bodily harm.
4. Maliciously wounding or inflicting grievously bodily harm.
5. Counterfeiting or altering money, or uttering counterfeit or altered money.
6. Knowingly make any instrument, tool, or engine adapted and intended for counterfeiting coin.
7. Forgery, counterfeiting, or altering or uttering what is forged, or counterfeited, or altered.
8. Embezzlement or larceny.
9. Malicious injury to property if the offence be indictable.
10. Obtaining money, goods, or valuable securities by false pretences.
11. Receiving money, valuable security, or other property, knowing the same to have been stolen, embezzled or unlawfully obtained.
12. Crimes against bankruptcy law.
13. Fraud by a bailee, banker, agent, factor, trustee, or director or member or public officer of any Company, made criminal by any law for the time being in force.
14. Perjury, or subornation of perjury.
15. Rape.
16. Carnal knowledge, or any attempt to have carnal knowledge, of a girl under 16 years of age.
17. Indecent assault.
18. Administering drugs, or using instruments, with intent to procure the miscarriage of a woman.
19. Abduction.
20. Child stealing.
21. Abandoning children, exposing or unlawfully detaining them.
22. Kidnapping and false imprisonment.
23. Burglary or housebreaking.
24. Arson.
25. Robbery with violence.
26. Any malicious act done with intent to endanger the safety of any person in a railway train.
27. Threats by letter or otherwise, with intent to extort.
28. Piracy by law of nations.
29. Sinking or destroying a vessel at sea, or attempting or conspiring to do so.
30. Assaults on board a ship on the high seas, with intent to destroy life, or do grievous bodily harm.
31. Revolt, or conspiracy to revolt, by two or more persons on board a ship on the high seas, against the authority of the master.
32. Dealing in slaves in such a manner as to constitute criminal offence against the laws of both States.

Extradition is also to be granted for participation in any of the aforesaid crimes, provided such participation be punishable by the laws of both the Contracting Parties.

ARTICLE III.

Either Government may, in its absolute discretion, refuse to deliver up its own subjects to the other Government.

ARTICLE IV.

The extradition shall not take place if the person claimed on the part of the British Government, or the person claimed on the part of the Liberian Government, has already been tried and discharged or punished, or is still under trial, within the territories of the two High Contracting Parties respectively, for the crime for which his extradition is demanded.

If the person claimed on the part of the British Government, or if the person claimed on the part of the Liberian Government, should be under examination, or is undergoing sentence under a conviction, for any other crime within the territories of the two High Contracting Parties respectively, his extradition shall be deferred until after he has been discharged, whether by acquittal, or on expiration of his sentence, or otherwise.

ARTICLE V.

The extradition shall not take place if, subsequently to the commission of the crime, or the institution of the penal prosecution, or the conviction thereon, exemption from prosecution or punishment has been acquired by lapse of time, according to the laws of the State applied to.

ARTICLE VI.

A fugitive criminal shall not be surrendered if the offence in respect of which his surrender is demanded is one of a political character, or if he prove that the requisition for his surrender has in fact been made with a view to try or punish him for an offence of a political character.

ARTICLE VII.

A person surrendered can in no case be kept in prison, or be brought to trial in the State to which the surrender has been made, for any other crime or on account of any other matters than those for which the extradition shall have taken place, until he has been restored or had an opportunity of returning to the State by which he has been surrendered.

This stipulation does not apply to crimes committed after the extradition.

ARTICLE VIII.

The requisition for extradition shall be made in the following manner:—

Application on behalf of Her Britannic Majesty's Government for the surrender of a fugitive criminal in Liberia shall be made by Her Majesty's Consul at Monrovia.

Application on behalf of the Liberian Government for the surrender of a fugitive criminal in the United Kingdom shall be made by the Diplomatic Representative of Liberia in London, or in the absence of such Representative, by the Consul-General for Liberia in London.

The requisition for the extradition of the accused person must be accompanied by a warrant of arrest issued by the competent authority of the State requiring the extradition, and by such evidence as, according to the laws of the place where the accused is found, would justify his arrest if the crime had been committed there.

If the requisition relates to a person already convicted, it must be accompanied by the sentence of condemnation passed against the convicted person by the competent Court of the State that makes the requisition for extradition.

A sentence passed *in contumaciam* is not to be deemed a conviction, but a person so sentenced may be dealt with as an accused person.

ARTICLE IX.

If the requisition for extradition be in accordance with the foregoing stipulations, the competent authorities of the State applied to shall proceed to the arrest of the fugitive.

ARTICLE X.

If the fugitive has been arrested in the British dominions he shall forthwith be brought before a competent Magistrate, who is to examine him and to conduct the preliminary investigation of the case, just as if the apprehension had taken place for a crime committed in the British dominions.

In the examinations which they have to make in accordance with the foregoing stipulations, the authorities of the British dominions shall admit as valid evidence the sworn depositions or the affirmations of witnesses taken in Liberia, or copies thereof, and likewise the warrants and sentences issued therein, and certificates of, or judicial documents stating the fact of, a conviction, provided the same are authenticated as follows:—

1. A warrant must purport to be signed by a Judge, Magistrate, or officer of Liberia.

2. Depositions or affirmations, or the copies thereof, must purport to be certified under the hand of a Judge, Magistrate, or officer of Liberia, to be the original depositions or affirmations, or to be the true copies thereof, as the case may require.

3. A certificate of or judicial document stating the fact of a conviction must purport to be certified by a Judge, Magistrate, or officer of Liberia.

4. In every case such warrant, deposition, affirmation, copy, certificate or judicial document must be authenticated either by the oath of some witness, or by being sealed with the official seal of the Minister of Justice, or some other Minister of Liberia; but any other mode of authentication for the time being permitted by the law in that part of the British dominions where the examination is taken may be substituted for the foregoing.

ARTICLE XI.

If the fugitive has been arrested in Liberia his surrender shall be granted if, upon examination by a competent authority, it appears that the documents furnished by the British Government contain sufficient *prima facie* evidence to justify the extradition.

The Authorities of Liberia shall admit as valid evidence records drawn up by the British authorities of the depositions of witnesses, or copies thereof, and records of conviction or other judicial documents, or copies thereof, provided that the said documents be signed or authenticated by an authority whose competence shall be certified by the seal of a Minister of State of Her Britannic Majesty.

ARTICLE XII.

The extradition shall not take place unless the evidence be found sufficient, according to the laws of the State applied to, either to justify the committal of the prisoner for trial, in case the crime has been committed in the territory of the said State, or to prove that the prisoner is the identical person convicted by the Courts of the State which makes the requisition, and that the crime of which he has been convicted is one in respect of which extradition could, at the time of such conviction, have been granted by the State applied to. The fugitive criminal shall not be surrendered until the expiration of fifteen days from the date of his being committed to prison to await his surrender.

ARTICLE XIII.

If the individual claimed by one of the two High Contracting Parties in pursuance of the present Treaty should be also claimed by one or several other Powers, on account of other crimes or offences committed upon their respective territories, his extradition shall be granted to that State whose demand is earliest in date.

ARTICLE XIV.

If sufficient evidence for the extradition be not produced within three months from the date of the apprehension of the fugitive, or within such further time as the State applied to, or the proper Tribunal thereof, shall direct, the fugitive shall be set at liberty.

ARTICLE XV.

All articles seized which were in the possession of the person to be surrendered, at the time of his apprehension, shall, if the competent authority of the State applied to for the extradition has ordered the delivery thereof, be given up when the extradition takes place, and the said delivery shall extend not merely to the stolen articles, but to everything that may serve as a proof of the crime.

ARTICLE XVI.

All expenses connected with extradition shall be borne by the demanding State.

ARTICLE XVII.

The stipulations of the present Treaty shall be applicable to the Colonies and foreign possessions of Her Britannic Majesty, so far as the laws for the time being in force in such Colonies and foreign possessions respectively will allow.

The requisition for the surrender of a fugitive criminal who has taken refuge in any of such Colonies or foreign possessions may be made to the Governor or chief authority of such Colony or possession by any person authorized to act in such Colony or possession as a Consular officer of Liberia, or if there is no such Consular officer in the Colony, by the Diplomatic Representative of Liberia in London, or in his absence by the Liberian Consul-General.

Such requisitions may be disposed of subject always, as nearly as may be, and so far as the law of such Colony or foreign possession will allow, to the provisions of this Treaty, by the said Governor or chief authority, who, however, shall be at liberty either to grant the surrender, or to refer the matter to his Government.

Her Britannic Majesty shall, however, be at liberty to make special arrangements in the British Colonies and foreign possessions for the surrender of criminals from Liberia who may take refuge within such Colonies and foreign possessions, on the basis, as nearly as may be, and so far as the law of such Colony or foreign possession will allow, of the provisions of the present Treaty.

Requisitions for the surrender of a fugitive criminal emanating from any Colony or foreign possession of Her Britannic Majesty shall be governed by the rules laid down in the preceding Articles of the present Treaty.

ARTICLE XVIII.

The present Treaty shall come into force ten days after its publication, in conformity with the forms prescribed by the laws of the High Contracting Parties. It may be terminated by either of the High Contracting Parties at any time on giving to the other six months' notice of its intention to do so.

The Treaty shall be ratified, and the ratifications shall be exchanged at London as soon as possible.

In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

Done at London, the sixteenth day of December, one thousand eight hundred and ninety-two.

(L.S.) ROSEBERY.
(L.S.) H. HAYMAN.

And whereas the ratifications of the said Treaty were exchanged at London on the thirty-first day of January, one thousand eight hundred and ninety-four.

Now, therefore, Her Majesty, by and with the advice of Her Privy Council, and in virtue of the authority committed to Her by the said recited Acts, doth order, and it is hereby ordered, that from and after the twenty-third day of March, one thousand eight hundred and ninety-four, the said Acts shall apply in the case of Liberia, and of the said Treaty with the Republic of Liberia.

Provided always, and it is hereby further ordered, that the operation of the said Extradition Acts, 1870 and 1873, shall be suspended within the Dominion of Canada so far as relates to Liberia and to the said Treaty and so long as the provisions of the Canadian Act aforesaid of 1886 continue in force, and no longer.

C. L. FEEL.

(*Extract from the London Gazette of Tuesday, March 13, 1894.*)

1894.

(SECOND SESSION.)

 NEW SOUTH WALES.

EXTRADITION TREATY WITH ROUMANIA.
 (DESPATCH RESPECTING.)

 Presented to Parliament by Command.

Department of Justice,

Sydney, 2nd August, 1894.

His Excellency the Governor directs the publication, for general information, of the following Despatch, dated 21st May, 1894, from the Secretary of State for the Colonies.

T. M. SLATTERY.

[Circular.]

Downing-street,

21st May, 1894.

Sir,

I have the honour to transmit to you, for publication in the Colony under your Government, a copy of an Order of Her Majesty the Queen in Council, dated the 30th April, 1894 [The London Gazette, 11th May, 1894, Extract], for giving effect to the Treaty between Her Majesty and His Majesty the King of Roumania, for the mutual extradition of Fugitive Criminals, signed at Bucharest on the 21st of March, 1893, the ratifications of which were exchanged at Bucharest on the 13th of March, 1894.

I have, &c.,

RIPON.

The Officer Administering

the Government of New South Wales.

ORDER IN COUNCIL.

EXTRADITION TREATY WITH ROUMANIA.

Windsor, 30th April, 1894.

At the Court at Windsor, the 30th day of April, 1894.

Present :

THE QUEEN'S MOST EXCELLENT MAJESTY.

LORD PRESIDENT.
LORD STEWART.
EARL OF CHESTERFIELD.

LORD CHAMBERLAIN.
SIR CHARLES RUSSELL.
SIR FRANK LASCELLES.

WHEREAS by the Extradition Acts, 1870 and 1873, it was amongst other things enacted that where an arrangement has been made with any foreign State with respect to the surrender to such State of any fugitive criminals, Her Majesty may, by Order in Council, direct that the said Acts shall apply in the case of such foreign State; and that Her Majesty may, by the same or any subsequent Order, limit the operation of the Order, and restrict the same to fugitive criminals who are in or suspected of being in the part of Her Majesty's dominions specified in the Order, and render the operation thereof subject to such conditions, exceptions, and qualifications as may be deemed expedient; and that if, by any law made after the passing of the Act of 1870 by the Legislature of any British possession, provision is made for carrying into effect within such possession the surrender of fugitive criminals who are in or suspected of being in such British possession, Her Majesty may, by the Order in Council applying the said Acts in the case of any foreign State, or by any subsequent Order, suspend the operation within any such British possession of the said Acts, or of any part thereof, so far as it relates to such foreign State, and so long as such Law continues in force there and no longer :

And whereas by an Act of the Parliament of Canada passed in 1886, and entitled "An Act respecting the Extradition of Fugitive Criminals," provision is made for carrying into effect within the Dominion the surrender of fugitive criminals :

And whereas by an Order of Her Majesty the Queen in Council, dated the seventeenth day of November, one thousand eight hundred and eighty-eight, it was directed that the operation of the Extradition Acts, 1870 and 1873, should be suspended within the Dominion of Canada so long as the provisions of the said Act of the Parliament of Canada of 1886 should continue in force and no longer :

And whereas a treaty was concluded on the twenty-first day of March, one thousand eight hundred and ninety-three, between Her Majesty and His Majesty the King of Roumania for the mutual extradition of fugitive criminals, which Treaty is in the terms following :—

"HER Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, and His Majesty the King of Roumania, having judged it expedient, with a view to the better administration of justice and to the prevention of crime within their respective territories, that persons charged with or convicted of the crimes hereinafter enumerated, and being fugitives from justice, should, under certain circumstances, be reciprocally delivered up; the said High Contracting Parties have named as their Plenipotentiaries to conclude a Treaty for this purpose, that is to say :

"Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, the Honourable Charles Hardinge, Her Britannic Majesty's Chargé d'Affaires at Bucharest, &c., &c.

"And His Majesty the King of Roumania, M. Alexandre N. Lahovari, Grand Cross of His Order of the Crown of Roumania, &c., &c., His Minister-Secretary of State for Foreign Affairs;

"Who, having communicated to each other their respective Full Powers, found in good and due form, have agreed upon and concluded the following Articles :—

"ARTICLE I.

"The High Contracting Parties engage to deliver up to each other those persons who, being accused or convicted of a crime or offence committed in the territory of the one Party, shall be found within the territory of the other Party, under the circumstances and conditions stated in the present Treaty.

"ARTICLE II.

"The crimes or offences for which the extradition is to be granted are the following :—

- "1. Murder, or attempt, or conspiracy to murder.
- "2. Manslaughter.
- "3. Assault occasioning actual bodily harm. Maliciously wounding or inflicting grievous bodily harm.
- "4. Counterfeiting or altering money, or uttering counterfeit or altered money.
- "5. Knowingly making any instrument, tool, or engine adapted and intended for counterfeiting coin.
- "6. Forgery, counterfeiting, or altering or uttering what is forged, or counterfeited, or altered.
- "7. Embezzlement or larceny.
- "8. Malicious injury to property, by explosives or otherwise, if the offence be indictable.
- "9. Obtaining money, goods, or valuable securities by false pretences.
- "10. Receiving money, valuable security, or other property knowing the same to have been stolen, embezzled, or unlawfully obtained.
- "11. Crimes against bankruptcy law.

"MAIESTATEA Sa Regina Regatului-Unit al Marei Britanii și Irlandei, Impărătesă a Indiilor, și Maiestatea sa Regele Romaniei găsind cu cale, in vederea unei mai bune administrații a justiției și pentru a preîntâmpina crimele comise pe teritoriile lor respective, ca indiviții piriți sau dovediti că au comis crimele mai la vale enumerate, și cari prin fugă s'ar fi sustras de la urmărirea justiției, să fie, în ore-cară circumstanțe, estradați în mod reciproc; dișele Inalte Părți Contractante au numit ca Plenipotentiari ai Lor, în scopul de a încheia un Tractat, și anume :

"Maiestatea Sa Regina Regatului-Unit al Marei Britanii și Irlandei, Impărătesă a Indiilor, pe Onorabilul Carol Hardinge, Insărcinat cu Afaceri al Maiestaței Sale Britanice la București, &c., &c.

"Si Maiestatea Sa Regele Romaniei, pe Domnul Alexandru N. Lahovari, Mare-Cruce al Ordinului Său al Coronei României, &c., &c., Ministrul Său Secretar de Stat la Departamentul ul Afacerilor Străine;

"Cari, dupe ce și-au comunicat deplinele lor puteri, aflate în bună și convenită formă s'au învoit asupra Articolelor următoare :—

"ARTICOLUL I.

"Inaltele Părți Contractante se obligă a și preda reciproc indiviții cari, urmăriți sau condamnați pentru o crimă sau un delict comis pe teritoriul uneia din Părți, ar fi dovediti pe teritoriul celei-alte in circumstanțele și sub-condițiile prevădute de Tractatul de față.

"ARTICOLUL II.

"Estradarea se va acorda pentru crimele sau delictelor, următoare :—

- "1. Omor sau tentativă de omor, sau complot având de scop această crimă.
- "2. Omucidere fără precugetare sau pândire.
- "3. Loviri și răniri grave.
- "4. Contrafacere sau alterare de monede; punerea in circulație a monedelor false sau alterate.
- "5. Fabricarea cu intenție a unui instrument, ustensil, sau uneltă destinată la contrafacerea monedelor țerei.
- "6. Falsuri în scripte, titluri, efecte sau valori; alterarea sau punerea în circulare a tot ce este ast-fel falsificat ori contra-făcut ori alterat.
- "7. Sustragerea frauduloasă sau furtul.
- "8. Distrugerea ori degradarea ori-cărei proprietăți prin explozive sau alt-fel, când faptul este incriminat și pedepsit cu pedepse criminale sau corecționale.
- "9. Escrocherie de bani valori sau alte obiecte sub false pretexte.
- "10. Tănuire frauduloasă de bani, valori sau alte obiecte, provenind din escrocherie, furt sau deturnare.
- "11. Crime contra legilor asupra bancrutei.

"12. Fraud by a bailee, banker, agent, factor, trustee, or director, or member or public officer of any Company, made criminal by any law for the time being in force.

"13. Perjury, or subornation of perjury.

"14. Rape.

"15. Carnal knowledge, or any attempt to have carnal knowledge, of a girl under fourteen years of age.

"16. Indecent assault.

"17. Procuring miscarriage, administering drugs or using instruments with intent to procure the miscarriage of a woman.

"18. Abduction.

"19. Child stealing.

"20. Abandoning children, exposing or unlawfully detaining them.

"21. Kidnapping and false imprisonment.

"22. Burglary or housebreaking.

"23. Arson.

"24. Robbery with violence.

"25. Any malicious act done with intent to endanger the safety of any person in a railway train.

"26. Threats by letter or otherwise with intent to extort.

"27. Piracy by law of nations.

"28. Sinking or destroying a vessel at sea, or attempting or conspiring to do so.

"29. Assaults on board a ship on the high seas, with intent to destroy life, or do grievous bodily harm.

"30. Revolt or conspiracy to revolt, by two or more persons on board a ship on the high seas against the authority of the master.

"31. Dealing in slaves.

"Extradition is also to be granted for participation in any of the aforesaid crimes, provided such participation be punishable by the laws of both the Contracting Parties.

"ARTICLE III.

"Either Government may, in its absolute discretion, refuse to deliver up its own subjects to the other Government.

"ARTICLE IV.

"The extradition shall not take place if the person claimed has already been tried and discharged or punished, or is still under trial, within the territories of the two High Contracting Parties respectively, for the crime for which his extradition is demanded.

"If the person claimed should be under examination, or is undergoing sentence under a conviction, for any other crime within the territories of the two High Contracting Parties respectively, his extradition shall be deferred until after he has been discharged, whether by acquittal or on expiration of his sentence, or otherwise.

"ARTICLE V.

"The extradition shall not take place if, subsequently to the commission of the crime, or the institution of the penal prosecution, or the conviction thereon, exemption from prosecution or punishment has been acquired by lapse of time, according to the laws of the State applied to.

"ARTICLE VI.

"A fugitive criminal shall not be surrendered if the offence in respect of which his surrender is demanded is one of a political character, or if he prove that the requisition for his surrender has in fact been made with a view to try or punish him for an offence of a political character.

"ARTICLE VII.

"A person surrendered can in no case be kept in prison, or be brought to trial in the State to which the surrender has been made, for any other crime or on account of any other matters than those for which the extradition shall have taken place, until he has been restored or had an opportunity of returning to the State by which he has been surrendered.

"This stipulation does not apply to crimes committed after the extradition.

"ARTICLE VIII.

"The requisition for extradition shall be made through the Diplomatic Agents of the High Contracting Parties respectively.

"The requisition for the extradition of the accused person must be accompanied by a warrant of arrest issued by the competent authority of the State requiring the extradition, and by such evidence as, according to the laws of the place where the accused is found, would justify his arrest if the crime had been committed there.

"If the requisition relates to a person already convicted, it must be accompanied by the sentence of condemnation passed against the convicted person by the competent Court of the State that makes the requisition for extradition.

"12. Frauda (abus de încredere) unui administrator bancher, agent, comisionar, curator sau director, ori membru ori funcționar al unei societăți ôrecare, dacă faptul este pedepsit de legile în vigôre.

"13. Mărturia mincinosă sau subornațiunea martorilor.

"14. Violul.

"15. Atentat la pudôre asupra persoanei unei fete mai mică de 14 ani, sau tentativa acestui fapt.

"16. Atentat la pudôre cu violență.

"17. Avort, administrare de substanțe sau întrebuițare de instrumente în intențiunea de a provoca avortul.

"18. Răpire de minori.

"19. Furt de copii.

"20. Abandonare, expostiune sau sechestrare ilegală de copii.

"21. Sechestrare sau detențiune ilegală.

"22. Efracțiunea sau escalada unei locuințe și a dependențelor sale în scopul de a comite un delict.

"23. Incendiù.

"24. Furt cu violență.

"25. Ori-ce act comis cu intenție de a pune în pericol viața persoanelor aflate într'un tren de drum de fier.

"26. Amenințări, scrise sau alt-fel, făcute în scop de extorsiune.

"27. Piraterie, considerată ca crimă dupe dreptul ginților.

"28. Inecarea, naufragiarea sau distrugerea unui vas pe mare, sau tentativa sau complotul având această crimă de scop.

"29. Atacarea pe bordul unui vas în largul mării, în scop de omucidere sau pentru a faptui grave lețiuni corporale.

"30. Revolta sau complotul de revoltă, a două sau mai multe persoane pe bordul unui vas în largul mării, contra autorității capitanului.

"31. Negotul cu sclavi.

"Estradarea va avea de asemenea loc pentru complicitate la una din crimele mai sus pomenite, numai dacă complicitatea este pedepsită de legile celor două Părți Contractante.

"ARTICOLUL III.

"Fie-care din cele două Guverne va avea plină și întregă voia se refuze celui-alt estradarea propriilor săi supuși.

"ARTICOLUL IV.

"Estradarea nu se va acorda dacă individul reclamat a fost deja judecat, achitat sau pedepsit, sau se gasesce încă sub judecată într'unul din teritoriile celor două Inalte Părți Contractante, pentru chiar crima din cauza căreia se cere estradarea.

"Dacă persoana reclamată se află în prevenție, sau dacă, fiind condamnată, și suferă pedepsa pe teritoriul uneia din cele două Părți Contractante pentru o altă crimă, estradarea se va amâna până la punerea acelei persoane în libertate, fie că va fi fost achitată, fie că și va fi terminat pedepsa, fie pentru ori-ce alt cuvânt.

"ARTICOLUL V.

"Estradarea nu va avea loc dacă, dupe perpetrarea crimei, sau dupe urmăriri, sau condamnare, prescripția urmărilor sau a pedepsei este dobândită dupe legile țerei căreia se adresază cererea.

"ARTICOLUL VI.

"Criminalul fugar nu va fi estradat dacă delictul pentru care estradarea se cere este considerat ca un delict politic, sau dacă individul dovedește că cererea de estradare a fost făcută, în realitate, în scopul de a l urmări sau de a l pedepsi pentru un delict cu caracter politic.

"ARTICOLUL VII.

"Individul care va fi fost predat, nu va putea, în nici într'un cas, în țera căreia s'a acordat estradiția, să fie ținut în arest sau să fie urmărit pentru vre-c crimă sau fapte altele de cât acelea cari motivase estradarea, afară numa dacă a fost întors, sau dacă va fi avut acasiunea de a se reîntôrse el însuși în Statul care l estradase.

"Acastă stipulațiune nu este aplicabilă crimelor comise dupe estradare.

"ARTICOLUL VIII.

"Estradarea se va cere prin organul agentilor diplomatici respectiv ai celor două Inalte Părți Contractante.

"Cererea de estradare a unui prevenit va trebui să fie însoțită de un mandat de arestare emis de autoritatea competentă a Statului care cere, și de dovedile cari, dupe legile loculu unde prevenitul a fost dovedit, ar justifica arestare lul, dacă actul pedepsit ar fi fost comes chiar acolo.

"Dacă cererea de estradare privesce pe o persoană deja condamnată, ea trebuie să fie însoțită de sentința de condamnare care o fost dată contra culpabilului, de Tribunalul competent al Statului care cere.

" A sentence passed in contumaciam is not to be deemed a conviction, but a person so sentenced may be dealt with as an accused person.

" ARTICLE IX.

" If the requisition for extradition be in accordance with the foregoing stipulations, the competent authorities of the State applied to shall proceed to the arrest of the fugitive.

" ARTICLE X.

" If the fugitive has been arrested in the British dominions, he shall forthwith be brought before a competent Magistrate, who is to examine him and to conduct the preliminary investigation of the case, just as if the apprehension had taken place for a crime committed in the British dominions.

" In the examinations which they have to make in accordance with the foregoing stipulations, the authorities of the British dominions shall admit as valid evidence the sworn depositions or the affirmations of witnesses taken in Roumania, or copies thereof, and likewise the warrants and sentences issued therein, and certificates of, or judicial documents stating the fact of, a conviction, provided the same are authenticated as follows :—

" 1. A warrant must purport to be signed by a Judge, Magistrate, or Judicial Officer of Police of Roumania.

" 2. Depositions or affirmations, or the copies thereof, must purport to be certified under the hand of a Judge, Magistrate, or Judicial Officer of Police of Roumania, to be the original depositions or affirmations, or to be the true copies thereof, as the case may require.

" 3. A certificate of or judicial document stating the fact of a conviction must purport to be certified by a Judge, Magistrate, or Judicial Officer of Police of Roumania.

" 4. In every case such warrant, deposition, affirmation, copy, certificate, or judicial document must be authenticated either by the oath of some witness, or by being sealed with the official seal of the Minister of Justice, or of Foreign Affairs of Roumania; but any other mode of authentication for the time being permitted by the law in that part of the British dominions where the examination is taken, may be substituted for the foregoing.

" ARTICLE XI.

" On the part of the Roumanian Government, the extradition shall take place as follows in Roumania :

" The Minister or other Diplomatic Agent of Her Britannic Majesty in Roumania, shall send to the Minister for Foreign Affairs, in support of each demand for extradition, an authentic and duly legalised copy either of a certificate of condemnation, or of a warrant of arrest against an incriminated or accused person, showing clearly the nature of the crime or offence on account of which proceedings are being taken against the fugitive. The judicial document so produced shall be accompanied by a description and other particulars serving to establish the identity of the person whose extradition is claimed.

" In case the documents produced by the British Government to establish the identity, and the particulars gathered by the Roumanian police authorities for the same purpose, should be deemed to be insufficient, notice thereof shall forthwith be given to the Minister or other Diplomatic Agent of Her Britannic Majesty in Roumania, and the individual whose extradition is desired, if he has been arrested, shall remain in detention until the British Government has produced new elements of proof to establish his identity, or to clear up any other difficulties arising in the examination.

" ARTICLE XII.

" The extradition shall not take place unless the evidence be found sufficient, according to the laws of the State applied to, either to justify the committal of the prisoner for trial, in case the crime had been committed in the territory of the said State, or to prove that the prisoner is the identical person convicted by the Courts of the State which makes the requisition, and that the crime of which he has been convicted is one in respect of which extradition could, at the time of such conviction, have been granted by the State applied to. In Her Britannic Majesty's dominions the fugitive criminal shall not be surrendered until the expiration of fifteen days from the date of his being committed to prison to await his surrender.

" ARTICLE XIII.

" If the individual claimed by one of the two High Contracting Parties in pursuance of the present Treaty should be also claimed by one or several other Powers, on account of other crimes or offences committed upon their respective territories, his extradition shall be granted to that State whose demand is earliest in date.

" O sentință dată în lipsă nu va fi considerată ca o condamnare; dar o persoană astfel condamnată va putea fi tratată ca o persoană urmărită.

" ARTICOLUL IX.

" Dacă cererea de estradare este făcută în conformitate cu stipulațiunile precedente, autoritățile competente ale Statului de la care se cere vor procedea la arestarea fugarului.

" ARTICOLUL X.

" Dacă fugarul este arestat pe teritoriul Britanic, el va fi îndată dus înaintea unui Magistrat competent, care va trebui să-l asculte și să procedă la examinarea preliminară a afacerii în același chip, ca și când arestarea ar fi avut loc pentru o crimă comisă pe teritoriul Britanic.

" Autoritățile Marelui Britanii, când vor procedea la examinarea hotărâtă prin stipulațiunile precedente, vor trebui să admită ca dovezi deplin valabile depuneri asermentate sau afirmările făcute în România, sau copiile acestor piese, precum și mandatele de arestare și sentințele date în această țară, precum și certificatele de condamnare sau piesele judiciare constatând faptul unei condamnări, cu condițiune ca aceste documente să fi fost autentificate în modul următor :—

" 1. Un mandat trebuie să fie semnat de un judecător, Magistrat sau ofițer al poliției judiciare din România.

" 2. Depuneriile sau afirmațiunile, sau copiile acestora trebuie să fie semnate de un judecător, Magistrat sau ofițer al poliției judiciare România, constatând că aceste depuneri sau afirmări sunt în original sau în copie certificată, dupe casuri.

" 3. Un certificat de condamnare sau un document judiciar constatând faptul unei condamnări trebuie să fie certificate de un judecător, Magistrat sau ofițer al poliției judiciare din România.

" 4. Aceste mandate, depuneri, afirmări, copii, certificate sau documente judiciare, trebuie să fie autentificate, în fie-care caz, sau prin jurământul unui martor, sau prin punerea sigilului oficial al Ministerului Justiției sau al afacerilor străine al României; totuși piesele mai sus pomenite vor putea fi autentificate și în orice alt chip care ar fi recunoscut de legile locale în vigoare în acea parte a teritoriului Britanic, unde examinarea afacerii ar avea loc.

" ARTICOLUL XI.

" Din partea Guvernului Român estradarea va avea loc în România precum urmază :

" Ministrul sau orice alt Agent Diplomatic al Măiestății Sale Britanice în România, va trimite Ministrului Afacerilor Străine, ca basă a fie-cărei cereri de estradare, expedițiunea autentică și în regulă legalizată, sau a unui certificat de condamnare sau a unui mandat de arestare, contra persoanei inculpate sau acuzate, arătând limpede natura crimei sau delicțului din cauza căruia fugarul este urmărit. Documentul judiciar, astfel produs, va fi însoțit de semnalmente și de alte informațiuni putând se servi-se la constatarea identității individului reclamat.

" Dacă s'ar întâmpla ca documentele produse de Guvernul Britanic pentru a constata identitatea, și informațiunile culese de agenții poliției Românesce pentru același scop, să fie recunoscute neîndestulătoare, se va avisa despre acesta îndată Ministrul sau Agentul Diplomatic al Măiestății Sale Britanice în România; iar individul urmărit, dacă a fost arestat, va continua să fie deținut până ce Guvernul Britanic va putea produce noi elemente de dovezi spre a constata identitatea sau a da lumină asupra altor greutăți de examinare.

" ARTICOLUL XII.

" Estradarea nu va avea loc de cât în cazul când dovezile produse vor fi fost găsite îndestulătoare dupe legile Statului de la care se cere, fie pentru a îndreptăți darea în judecată a deținutului, în cazul când crima va fi fost comisă pe teritoriul Statului, fie pentru a constata identitatea deținutului cu individul condamnat de Tribunalele Statului care cere, și să dovedească că crima de care a fost recunoscut culpabil ar fi putut să dea loc la estradare din partea Statului de la care se cere, la epoca condamnării sale. Estradarea fugarului nu va avea loc în teritoriile Măiestății Sale Britanice, de cât dupe trecerea unui timp de cinci-spre-șapte zile de la data întemnițării în scopul estradării.

" ARTICOLUL XIII.

" Dacă individul reclamat de una din cele două Inalte Partii Contractante, în executarea Tratatului de față, mai este reclamat de una sau mai multe alte Puteri, pe motivul unor alte crime sau delictelor comise pe teritoriile lor respective, estradarea se va acorda Statului a cărui cerere poartă o dată mai veche.

"ARTICLE XIV.

"If sufficient evidence for the extradition be not produced with two months from the date of the apprehension of the fugitive, or within such further time as the State applied to, or the proper Tribunal thereof shall direct, the fugitive shall be set at liberty.

"ARTICLE XV.

"All articles seized which were in the possession of the person to be surrendered, at the time of his apprehension, shall, if the competent authority of the State applied to for the extradition has ordered the delivery thereof, be given up when the extradition takes place, and the said delivery shall extend not merely to the stolen articles, but to everything that may serve as a proof of the crime.

"ARTICLE XVI.

"All expenses connected with extradition shall be borne by the demanding State.

"ARTICLE XVII.

"The stipulations of the present Treaty shall be applicable to the Colonies and foreign possessions of Her Britannic Majesty, so far as the laws for the time being in force in such Colonies and foreign possessions respectively will allow.

"The requisition for the surrender of a fugitive criminal who has taken refuge in any of such Colonies or foreign possessions may be made to the Governor or chief authority of such Colony or possession by any person authorized to act in such Colony or possession as a Consular officer of Roumania.

"Such requisitions may be disposed of, subject always as nearly as may be, and so far as the law of such Colony or foreign possessions will allow, to the provisions of this Treaty, by the said Governor or chief authority, who, however, shall be at liberty either to grant the surrender or to refer the matter to his Government.

"Her Britannic Majesty shall, however, be at liberty to make special arrangements in the British Colonies and foreign possessions for the surrender of criminals from Roumania who may take refuge within such Colonies and foreign possessions, on the basis, as nearly as may be, and so far as the law of such Colony or foreign possession will allow, of the provisions of the present Treaty.

"Requisitions for the surrender of a fugitive criminal emanating from any Colony or foreign possession of Her Britannic Majesty shall be governed by the rules laid down in the preceding Articles of the present Treaty.

"ARTICLE XVIII.

"The present Treaty shall come into force ten days after its publication, in conformity with the forms prescribed by the laws of the High Contracting Parties. It may be terminated by either of the High Contracting Parties at any time on giving to the other six months' notice of its intention to do so.

"The Treaty shall be ratified, and the ratifications shall be exchanged at Bucharest as soon as possible.

"In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

"Done in duplicate at Bucharest, the twenty-first (ninth) day of March, in the year of our Lord one thousand eight hundred and ninety-three.

"(L.S.) CHARLES HARDINGE."

And whereas a Protocol relative to the aforesaid Treaty was signed at Bucharest on the twenty-first day of March one thousand eight hundred and ninety-three, which Protocol is in the terms following:—

"At the moment of proceeding to the signature of the Treaty of Extradition concluded this day, the undersigned Plenipotentiaries of Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, and of His Majesty the King of Roumania, have agreed upon the following declaration:—

"The Roumanian Government may in its absolute discretion refuse to deliver up any person charged with a crime punishable with death.

"This Protocol shall have the same force and the same duration as the Treaty of Extradition signed to-day.

"In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

"Done in duplicate at Bucharest, the 21st (9th) March, 1893.

"(L.S.) CHARLES HARDINGE."

And whereas a Protocol explanatory of Section twenty-one of Article II of the aforesaid Treaty was signed at Bucharest on the thirteenth day of March one thousand eight hundred and ninety-four, which Protocol is in the terms following:—

"In order to avoid the possibility of any misunderstanding arising from the present text of § 21 of Article II of the Treaty of Extradition concluded between Great Britain and Roumania on the 21st (9th) of March, 1893, the undersigned Plenipotentiaries, duly authorized thereto by their respective Governments, have agreed as follows:—

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"ARTICOLUL XIV.

"Fugarul va fi pus în libertate dacă nu se vor putea produce dovezi îndestulătoare pentru a motiva cererea de estradare în timp de două luni din ziua arestării sale până la ori-ce alt termen mai depărtat ce va fi fost arătat de Statul de la care se cere sa de Tribunalul competent al acestui Stat.

"ARTICOLUL XV.

"Obiectele găsite asupra individului reclamat în momentul arestării sale, dacă autoritatea competentă a Statului de la care se cere a ordonat remiterea lor vor fi predate atunci când estradarea va avea loc; această predate nu va cuprinde numai obiectele furate, dar și ori-ce alt ar putea servi ca piesă de convingere.

"ARTICOLUL XVI.

"Tote cheltuelile ocazionale de o cerere de estradare vor fi în sarcina Statului care cere.

"ARTICOLUL XVII.

"Stipulațiunile Tratatului de față vor fi aplicabile coloniilor și posesiunilor străine ale Majestății Sale Britanice pe cât se va putea dupe legile în vigoare în aceste colonii și posesiuni străine.

"Cererea de estradare a unui criminal care s'a refugiat în vreuna din aceste colonii sau posesiuni străine se va putea adresa Guvernatorului sau autorității superioare a acestei Colonii sau posesiune de către ori-ce persoană autorizată să funcționeze în această Colonie sau posesiune ca autoritate Consulară a României.

"Guvernatorul sau autoritatea superioară mai sus menționată va decide în privința unor asemenea cereri, conformându-se, cât se va putea, dupe legile acestor colonii sau posesiuni străine, cu stipulațiunile Tratatului de față. Va avea totuși libertatea de a acorda estradarea sa de a supune cazul Guvernului său.

"Se rezervă totuși Majestății Sale Britanice, conformându-se, pe cât se va putea, dupe legile acestor Colonii sau posesiuni străine, cu stipulațiunile Tratatului de față, de a face arangamente speciale în Coloniile sau posesiunile străine pentru estradarea criminalilor din România cari ar fi găsit refugiu în aceste Colonii sau posesiuni străine.

"Cererile privitoare la estradarea criminalilor fugiți dintr'una din aceste Colonii sau posesiuni străine ale Majestății Sale Britanice, vor fi tratate dupe dispozițiunile Articolelor precedente ale Tratatului de față.

"ARTICOLUL XVIII.

"Convenția de față va fi executorie dupe a ceea ce va fi de la promulgarea sa, în formele prescise de legile celor două țări. Fie-care din Inatelele Părți Contractante va putea ori și când să pună capăt acestui tractat, avizând pe cea-alta despre intențiunea sa cu șese luni înainte.

"Convenția de față se va ratifica și ratificările se vor schimba la București cât se va putea mai curând.

"Drept care, Plenipotențiarilor respectivi au semnat această Convențiune și au pus pe dânsa sigiliile armelor lor.

"Făcută în dublu original, la București, în a două-zeci și una (nou'a) zi a lui Martie, anul Mântuirii una miă opt-sute nou-zeci și trei.

"(L.S.) AL. LAHOVARI."

"In momentul de a proceda la semnătura Convenției de estradiție încheiată astăzi și subsemnații, Plenipotențiarilor ai Majestății Sale Reginei Regatului Unit al Marelui Britaniei și Irlandei, Impărătesă a Indiei, și ai Majestății Sale Regelui României au convenit asupra declarațiunei următoare:—

"Guvernul Român are absolută libertate d'a refuza estradarea ori cărei persoane acuzată de o crimă pedepsită cu mörte.

"Protocolul de față va avea aceeași forță și aceeași durată ca și Convenția de estradare semnată astăzi.

"Spre credința căroră, Plenipotențiarilor respectivi l-au semnat și l-au întărit cu sigilele lor.

"Făcut în dublu original, la București, în 21 (9) Martie, 1893.

"(L.S.) AL. LAHOVARI."

of Article II of the aforesaid Treaty was signed at Bucharest on the thirteenth day of March one thousand eight hundred and ninety-four, which Protocol is in the terms following:—

"Pentru a evita ori-ce nînțelegere ce ar putea resulta din redacția actuală a § 21 de sub Articolul II al Convenției de Extradare încheiată între Marea Britaniă și România la 21 (9) Martie, 1893, subsemnații Plenipotențiarilor autorizați în regulă pentru acesta de către Guvernele lor respective au convenit asupra celor ce urmază:—

"The fact of having kidnapped or falsely imprisoned one or more persons will not admit of a requisition for extradition being made unless the act shall have been committed by private individuals. No such requisition can be made as against public functionaries who may have been guilty of the act in question while in the performance of their duties.

"The present Protocol shall be considered as approved and sanctioned by the respective Governments without any special ratification, by the sole fact of the exchange of the ratifications of the Treaty to which it refers.

"Done in duplicate at Bucharest, the thirteenth (first) day of March, in the year of our Lord one thousand eight hundred and ninety-four.

"(L.S.) JOHN WALSHAM."

And whereas the ratifications of the said Treaty and Protocol of the twenty-first day of March, one thousand eight hundred and ninety-three were exchanged at Bucharest on the thirteenth day of March, one thousand eight hundred and ninety-four.

Now, therefore, Her Majesty, by and with the advice of Her Privy Council, and in virtue of the authority committed to Her by the said recited Acts, doth order, and it is hereby ordered, that from and after the twenty-first day of May, one thousand eight hundred and ninety-four, the said Acts shall apply in the case of Roumania, and of the said Treaty and Protocol of the twenty-first of March, one thousand eight hundred and ninety-three, and of the Protocol of the thirteenth of March, one thousand eight hundred and ninety-four, with the King of Roumania.

Provided always, and it is hereby further ordered, that the operation of the said Extradition Acts, 1870 and 1873, shall be suspended within the Dominion of Canada so far as relates to Roumania and to the said Treaty and Protocols, and so long as the provisions of the Canadian Act aforesaid of 1886 continue in force, and no longer.

C. L. PEEL.

"Faptul de a fi sechestrat sau deţinut în mod ilegal una sau mai multe persoane, nu va putea motiva cererea de extradare decât când el a fost săvârşit de către particulari. O asemenea cerere de extradare nu va putea fi făcută cu privire la funcţionarii publici cari s'ar fi făcut vinovaţi de faptele în chestiune în exerciţiul funcţiunilor lor.

"Protocolul de faţă se va considera ca aprobat şi sancţionat de către Guvernele respective prin faptul însuşi al schimbului ratificărilor convenţiunii la care se raportează, fără vre o altă ratificare specială.

"Făcut în dublu exemplar la Bucureşti, în treisprezecea (ăntêia) zi a lui Martie, anul Mântuirii una miiă opt-sute nouăzeci şi patru.

"(L.S.) AL. LAHOVARI."

(Extract from the London Gazette of Friday, 11th May, 1894.)

1894-5.

NEW SOUTH WALES.

ESTABLISHMENT OF PRIZE COURTS IN JAPAN.
(DESPATCH RESPECTING.)

Presented to Parliament by Command.

Department of Justice,
Sydney, 22nd January, 1895.

His Excellency the Governor directs the publication, for general information, of the following Despatch, dated 31st October, 1894, from the Principal Secretary of State for the Colonies.

ALBERT J. GOULD.

Downing-street,
31st October, 1894.

Sir,

I have the honour to transmit to you, for the information of your Government, a copy of a Despatch which has been addressed to the Secretary of State for Foreign Affairs by Her Majesty's Minister at Tôkiô, respecting the establishment of Prize Courts in Japan.

I have, &c.,
RIPON.The Officer Administering
the Government of New South Wales.

(No. 108.)

Mr. Trench to the Earl of Kimberley.

Tôkiô,
5th September, 1894.

My Lord,

With reference to my Despatch No. 99 of the 25th August last, informing your Lordship of the establishment of Prize Courts to adjudicate on prize cases arising in the present hostilities between China and Japan, I now have the honour to inform your Lordship that, by an Imperial Decree promul-

gated in the official Gazette of the 3rd instant, a Prize Court has been established at the Admiralty Port of Sasebo and a Higher Prize Court at Tôkiô.

Sasebo is situated to the north-east of Nagasaki, on the Gulf of Shimabara, in the province of Hizen, and is the most accessible of the Japanese Admiralty ports for ships coming from China and Corea.

The appointments of the various members composing these Courts were also gazetted in yesterday's official Gazette.

Viscount Kawase Matako, a Privy Councillor, and formerly Japanese Minister in England, has been appointed President of the Higher Court, which comprises ten other members, namely, eight Councillors and two Procurators.

The Prize Court at Sasebo is presided over by the President of the Nagasaki Court of Appeal, Judge Shitomi Tsune, and is formed of eight other members, namely, six Councillors and two Procurators.

I have, &c.,

(Signed) P. LE POER TRENCH.

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

TREATY OF COMMERCE AND NAVIGATION BETWEEN GREAT BRITAIN AND JAPAN.

(DESPATCH RESPECTING, AND COVERING SAME.)

Ordered by the Legislative Assembly to be printed, 15 May, 1895.

[Laid upon the Table of this House in answer to Question No. 13 of 8th May, 1895.]

Question.

13. IMMIGRATION OF JAPANESE:—MR. WILLIS *asked* THE COLONIAL TREASURER,—

(1.) In view of the warlike events in the East, and the great success attained by the Japanese nation, will the Government consider the advisability of immediately introducing legislation to prevent Japanese immigration into New South Wales similar to that passed into law against the influx of Chinese?

(2.) Have the Government received from the Imperial authorities any official communication respecting the commercial treaty recently entered into between Great Britain and Japan?

(3.) If so, will he cause a copy of the same, together with such communication and correspondence relating thereto, to be laid upon the Table of the House?

Answer.

(Circular.)

Sir,

Downing-street, 31 December, 1894.

I have the honor to transmit to you, for publication in the Colony under your Government, a copy of a Treaty of Commerce and Navigation between Great Britain and Japan, signed at London, on the 16th July, 1894, the ratifications of which were exchanged at Tôkiô on the 25th of August last.

I have to call your attention to Article XIX of the treaty, from which you will observe that, if it is desired that the Colony under your Government should come within the operation of the treaty, notice to that effect must be given to the Japanese Government within two years from 25th of August, 1894, the date of the exchange of ratifications of the treaty.

I have, therefore, to request that you will be good enough to acquaint me of the wishes of your Government in the matter.

I have, &c.,
RIPON.

The Officer Administering the Government of

Treaty Series. No. 23, 1894.

TREATY of COMMERCE and NAVIGATION between GREAT BRITAIN and JAPAN.—Signed at LONDON, 16th July, 1894.—[*Ratifications exchanged at Tôkiô, 25th August, 1894.*]

HER Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, and His Majesty the Emperor of Japan, being equally desirous of maintaining the relations of good understanding which happily exist between them, by extending and increasing the intercourse between their respective States, and being convinced that this object cannot better be accomplished than by revising the treaties hitherto existing between the two countries, have resolved to complete such a revision, based upon principles of equity and mutual benefit, and, for that purpose, have named as their Plenipotentiaries, that is to say:

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, the Right Honourable John, Earl of Kimberley, Knight of the Most Noble Order of the Garter, &c., &c., Her Britannic Majesty's Secretary of State for Foreign Affairs;

And His Majesty the Emperor of Japan, Viscount Aoki Siuzo, Junii, first class of the Imperial Order of the Sacred Treasure, His Majesty's Envoy Extraordinary and Minister Plenipotentiary at the Court of St. James';

Who, after having communicated to each other their Full Powers, found to be in good and due form, have agreed upon and concluded the following Articles:—

ARTICLE I.

The subjects of each of the two high contracting parties shall have full liberty to enter, travel, or reside in any part of the dominions and possessions of the other contracting party, and shall enjoy full and perfect protection for their persons and property.

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They shall have free and easy access to the Courts of Justice in pursuit and defence of their rights; they shall be at liberty equally with native subjects to choose and employ lawyers, advocates, and representatives to pursue and defend their rights before such Courts, and in all other matters connected with the administration of justice they shall enjoy all the rights and privileges enjoyed by native subjects.

In whatever relates to rights of residence and travel; to the possession of goods and effects of any kind; to the succession to personal estate, by will or otherwise, and the disposal of property of any sort in any manner whatsoever which they may lawfully acquire, the subjects of each contracting party shall enjoy in the dominions and possessions of the other the same privileges, liberties, and rights, and shall be subject to no higher imposts or charges in these respects than native subjects, or subjects or citizens of the most favoured nation. The subjects of each of the contracting parties shall enjoy in the dominions and possessions of the other entire liberty of conscience, and subject to the laws, ordinances, and regulations, shall enjoy the right of private or public exercise of their worship, and also the right of burying their respective countrymen according to their religious customs, in such suitable and convenient places as may be established and maintained for that purpose.

They shall not be compelled, under any pretext whatsoever, to pay any charges or taxes other or higher than those that are, or may be, paid by native subjects, or subjects or citizens of the most favoured nation.

ARTICLE II.

The subjects of either of the contracting parties residing in the dominions and possessions of the other shall be exempted from all compulsory military service whatsoever, whether in the army, navy, national guard, or militia; from all contributions imposed in lieu of personal service; and from all forced loans or military exactions or contributions.

ARTICLE III.

There shall be reciprocal freedom of commerce and navigation between the dominions and possessions of the two high contracting parties.

The subjects of each of the high contracting parties may trade in any part of the dominions and possessions of the other by wholesale or retail in all kinds of produce, manufactures, and merchandise of lawful commerce, either in person or by agents, singly, or in partnerships with foreigners or native subjects; and they may there own or hire and occupy the houses, manufactories, warehouses, shops, and premises which may be necessary for them, and lease land for residential and commercial purposes, conforming themselves to the laws, police and customs regulations of the country like native subjects.

They shall have liberty freely to come with their ships and cargoes to all places, ports, and rivers in the dominions and possessions of the other which are or may be opened to foreign commerce, and shall enjoy, respectively, the same treatment in matters of commerce and navigation as native subjects, or subjects or citizens of the most favoured nation, without having to pay taxes, imposts, or duties, of whatever nature or under whatever denomination, levied in the name or for the profit of the Government, public functionaries, private individuals, corporations, or establishments of any kind, other or greater than those paid by native subjects, or subjects or citizens of the most favoured nation, subject always to the laws, ordinances, and regulations of each country.

ARTICLE IV.

The dwellings, manufactories, warehouses, and shops of the subjects of each of the high contracting parties in the dominions and possessions of the other, and all premises appertaining thereto destined for purposes of residence or commerce, shall be respected.

It shall not be allowable to proceed to make a search of, or a domiciliary visit to, such dwellings and premises, or to examine or inspect books, papers, or accounts, except under the conditions and with the forms prescribed by the laws, ordinances, and regulations for subjects of the country.

ARTICLE V.

No other or higher duties shall be imposed on the importation into the dominions and possessions of Her Britannic Majesty of any article, the produce or manufacture of the dominions and possessions of His Majesty the Emperor of Japan, from whatever place arriving; and no other or higher duties shall be imposed on the importation into the dominions and possessions of His Majesty the Emperor of Japan of any article, the produce or manufacture of the dominions and possessions of Her Britannic Majesty, from whatever place arriving, than on the like article produced or manufactured in any other foreign country; nor shall any prohibition be maintained or imposed on the importation of any article, the produce or manufacture of the dominions and possessions of either of the high contracting parties, into the dominions and possessions of the other, from whatever place arriving, which shall not equally extend to the importation of the like article, being the produce or manufacture of any other country. This last provision is not applicable to the sanitary and other prohibitions occasioned by the necessity of protecting the safety of persons, or of cattle, or of plants useful to agriculture.

ARTICLE VI.

No other or higher duties or charges shall be imposed in the dominions and possessions of either of the high contracting parties on the exportation of any article to the dominions and possessions of the other than such as are, or may be, payable on the exportation of the like article to any other foreign country; nor shall any prohibition be imposed on the exportation of any article from the dominions and possessions of either of the two contracting parties to the dominions and possessions of the other which shall not equally extend to the exportation of the like article to any other country.

ARTICLE VII.

The subjects of each of the high contracting parties shall enjoy in the dominions and possessions of the other exemption from all transit duties, and a perfect equality of treatment with native subjects in all that relates to warehousing, bounties, facilities, and drawbacks.

ARTICLE

ARTICLE VIII.

All articles which are or may be legally imported into the ports of the dominions and possessions of His Majesty the Emperor of Japan in Japanese vessels may likewise be imported into those ports in British vessels, without being liable to any other or higher duties or charges of whatever denomination than if such articles were imported in Japanese vessels; and reciprocally, all articles which are or may be legally imported into the ports of the dominions and possessions of Her Britannic Majesty in British vessels may likewise be imported into those ports in Japanese vessels, without being liable to any other or higher duties or charges of whatever denomination than if such articles were imported in British vessels. Such reciprocal equality of treatment shall take effect without distinction, whether such articles come directly from the place of origin or from any other place.

In the same manner there shall be perfect equality of treatment in regard to exportation, so that the same export duties shall be paid and the same bounties and drawbacks allowed in the dominions and possessions of either of the high contracting parties on the exportation of any article which is or may be legally exported therefrom, whether such exportation shall take place in Japanese or in British vessels, and whatever may be the place of destination, whether a port of either of the contracting parties or of any third power.

ARTICLE IX.

No duties of tonnage, harbour, pilotage, lighthouse, quarantine, or other similar or corresponding duties of whatever nature or under whatever denomination, levied in the name or for the profit of the Government, public functionaries, private individuals, corporations, or establishments of any kind, shall be imposed in the ports of the dominions and possessions of either country upon the vessels of the other country which shall not equally and under the same conditions be imposed in the like cases on national vessels in general or vessels of the most favoured nation. Such equality of treatment shall apply reciprocally to the respective vessels, from whatever port or place they may arrive, and whatever may be their place of destination.

ARTICLE X.

In all that regards the stationing, loading, and unloading of vessels in the ports, basins, docks, roadsteads, harbours, or rivers of the dominions and possessions of the two countries, no privilege shall be granted to national vessels which shall not be equally granted to vessels of the other country; the intention of the high contracting parties being that in this respect also the respective vessels shall be treated on the footing of perfect equality.

ARTICLE XI.

The coasting trade of both the high contracting parties is excepted from the provisions of the present treaty, and shall be regulated according to the laws, ordinances, and regulations of Japan and of Great Britain respectively. It is, however, understood that Japanese subjects in the dominions and possessions of Her Britannic Majesty, and British subjects in the dominions and possessions of His Majesty the Emperor of Japan, shall enjoy in this respect the rights which are or may be granted under such laws, ordinances, and regulations to the subjects or citizens of any other country.

A Japanese vessel laden in a foreign country with cargo destined for two or more ports in the dominions and possessions of Her Britannic Majesty, and a British vessel laden in a foreign country with cargo destined for two or more ports in the dominions and possessions of His Majesty the Emperor of Japan, may discharge a portion of her cargo at one port, and continue her voyage to the other port or ports of destination where foreign trade is permitted, for the purpose of landing the remainder of her original cargo there, subject always to the laws and custom-house regulations of the two countries.

The Japanese Government, however, agrees to allow British vessels to continue, as heretofore, for the period of the duration of the present treaty, to carry cargo between the existing open ports of the Empire, excepting to or from the ports of Osaka, Niigata, and Ebisu-minato.

ARTICLE XII.

Any ship of war or merchant vessel of either of the high contracting parties which may be compelled by stress of weather, or by reason of any other distress, to take shelter in a port of the other, shall be at liberty to refit therein, to procure all necessary supplies, and to put to sea again, without paying any dues other than such as would be payable by national vessels. In case, however, the master of a merchant vessel should be under the necessity of disposing of a part of his cargo in order to defray the expenses, he shall be bound to conform to the regulations and tariffs of the place to which he may have come.

If any ship of war or merchant vessel of one of the contracting parties should run aground or be wrecked upon the coasts of the other, the local authorities shall inform the Consul-General, Consul, Vice-Consul, or Consular Agent of the district of the occurrence; or if there be no such Consular officer, they shall inform the Consul-General, Consul, Vice-Consul, or Consular Agent of the nearest district.

All proceedings relative to the salvage of Japanese vessels wrecked or cast on shore in the territorial waters of Her Britannic Majesty shall take place in accordance with the laws, ordinances, and regulations of Great Britain, and reciprocally, all measures of salvage relative to British vessels wrecked or cast on shore in the territorial waters of His Majesty the Emperor of Japan shall take place in accordance with the laws, ordinances, and regulations of Japan.

Such stranded or wrecked ship or vessel, and all parts thereof, and all furnitures and appurtenances belonging thereunto, and all goods and merchandise saved therefrom, including those which may have been cast into the sea, or the proceeds thereof, if sold, as well as all papers found on board such stranded or wrecked ship or vessel, shall be given up to the owners or their agents, when claimed by them. If such owners or agents are not on the spot, the same shall be delivered to the respective Consuls-General, Consuls, Vice-Consuls, or Consular Agents upon being claimed by them within the period fixed by the laws of the country; and such Consular officers, owners, or agents shall pay only the expenses incurred in the preservation of the property, together with the salvage or other expenses which would have been payable in the case of a wreck of a national vessel.

The goods and merchandise saved from the wreck shall be exempt from all the duties of the Customs unless cleared for consumption, in which case they shall pay the ordinary duties.

When

When a ship or vessel belonging to the subjects of one of the contracting parties is stranded or wrecked in the territories of the other, the respective Consuls-General, Consuls, Vice-Consuls, and Consular Agents shall be authorised, in case the owner or master, or other agent of the owner, is not present, to lend their official assistance in order to afford the necessary assistance to the subjects of the respective States. The same rule shall apply in case the owner, master, or other agent is present, but requires such assistance to be given.

ARTICLE XIII.

All vessels which, according to Japanese law, are to be deemed Japanese vessels, and all vessels which, according to British law, are to be deemed British vessels, shall, for the purposes of this treaty, be deemed Japanese and British vessels respectively.

ARTICLE XIV.

The Consuls-General, Consuls, Vice-Consuls, and Consular Agents of each of the contracting parties, residing in the dominions and possessions of the other, shall receive from the local authorities such assistance as can by law be given to them for the recovery of deserters from the vessels of their respective countries.

It is understood that this stipulation shall not apply to the subjects of the country where the desertion takes place.

ARTICLE XV.

The high contracting parties agree that, in all that concerns commerce and navigation, any privilege, favour, or immunity which either contracting party has actually granted, or may hereafter grant, to the Government, ships, subjects, or citizens of any other State, shall be extended immediately and unconditionally to the Government, ships, subjects, or citizens of the other contracting party, it being their intention that the trade and navigation of each country shall be placed, in all respects, by the other on the footing of the most favoured nation.

ARTICLE XVI.

Each of the high contracting parties may appoint Consuls-General, Consuls, Vice-Consuls, Pro-Consuls, and Consular Agents in all the ports, cities, and places of the other, except in those where it may not be convenient to recognise such officers.

This exception, however, shall not be made in regard to one of the contracting parties without being made likewise in regard to every other power.

The Consuls-General, Consuls, Vice-Consuls, Pro-Consuls, and Consular Agents may exercise all functions, and shall enjoy all privileges, exemptions, and immunities which are, or may hereafter be, granted to Consular officers of the most favoured nation.

ARTICLE XVII.

The subjects of each of the high contracting parties shall enjoy in the dominions and possessions of the other the same protection as native subjects in regard to patents, trade-marks, and designs, upon fulfilment of the formalities prescribed by law.

ARTICLE XVIII.

Her Britannic Majesty's Government, so far as they are concerned, give their consent to the following arrangement:—

The several foreign settlements in Japan shall be incorporated with the respective Japanese Communes, and shall thenceforth form part of the general municipal system of Japan.

The competent Japanese authorities shall thereupon assume all municipal obligations and duties in respect thereof, and the common funds and property, if any, belonging to such settlements, shall at the same time be transferred to the said Japanese authorities.

When such incorporation takes place the existing leases in perpetuity under which property is now held in the said settlements shall be confirmed, and no conditions whatsoever other than those contained in such existing leases shall be imposed in respect of such property. It is, however, understood that the Consular authorities mentioned in the same are in all cases to be replaced by the Japanese authorities.

All lands which may previously have been granted by the Japanese Government free of rent for the public purposes of the said settlements shall, subject to the right of eminent domain, be permanently reserved free of all taxes and charges for the public purposes for which they were originally set apart.

ARTICLE XIX.

The stipulations of the present treaty shall be applicable, so far as the laws permit, to all the colonies and foreign possessions of Her Britannic Majesty, excepting to those hereinafter named, that is to say, except to India, the Dominion of Canada, Newfoundland, The Cape, Natal, New South Wales, Victoria, Queensland, Tasmania, South Australia, Western Australia, New Zealand.

Provided always that the stipulations of the present treaty shall be made applicable to any of the abovenamed colonies or foreign possessions on whose behalf notice to that effect shall have been given to the Japanese Government by Her Britannic Majesty's representative at Tôkiô within two years from the date of the exchange of ratifications of the present treaty.

ARTICLE XX.

The present treaty shall, from the date it comes into force, be substituted in place of the conventions respectively of the 23rd day of the 8th month of the 7th year of Kayei, corresponding to the 14th day of October, 1854, and of the 13th day of the 5th month of the 2nd year of Keiou, corresponding to the 25th day of June, 1866, the treaty of the 18th day of the 7th month of the 5th year of Ansei, corresponding to the 26th day of August, 1858, and all arrangements and agreements subsidiary thereto concluded or existing between the high contracting parties; and from the same date such conventions, treaty, arrangements, and agreements shall cease to be binding, and, in consequence, the jurisdiction then exercised by British Courts in Japan, and all the exceptional privileges, exemptions, and immunities then enjoyed by British subjects as a part of or appurtenant to such jurisdiction, shall absolutely and without notice cease and determine, and thereafter all such jurisdiction shall be assumed and exercised by Japanese Courts.

ARTICLE

ARTICLE XXI.

The present treaty shall not take effect until at least five years after its signature. It shall come into force one year after His Imperial Japanese Majesty's Government shall have given notice to Her Britannic Majesty's Government of its wish to have the same brought into operation. Such notice may be given at any time after the expiration of four years from the date hereof. The treaty shall remain in force for the period of twelve years from the date it goes into operation.

Either high contracting party shall have the right at any time after eleven years shall have elapsed from the date this treaty takes effect, to give notice to the other of its intention to terminate the same, and at the expiration of twelve months after such notice is given this treaty shall wholly cease and determine.

ARTICLE XXII.

The present treaty shall be ratified, and the ratifications thereof shall be exchanged at Tôkiô as soon as possible, and not later than six months from the present date.

In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

Done at London, in duplicate, this sixteenth day of July, in the year of our Lord one thousand eight hundred and ninety-four.

KIMBERLEY.
AOKI.

Protocol signed at London, 16th July, 1894.

THE Government of Her Majesty the Queen of Great Britain and Ireland and Empress of India, and the Government of His Majesty the Emperor of Japan, deeming it advisable in the interests of both countries to regulate certain special matters of mutual concern, apart from the treaty of commerce and navigation signed this day, have, through their respective Plenipotentiaries, agreed upon the following stipulations:—

1. It is agreed by the contracting parties that one month after the exchange of the ratifications of the treaty of commerce and navigation signed this day, the import tariff hereunto annexed shall, subject to the provisions of Article XXIII of the treaty of 1858 at present subsisting between the contracting parties, as long as the said treaty remains in force and thereafter, subject to the provisions of Articles V and XV of the treaty signed this day, be applicable to the articles therein enumerated, being the growth, produce, or manufacture of the dominions and possessions of Her Britannic Majesty, upon importation into Japan. But nothing contained in this protocol, or the tariff hereunto annexed, shall be held to limit or qualify the right of the Japanese Government to restrict or to prohibit the importation of adulterated drugs, medicines, food, or beverages; indecent or obscene prints, paintings, books, cards, lithographic or other engravings, photographs, or any other indecent or obscene articles; articles in violation of patent, trade-mark, or copyright laws of Japan; or any other article which for sanitary reasons, or in view of public security or morals, might offer any danger.

The *ad valorem* duties established by the said tariff shall, so far as may be deemed practicable, be converted into specific duties by a supplementary convention, which shall be concluded between the two Governments within six months from the date of this protocol; the medium prices, as shown by the Japanese customs returns during the six calendar months preceding the date of the present protocol, with the addition of the cost of insurance and transportation from the place of purchase, production, or fabrication, to the port of discharge, as well as commission, if any, shall be taken as the basis for such conversion. In the event of the supplementary convention not having come into force before the expiration of the period fixed for the said tariff to take effect, *ad valorem* duties in conformity with the rule recited at the end of the said tariff shall, in the meantime, be levied.

In respect of articles not enumerated in the said tariff, the general statutory tariff of Japan for the time being in force shall, from the same time, apply, subject, as aforesaid, to the provisions of Article XXIII of the treaty of 1858 and Articles V and XV of the treaty signed this day respectively.

From the date the tariffs aforesaid take effect, the import tariff now in operation in Japan in respect of goods and merchandise imported into Japan by British subjects shall cease to be binding.

In all other respects the stipulations of the existing treaties and conventions shall be maintained unconditionally until the time when the treaty of commerce and navigation signed this day comes into force.

2. The Japanese Government, pending the opening of the country to British subjects, agrees to extend the existing passport system in such a manner as to allow British subjects, on the production of a certificate of recommendation from the British Representative in Tôkiô, or from any of Her Majesty's Consuls at the open ports in Japan, to obtain upon application passports available for any part of the country, and for any period not exceeding twelve months, from the Imperial Japanese Foreign Office in Tôkiô, or from the chief authorities in the Prefecture in which an open port is situated; it being understood that the existing rules and regulations governing British subjects who visit the interior of the Empire are to be maintained.

3. The Japanese Government undertakes, before the cessation of British Consular jurisdiction in Japan, to join the International Conventions for the Protection of Industrial Property and Copyright.

4. It is understood between the two high contracting parties that, if Japan think it necessary at any time to levy an additional duty on the production or manufacture of refined sugar in Japan, an increased customs duty equivalent in amount may be levied on British refined sugar when imported into Japan, so long as such additional excise tax or inland duty continues to be raised.

Provided always that British refined sugar shall in this respect be entitled to the treatment accorded to refined sugar being the produce or manufacture of the most favoured nation.

5. The undersigned Plenipotentiaries have agreed that this protocol shall be submitted to the two high contracting parties at the same time as the treaty of commerce and navigation signed this day, and that when the said treaty is ratified the agreements contained in the protocol shall also equally be considered as approved, without the necessity of a further formal ratification.

It is also agreed that this protocol shall terminate at the same time the said treaty ceases to be binding.

In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

Done at London, in duplicate, this sixteenth day of July, in the year of our Lord one thousand eight hundred and ninety-four.

KIMBERLEY.
AOKI.

Annex.—(Tariff.)

Articles	<i>Ad valorem</i> Rates of Duty.	Articles.	<i>Ad valorem</i> Rate of Duty.
	Per cent.		Per cent.
Caoutchouc, manufactures of	10	Milk, condensed or desiccated	5
Cement, Portland	5	Nails, iron	10
Cotton—		Oil, paraffin	10
Yarns	8	Paint in oil	10
Tissues of all sorts, plain or mixed with tissues of flax, hemp, or other fibre, including wool, the cotton, however, predominating	10	Paper, printing	10
Glass, window, ordinary—		Refined sugar	10
(a) Uncoloured and unstained	8	Saltpetre	5
(b) Coloured, stained, or ground	10	Screws, bolts, and nuts, iron	10
Hats, including also hats of felt	10	Silk, satins, and silk and cotton mixtures	15
Indigo, dry	10	Tin—	
Iron and steel—		Block, pig, and slab	5
Pig and ingot	5	Plates	10
Rails	5	Wax, paraffin	5
Bar, rod, plate, and sheet	7½	Wire—	
Tinned plates	10	Telegraph	5
Galvanised sheet	10	Iron and steel, and small rod iron and steel not exceeding ¼ inch in diameter	10
Pipes and tubes	10	Woolen and worsted—	
Lead, pig, ingot, and slab	5	Yarns	8
Leather—		Tissues of all sorts, plain or mixed with other material, the wool, however, pre- dominating	10
Sole	15	Yarns of all sorts, not specially provided for	10
Other kinds	10	Zinc—	
Linen—		Block, pig, and slab	5
Yarns	8	Sheet	7½
Tissues	10		
Mercury or quicksilver	5		

Rule for calculating *ad valorem* duties.

Import duties payable *ad valorem* under this tariff shall be calculated on the actual cost of the articles at the place of purchase, production, or fabrication, with the addition of the cost of insurance and transportation from the place of purchase, production, or fabrication, to the port of discharge, as well as commission, if any exists.

EXCHANGE OF NOTES.

The Earl of Kimberley to Viscount Aoki.

Sir,

Foreign Office, 16 July, 1894.

With reference to Article XIX of the treaty between Great Britain and Japan, signed this day, in view of the fact that some of the British Colonies and foreign possessions enumerated in that article might be prevented from acceding to the present treaty by reason of their inability to accept the stipulations relating to military service contained in Article II of the said treaty, and in order to avoid future misunderstandings, Her Majesty's Government request from the Government of Japan an assurance that any of the said British Colonies and possessions may accede to the present treaty under the condition that, notwithstanding such accession, they shall not be bound by the stipulations of Article II.

I have, &c.,

KIMBERLEY.

Viscount Aoki to The Earl of Kimberley.

M. le Comte,

Japanese Legation, London, 16 July, 1894.

In reply to the note of Her Majesty's Government, referring to Article XIX of the treaty between Great Britain and Japan signed this day, and requesting, for the reasons given in the said note, an assurance that any of the British Colonies and foreign possessions enumerated in that article may accede to the present treaty under the condition that, notwithstanding such accession, they shall not be bound by the stipulations of Article II, the Government of Japan hereby give the assurance desired.

I have, &c.,

AOKI.

Viscount Aoki to The Earl of Kimberley.

THE undersigned, Envoy Extraordinary and Minister Plenipotentiary of His Majesty the Emperor of Japan, in virtue of special authorization from His Imperial Japanese Majesty's Government, has the honour to announce to Her Britannic Majesty's Principal Secretary of State for Foreign Affairs, that the Imperial Japanese Government, recognizing the advantage of having the codes of the Empire which have already been promulgated in actual operation when the treaty stipulations at present subsisting between the Government of Japan and that of Great Britain cease to be binding, engage not to give the notice provided for by the first paragraph of Article XXI of the Treaty of Commerce and Navigation, signed this day, until those portions of said codes which are now in abeyance are brought into actual force.

The undersigned avails, &c.

AOKI.

Japanese Legation, London, 16 July, 1894.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT CLOTHING.

(RETURN RESPECTING)

*Ordered by the Legislative Assembly to be printed, 10 October, 1894.**[Laid upon the Table of the House in answer to Question No. 7, of 13th September, 1894.]*

Question.

(7.) GOVERNMENT CLOTHING.—*Mr. Cann* (FOR MR. BLACK) asked THE COLONIAL TREASURER.—What was the price per suit paid to the successful tenderers for uniforms for railway-porters, guards, tram-conductors, police, and volunteers?

Answer.

SUITS FOR POLICE.						£	s.	d.
Dress suits, blue cloth	...	...	...	...	...	1	10	4
Jumper suit, blue cloth (mounted)	...	...	...	...	...	1	3	7
Jumper suit, blue cloth (foot)	...	...	...	...	...	1	3	4
Serge suit, jumper (mounted)	...	...	...	...	...	1	2	9
Serge suit, jumper (foot)	...	...	...	...	...	1	3	0

PARTIALLY-PAID FORCES.

RETURN showing Prices paid to the successful tenderers for Uniforms for Partially-paid Forces.

	Cavalry.	Mounted Rifles.	Artillery Brigade Division, Field.	Artillery, 2nd Garrison Division	Engineers Field Companies.	Engineers, No 3 Company	Engineers, No 4 Company	Infantry, 1st Regt	Infantry, 2nd Regt	Infantry, 3rd Regt	Infantry, 4th Regt	Infantry, 5th Regt	Medical Staff Corps	Army Service Corps.
	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
Tunic	2 10 6	..	2 5 0	2 5 0	2 4 0	2 6 0	2 6 0							..
Jacket	1 15 0	1 8 0	1 10 0	1 10 0	1 7 6	1 4 0	1 4 0	1 6 9	1 4 6	1 3 6	1 5 0	1 9 0	1 10 0	1 7 6
Jumper . . . . .		..	..	..	..	..	..						0 15 0	0 14 0
Trousers, Cloth	....	..	1 5 0	1 5 0	1 4 0	1 5 0	1 5 0							1 3 0
Do Serge			0 16 6	0 16 6	0 16 6	..	..							0 17 0
Do Tweed	0 18 9	0 18 6			..	..	..	0 16 6	0 16 6	0 15 6	0 16 0		0 16 0	..
Do Tartan . . . . .					..	..	..					1 3 0		..
Pantaloon	1 8 6	1 4 0	1 10 0										1 10 0	1 4 0
Leggings	0 9 6	0 6 0	0 10 0	0 3 6	0 5 0	..	..			0 3 2			0 7 6	..
Great Coat			1 2 6	1 2 6	1 2 6					1 2 6			1 2 6	..
Helmet			0 8 6	0 8 6	0 7 6									..
Hat and Puggaree	0 8 11	0 8 0	0 6 9	..	0 7 0			0 7 5	6 6½	0 5 4	0 5 0		0 6 6	0 5 9
Cap	0 5 5	0 5 0	0 3 9	0 3 9	0 3 9	0 6 3	0 6 3			0 1 2	0 1 2		0 1 2	0 5 0

PORTERS, GUARDS, AND TRAMWAY CONDUCTORS.

RETURN showing the prices paid by the Railway Commissioners for Uniforms for Porters, Guards, and Tramway Conductors.

Porters	...	...	...	...	...	Suits. 18s. 6d.	Cap. 2s.
Passenger Guards	...	...	...	...	...	{ £1 10s. 6d. for summer } { £1 17s. for winter }	5s.
Goods and Assistant Guards	...	...	...	...	...	£1 1s. 9d.	2s.
Tram Conductors	...	...	...	...	...	{ £1 5s. for summer } { £1 10s. 6d. for winter }	3s.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MR. MACKENZIE BOWELL, CANADIAN MINISTER.

(RETURN SHOWING COST OF ENTERTAINING.)

*Ordered by the Legislative Assembly to be printed, 30 October, 1894.**[Laid upon the Table of the House in answer to Question No. 9, of 30th October, 1894.]*

Question.

9. MR. PIDDINGTON asked THE COLONIAL TREASURER,—

(1.) What are the particulars of the sum of £480 11s. 4d., appearing in the Public Accounts for 1893 as "Cost of entertaining Mr. Mackenzie Bowell, Canadian Minister"?

(2.) The same with regard to the sum of £328 1s. 10d., "for travelling and other expenses of Ministers when visiting the country," appearing in the same accounts?

Answer.

(1.)

Cost of entertaining Mr. Mackenzie Bowell, Canadian Minister, £480 11s. 4d.

Reception expenses	£4 12 0
Visit to orchard districts	30 7 0
Hire of carriage and pair	23 10 0
Picnic	413 19 6
Special train	8 2 10
	<hr/>
	£480 11 4

(2.)

FOR travelling and other expenses of Ministers when visiting the country, £328 1s. 10d.

Travelling expenses, Hon. W. J. Lyne	£79 1 0
Do Hon. J. Kidd	15 0 0
Expenses of Sir G. Dibbs' visit to Flooded Districts	19 12 3
Do do Tamworth and Gwydir Elec- torates	25 10 0
Expenses of inspections by Hon. W. J. Lyne to Port Stephens, Tweed River, Trial Bay, Hawkesbury River, and Myall River	160 11 1
Gratuities and expenses of H. Kitching, messenger, Colonial Secretary's Department, on various trips	28 7 6
	<hr/>
	£328 1 10

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT ADVERTISING.

(CABINET MINUTE RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 6 September, 1894.**[Laid upon the Table of the House in answer to Question No. 4 of 6th September, 1894.]*

Question.

- (4.) GOVERNMENT ADVERTISEMENTS :—MR. BLACK *asked* THE COLONIAL SECRETARY,—Will he lay upon the Table of this House a minute dealing with the newspapers in which the Government should advertise, and drafted by Sir Henry Parkes while he last held office?

Answer.

GOVERNMENT ADVERTISING.

CABINET MINUTE.

THERE can be but little doubt that much waste of public money has been incurred by negligence or want of knowledge in giving Government advertisements to newspapers.

In every case, and in all Departments of the Public Service, the first thing to be considered is whether the newspaper affords a medium of publicity for the advertisement, and *no other consideration should be allowed to have weight*. For general purposes, it is certain that both the morning journals published in Sydney (the *Herald* and *Telegraph*) and the *Evening News* afford this medium of publicity. The same may be said, though with less certainty, of the weekly papers (the *Sydney Mail*, the *Town and Country Journal*, and the *Tribune*). Again, advertisements which require publicity in one portion of the Colony more than in another may properly be given to any newspaper possessing an established circulation in that District. In the Hunter River District, for example, the *Maitland Mercury* probably affords a better medium than any other newspaper.

These circumstances may be fairly taken into account when advertisements of a special character have to be ordered.

In no instance is any Government advertisement to be given as a matter of favour or patronage, or for any reason whatever apart from the ascertained value of the medium of publicity which the newspaper presents.

Cabinet approve.

HENRY PARKES.

Colonial Secretary's Office, Sydney, 6th December, 1887.

1894.

^d(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

GOVERNMENT ADVERTISEMENTS.

(RETURN SHOWING SUMS PAID TO METROPOLITAN NEWSPAPERS FROM OCTOBER, 1891, TO JULY, 1894, FOR.)

Ordered by the Legislative Assembly to be printed, 31 October, 1894.

RETURN showing sums paid for Advertising by the various Government Departments to the different metropolitan newspapers (daily and weekly) during the period elapsing between October, 1891, and July, 1894, as far as can be readily ascertained from the records of this Department.

GOVERNMENT ADVERTISEMENTS.

Department	Herald	Echo	Mail	Evening News	Town and Country	Daily Telegraph	Star	Truth
	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
Lands	153 13 0	.....	77 14 6	167 3 0	49 16 6	203 4 0	207 7 6	29 12 0
Mines	94 13 0	0 15 0	2 14 0	85 19 6	6 11 0	98 4 0	119 5 10	124 3 0
Stock Branch	8 12 0	.....	2 17 6	8 19 0	3 7 0	5 5 0	4 2 6	.....
Diamond Drills	0 7 0	.....	.....	0 9 0	1 16 0	.....	.....	.....
Water Conservation .....	.....	.....	1 6 6	1 6 6	.....	1 14 0	.....	.....
Agriculture	36 19 0	1 5 0	3 19 3	26 4 0	1 18 0	14 8 0	10 0 0	.....
Forests	0 13 0	.....	1 15 0	2 16 0	.....	0 11 0	2 4 6	.....
Public Works	525 5 10	1 6 0	125 11 5	410 8 0	238 12 3	431 8 4	501 9 6	249 19 1
Harbours and Rivers	62 3 0	.....	.....	80 2 8	.....	59 7 0	67 10 6	.....
Architect	52 15 0	4 17 6	.....	45 8 6	.....	52 18 6	64 2 0	2 16 3
Works Committee	10 17 6	4 7 0	.....	7 19 6	.....	7 5 6	8 19 0	.....
Roads and Bridges.....	77 19 0	1 5 0	.....	62 7 0	5 14 0	61 14 0	88 19 0	2 4 9
Sewerage	1 13 6	.....	.....	0 15 0	.....	1 8 0	0 8 6	.....
Water and Sewerage	234 18 9	58 16 0	.....	171 6 3	.....	205 18 0	147 2 6	.....
Hunter District W. and S. Board ..	0 18 6	.....	.....	.....	.....	2 4 0	7 7 6	.....
University	98 7 0	.....	.....	0 5 0	.....	80 14 0	.....	.....
Railways	1,130 1 7	78 3 8	135 17 0	640 18 9	77 10 0	979 12 0	681 5 4	71 15 6
Tramways	120 0 6	34 0 6	.....	98 11 3	.....	112 18 6	119 7 10	8 7 0
Vine Diseases Board	0 14 0	.....	.....	0 11 0	0 14 0	.....	.....	.....
Justice	7 7 6	.....	0 10 0	4 5 6	.....	8 10 4	4 2 0	.....
Prisons	3 18 6	.....	.....	3 15 0	.....	6 1 6	7 1 0	.....
Public Instruction	138 13 3	.....	.....	89 13 6	.....	92 17 0	103 7 6	10 0 6
N.S.S. "Vernon" and "Sobraon"	5 9 0	0 1 6	.....	1 15 0	.....	3 3 6	2 2 0	.....
Industrial School, Parramatta	0 12 0	0 1 6	.....	1 4 0	.....	1 16 0	0 17 6	.....
Colonial Secretary	57 4 6	2 3 3	.....	44 9 6	.....	50 14 6	56 2 9	65 4 0
Volunteers	145 5 6	2 6 6	.....	19 18 0	.....	124 16 2	13 15 6	.....
Public School Cadet Corps	8 4 6	0 8 0	.....	6 1 0	.....	7 17 0	6 14 6	.....
Naval Brigade	22 11 6	.....	.....	19 7 6	.....	20 6 6	18 19 6	.....
Naval Artillery	28 11 0	0 2 6	.....	23 12 6	.....	22 14 6	22 10 0	.....
Submarine Miners	13 1 6	0 3 0	.....	0 11 0	.....	.....	.....	.....
Military Works	89 15 0	.....	.....	2 8 0	.....	81 2 0	99 10 6	.....
Ordnance and Barrack	9 14 0	.....	.....	6 13 0	.....	7 4 0	5 9 0	.....
Police	1 4 0	.....	.....	1 4 0	.....	1 0 0	.....	.....
Government Asylums	3 11 0	.....	.....	1 7 0	.....	3 1 0	1 11 6	.....
Medical Adviser	2 15 0	.....	.....	.....	.....	1 0 0	0 15 0	.....
Health Officer	33 0 6	11 14 0	.....	14 6 6	.....	23 6 0	28 16 10	.....
Registrar-General	268 16 6	.....	.....	268 7 6	.....	288 9 6	304 1 11	131 10 0
Municipal Preliminary Expenses...	31 1 0	11 13 9	.....	48 2 0	.....	37 5 0	45 12 6	42 7 0
Fisheries	9 15 0	.....	.....	.....	.....	40 19 0	81 4 0	9 19 9
City Improvement Board	15 19 6	4 6 6	.....	15 2 6	.....	13 2 6	15 17 6	.....
State Children	0 6 0	.....	.....	.....	.....	.....	.....	.....
Labour Bureau	13 11 0	2 17 9	3 0 0	9 13 6	2 2 0	7 7 6	11 1 6	14 12 6
Government Statist	1 12 0	0 7 6	.....	1 10 0	.....	1 9 0	1 11 0	.....
Chicago Exhibition	82 16 6	.....	47 7 0	101 3 8	3 2 0	61 18 7	44 11 2	.....
Tasmanian Exhibition .....	.....	0 13 0	.....	1 6 0	.....	1 0 0	1 7 6	.....
Art Gallery	10 2 0	1 11 0	.....	1 15 0	.....	8 2 0	2 10 0	.....
Free Public Library	8 8 0	3 0 0	.....	5 17 0	.....	7 16 0	8 17 0	0 12 0
Post and Telegraphs	125 19 0	36 19 6	17 15 0	122 19 6	23 4 6	107 6 0	124 18 0	63 1 0
Treasury	218 3 0	1 15 0	9 5 0	202 15 6	4 0 0	202 15 6	187 1 0	32 18 6
Customs	65 16 0	9 5 0	.....	33 3 0	.....	59 6 0	43 8 0	3 15 0
Government Printer	10 3 0	3 0 6	2 17 6	6 17 0	2 6 0	9 13 0	7 3 0	3 0 0
Marine Board	8 5 6	.....	.....	0 6 0	.....	10 13 0	0 13 0	.....
Technical College	53 15 0	3 6 6	0 17 0	40 14 0	1 16 0	46 2 0	48 4 6	8 14 0
	4,105 18 5	280 11 11	433 6 8	2,916 13 1	425 9 3	3,077 8 5	3,334 8 8	874 11 10

RETURN showing sums paid for Advertising by the various Government Departments—*continued.*

Department.	Sunday Times.	Builder and Contractors' News.	Year Book.	Bulletin.	Building and Engineering Journal.	Freeman's Journal.	Illustrated News.	Wool and Produce Journal.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Lands	25 19 9	6 0 0	218 8 0	.....	.....	.....	.....	.....
Mines	0 13 0	15 16 0	263 17 0	.....	1 0 0	1 4 0	.....	.....
Stock Branch .....	.....	1 10 0	30 0 0	.....	.....	.....	.....	0 5 0
Diamond Drills .....	.....	15 0 0	.....	.....	.....	.....	.....	.....
Water Conservation .....	.....	.....	112 10 0	.....	.....	.....	.....	.....
Agriculture .....	.....	0 10 0	22 10 0	.....	.....	.....	.....	.....
Forests .....	.....	.....	25 0 0	.....	.....	.....	.....	.....
Public Works	234 12 9	184 10 9	82 10 6	92 2 0	202 2 10	151 1 0	.....	.....
Harbours and Rivers .....	.....	4 0 0	.....	.....	1 5 0	.....	.....	.....
Architect .....	.....	10 16 3	.....	.....	7 5 0	.....	.....	.....
Works Committee	0 11 6	.....	15 0 0	.....	.....	.....	.....	.....
Roads and Bridges .....	.....	1 10 0	.....	.....	3 12 6	.....	.....	.....
Sewerage .....	.....	.....	.....	.....	.....	.....	.....	.....
Water and Sewerage .....	.....	15 18 9	50 0 0	.....	13 19 9	.....	.....	1 4 0
Hunter District W. and S. Board...	1 10 0	.....	.....	.....	.....	.....	.....	.....
University .....	.....	.....	.....	.....	.....	.....	.....	.....
Railways	99 12 6	25 6 3	233 17 6	5 11 0	22 7 6	.....	54 0 6	6 8 0
Tramways	15 12 0	.....	.....	.....	.....	.....	.....	.....
Vine Diseases Board .....	.....	.....	15 0 0	.....	.....	.....	.....	.....
Justice	1 1 0	.....	97 10 0	.....	.....	.....	.....	.....
Prisons .....	.....	.....	.....	.....	.....	.....	.....	.....
Public Instruction	1 0 0	30 3 9	.....	.....	32 12 6	.....	.....	.....
N.S.S. "Vernon" and "Sobraon" .....	.....	.....	.....	.....	0 10 0	.....	.....	.....
Industrial School, Parramatta .....	.....	.....	.....	.....	.....	.....	.....	.....
Colonial Secretary	79 13 6	.....	496 10 0	.....	.....	22 12 6	.....	.....
Volunteers	1 5 0	.....	.....	.....	.....	.....	.....	.....
Public School Cadet Corps .....	.....	.....	.....	.....	.....	.....	.....	.....
Naval Brigade .....	.....	.....	.....	.....	.....	.....	.....	.....
Naval Artillery .....	.....	.....	.....	.....	.....	.....	.....	.....
Submarine Miners .....	.....	.....	.....	.....	.....	.....	.....	.....
Military Works .....	.....	54 6 3	.....	.....	35 3 9	.....	.....	.....
Ordnance and Barrack .....	.....	.....	.....	.....	.....	.....	.....	.....
Police .....	.....	.....	.....	.....	.....	.....	.....	.....
Government Asylums .....	.....	.....	.....	.....	.....	.....	.....	.....
Medical Adviser .....	.....	.....	.....	.....	.....	.....	.....	.....
Health Officer .....	.....	.....	.....	.....	.....	.....	.....	.....
Registrar-General	21 2 6	.....	.....	.....	.....	42 15 0	.....	.....
Municipal Preliminary Expenses...	.....	.....	.....	.....	.....	.....	.....	.....
Fisheries	0 13 9	.....	.....	.....	.....	.....	.....	.....
City Improvement Board .....	.....	1 0 0	.....	.....	1 7 6	.....	.....	.....
State Children .....	.....	.....	.....	.....	.....	.....	.....	.....
Labour Bureau	6 6 0	2 10 0	.....	.....	.....	.....	.....	.....
Government Statist .....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago Exhibition .....	.....	.....	.....	.....	.....	.....	.....	26 1 3
Tasmanian Exhibition .....	.....	.....	.....	.....	.....	.....	.....	.....
Art Gallery .....	.....	.....	19 8 6	.....	.....	.....	.....	.....
Free Public Library .....	.....	.....	.....	.....	.....	.....	.....	.....
Post and Telegraphs	35 16 9	1 10 0	119 2 0	22 10 0	.....	7 14 6	0 7 6	.....
Treasury	12 15 6	.....	367 10 0	.....	1 3 9	3 15 0	.....	.....
Customs	3 0 0	.....	.....	.....	.....	.....	.....	.....
Government Printer	2 10 0	.....	.....	0 15 0	.....	1 14 6	.....	.....
Marine Board .....	.....	.....	.....	.....	.....	.....	.....	.....
Technical College .....	.....	9 1 3	.....	.....	9 8 9	1 2 0	.....	1 12 0
	543 15 6	379 9 3	2,168 13 6	120 18 0	331 18 10	231 18 6	54 8 0	35 10 3

RETURN showing sums paid for Advertising by the various Government Departments—*continued.*

Department.	Workman.	Pastoral Review.	Mining Standard.	Commercial News.	Presbyterian.	Protestant Standard.	Surveyor.	Stock and Station Journal.	Australian Field.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Lands	17 10 0	0 7 6	.....	.....	.....	.....	2 2 0	.....	.....
Mines	49 16 6	1 4 0	98 12 3	.....	.....	.....	.....	.....	1 11 6
Stock Branch	1 1 0	.....	.....	.....	.....	.....	0 10 0	.....
Diamond Drills
Water Conservation
Agriculture	22 6 3	.....	.....	.....	.....	.....	.....
Forests.....
Public Works.....	123 5 3	.....	.....	1 16 3	41 6 5	86 12 9	.....	.....	.....
Harbours and Rivers.....	3 12 6	.....	.....	.....	.....	.....
Architect.....	0 10 0	.....	4 11 0	.....	.....	.....
Works Committee
Roads and Bridges.....	2 10 0	.....	.....	.....	.....	.....
Sewerage
Water and Sewerage
Hunter District W. and S. Board...
University
Railways	8 8 9	7 0 0	.....	.....	.....	.....	.....	.....	.....
Tramways
Vine Diseases Board
Justice.....
Prisons.....
Public Instruction
N.S.S. "Vernon" and "Sobraon"	1 2 6	.....	.....	.....	.....	.....
Industrial School, Parramatta.....
Colonial Secretary	2 5 0	.....	.....	1 17 6	.....	2 0 0	.....	.....	.....
Volunteers
Public School Cadet Corps
Naval Brigade
Naval Artillery
Submarine Miners
Military Works	34 0 0	.....	.....	.....	.....	.....
Ordnance and Barrack
Police
Government Asylums
Medical Adviser
Health Officer.....
Registrar-General
Municipal Preliminary Expenses...
Fisheries	23 3 9	.....	.....	.....	.....	.....
City Improvement Board
State Children.....
Labour Bureau	4 5 0	7 5 0	.....	.....	.....	.....	.....	6 0 0	.....
Government Statist
Chicago Exhibition	21 12 0	.....	.....	.....	.....	.....	.....	.....
Tasmanian Exhibition
Art Gallery.....
Free Public Library
Post and Telegraphs	8 5 0	10 15 0	.....	.....	.....
Treasury	3 17 6	1 10 0	.....	.....	.....	.....	.....	.....	.....
Customs
Government Printer
Marine Board.....	0 15 0	.....	.....	.....	.....	.....
Technical College	2 10 0	4 16 0	.....	.....	.....	.....	.....	.....
	209 8 0	42 9 6	125 14 6	69 7 6	49 11 5	103 18 9	2 2 0	6 10 0	1 11 6

RETURN showing sums paid for Advertising by the various Government Departments—*continued.*

Department	Railway Budget	Banking Record	Democrat	Rural Australian	Journal of Commerce.	Spectator	Home and Farm	Wool Review	Total
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Lands									1,158 17 9
Mines									965 19 7
Stock Branch									66 9 0
Diamond Drills									17 12 0
Water Conservation									116 17 0
Agriculture									139 19 6
Forests									32 19 6
Public Works									3,684 0 11
Harbours and Rivers									278 0 8
Architect									246 0 0
Works Committee									55 0 0
Roads and Bridges									307 15 3
Sewerage									4 5 0
Water and Sewerage									890 4 0
Hunter District W. and S. Board									12 0 0
University									179 6 0
Railways	200 0 0								4,457 15 10
Tramways						2 10 0			511 7 7
Vine Diseases Board									16 19 0
Justice									123 6 4
Prisons									20 16 0
Public Instruction									498 8 0
N.S.S. "Vernon" and "Sobraon"									14 3 6
Industrial School, Parramatta ...									4 11 0
Colonial Secretary									880 17 0
Volunteers									307 6 8
Public School Cadet Corps									29 5 0
Naval Brigade									81 5 0
Naval Artillery									97 10 6
Submarine Miners									13 15 6
Military Works									396 5 6
Ordnance and Barrack									29 0 0
Police									3 8 0
Government Asylums									9 10 6
Medical Adviser									4 10 0
Health Officer									111 3 10
Registrar-General									1,325 2 11
Municipal Preliminary Expenses									216 1 3
Fisheries									165 15 3
City Improvement Board									66 16 0
State Children									0 6 0
Labour Bureau									90 11 9
Government Statist									6 9 6
Chicago Exhibition									388 12 2
Tasmanian Exhibition									4 6 6
Art Gallery									43 8 6
Free Public Library									34 10 0
Post and Telegraphs					2 7 6				833 10 9
Treasury		3 3 0							1,252 8 3
Customs									227 13 0
Government Printer									49 19 6
Marine Board									20 12 6
Technical College			5 17 0	6 0 0			3 0 0	1 15 0	248 11 0
	200 0 0	3 3 0	5 17 0	6 0 0	2 7 6	2 10 0	3 0 0	1 15 0	20,750 5 9

Department of Audit,
24th September, 1894.

E. A. RENNIE.

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

EXTENSION OF THE PROVISIONS OF THE DOG ACT.
(RETURN RESPECTING.)

Ordered by the Legislative Assembly to be printed, 18 September, 1894.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 5th September, 1894, That there be laid upon the Table of this House,—

“A Return showing the names of the several Police Districts in the
“Central and Western Divisions of the Colony to which the provisions of
“the Dog Act, 6 William IV No. 4, and the amendment thereof, 39
“Victoriae No. 6, have been extended by the Governor, with the advice of
“the Executive Council; also showing the date of the *Gazette* in which
“such extension was notified.”

(*Mr. Ashton.*)

Police District.	Date of <i>Gazette</i> containing notice.
CENTRAL DIVISION.	
Hay	11 June, 1880.
Wagga Wagga	3 December, 1875.
Bingara	18 March, 1892.
Moree	2 February, 1892.
Narrabri	23 November, 1875.
Gunnedah	19 November, 1878.
Gundagai	10, December, 1875.
Walgett (partly in Western Division)	24 August, 1883.
Moama	19 July, 1878.
Warialda	23 December, 1875.
Balranald (partly in Western Division)	2 October, 1888.
WESTERN DIVISION.	
Bourke	8 August, 1882.
Brewarrina	5 September, 1884.
Wentworth	27 April, 1888.
Balranald (also in Central Division)	2 October, 1888.
Mitchell	21 November, 1882.
Walgett (also in Central Division)	24 August, 1883.

Date	Description	Debit	Credit	Balance
1890				
Jan 1	Balance forward			
Jan 15	...			
Jan 30	...			
Feb 15	...			
Feb 28	...			
Mar 15	...			
Mar 31	...			
Apr 15	...			
Apr 30	...			
May 15	...			
May 31	...			
Jun 15	...			
Jun 30	...			
Jul 15	...			
Jul 31	...			
Aug 15	...			
Aug 31	...			
Sep 15	...			
Sep 30	...			
Oct 15	...			
Oct 31	...			
Nov 15	...			
Nov 30	...			
Dec 15	...			
Dec 31	...			

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

THE DOG ACT.

(PETITION FROM CERTAIN RABBITERS OF THE COLONY, PRAYING FOR AN AMENDMENT OF.)

Received by the Legislative Assembly, 7 November, 1894.

To the Honorable the Speaker and Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned Rabbiters in the Colony of New South Wales,—

HUMBLY SHOWETH:—

1. That your Petitioners are engaged in the destruction of rabbits at various places in the Colony of New South Wales, but principally in the Western Division thereof.

2. That the rapid and great increase of rabbits in the Colony has become a source of danger to the producers from the soil.

3. That your Petitioners are satisfied that it is in the best interests of the country that every facility and encouragement should be given to all classes to aid in their destruction.

4. That your Petitioners, as hunters of rabbits, have to use large numbers of dogs, and that the fees charged upon the registration of such dogs is a grievous burden upon your Petitioners, and largely restricts them in their work, and reduces their means of existing.

5. That in the year 1835 an Act of the Legislature was passed for abating the nuisance occasioned by dogs in the streets of certain towns, and on highways in New South Wales, the provisions of which only applied to towns of Sydney, Parramatta, Liverpool, Campbelltown, Windsor, Newcastle, Maitland, and Bathurst, with power to the Governor to extend it to other towns.

6. That no amendment of that Act was made for forty years until the year 1875, when the fees of registration were altered from the amount existing for forty years to two shillings and sixpence for each dog.

Your Petitioners therefore humbly pray that your Honorable House will take the premises into your earnest consideration, and pass a law whereby persons declaring that their dogs are *bona fide* kept and used for the purpose of hunting rabbits, may be exempted from paying fees, and that their dogs whilst still to be registered shall be registered without fee.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow 76 signatures.*]

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MARTIN-PLACE.

(RETURN RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 20 December, 1894.***Minute by The Under Secretary for Public Works.***Subject:—Sale of Land, Martin-place.*

MR. WRENCH called to-day to ask for the decision of the Minister as to the survey which will be required of the land about to be sold. Mr. Wrench proposes to employ Mr. Schleicher to do this work. As this is a matter which admits of no delay I respectfully suggest this course be approved.

J.B., 11/12/91.

Approved.—W.J.L., 11/12/91. Mr. Wrench telephoned to.—11/12/91.

Minute by The Under Secretary for Public Works.*Subject:—"Martin-lane."*

Department of Public Works, Sydney, 27 January, 1892.

ABOUT a fortnight ago Mr. Wrench, of Messrs. Richardson and Wrench, called at the office to inform the Minister that he had discovered something which might seriously affect the sale of the Post Office land. He said that on the previous day he had noticed that a gate at the end of Angel-place, which had always remained open, had been closed, and this at once aroused his suspicions, and he thereupon instructed Mr. Surveyor Schleicher to make inquiries into the matter. This gentleman had found, by examining the title-deeds of the contiguous properties, that a 2-foot reserve had been left between the Government land and Angel-place, as shown on the plan, and it was further ascertained that Angel-place itself had never been dedicated as a public thoroughfare, although the City Council had for many years maintained it. These facts had evidently been overlooked when the descriptions were prepared for the purpose of the original resumptions under the Post Office (Approaches Improvement) Act, 1839. After consultation with the Parliamentary Draftsman and the Crown Solicitor, it was decided by the Minister, with the approval of the Cabinet, to introduce a Bill into the Assembly for the purpose of resuming the 2-foot reserve, and dedicating Angel-place and the proposed lane at the rear of the Government land as a public thoroughfare, under the name of "Martin-lane."

J. BARLING.

Report by The Chief Accountant.

Messrs. Atchison and Schleicher's charges.

I HAVE consulted Mr. Twynam about Messrs. Atchison and Schleicher's charge, but he is unable to give an opinion, as no information is given of the number and duration of the interviews they had with the several persons named in their account.

I have seen Mr. Schleicher (with Mr. Gregg) and he considers the charge for survey is very reasonable for the services performed. No arrangement appears to have been made as to the fee to be charged for the survey.

W.H.Q., 13/7/92.

Mr. Thompson, please look at this account, and certify if correct.—J.B., 15/7/92. Voucher certified herewith.—J.B.T., 22/7/92. Have we attempted to check the advertisement in any way?—J.B., 27/7/92. Yes.—W.H.Q., 28/7/92. Submitted.—J.B., 28/7/92. Approved.—W.J.L., 6/8/92.

Account rendered by Messrs. Atchison and Schleicher.

Dr. to Atchison and Schleicher.—Martin-place Subdivision, &c.

<p>December, 1891, and January and February, 1892.</p>	<p>To investigation of boundaries of above and searches at Registrar-General's Office as to the titles and boundaries of adjacent land, particularly as to status of the lane known as Angel-place; numerous interviews with Mr. Wrench, Mr. Ellis, solicitor, the Crown Solicitor, and the Under Secretary for Works, with reference to same; attending Mr. Wrench, the Under Secretary for Works, Parliamentary Draftsman, and the Crown Solicitor, many times as to Amending Bill, also on the Minister for Justice, and preparing numerous plans during the progress of the passing of the Act, and furnishing descriptions for schedules of Act; laying out on the ground with extreme care the boundaries of the eleven allotments of Martin-place subdivision, and permanently marking the same on the ground; also preparing large sale-plan and litho. transfer of the subdivision, after many interviews with Mr. Wrench and the Government Architect; also furnishing deposit-plan for the Real Property Act...</p>	<p>£223 15 0</p>
<p>Cash paid to Gibbs, Shallard, and Co., for printing 300 lithos., as per duplicate account herewith</p>	<p>... ..</p>	<p>5 17 6</p>
		<p><u>£229 12 6</u></p>

1894.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

SYDNEY CRICKET GROUND.

(COPY OF DEED OF GRANT OF 12 ACRES OF LAND FOR PUBLIC RECREATION, PARISH OF ALEXANDRA,
COUNTY OF CUMBERLAND.)*Ordered by the Legislative Assembly to be printed, 18 December, 1894.**[Laid upon the Table of the House in accordance with promise made in answer to Question No. 7,
of 18th December, 1894.]*

[Copy.]

No. 77/2.

New South Wales,
Land Grant Register Book, vol. , fol. .

GRANT FOR THE PURPOSES OF PUBLIC RECREATION.

VICTORIA, by the grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender
of the Faith, and so forth.

To all to whom these presents shall come,—

GREETING:—

WHEREAS the Governor of our Colony of New South Wales with the advice of our Executive Council of our said Colony hath determined that it is desirable for the public interest that the land hereinafter described shall be dedicated for purposes of public recreation and shall be granted unto Richard Driver William Wilberforce Stephen and Philip Sheridan of Sydney in our said Colony Esquires their heirs and assigns upon the trusts with the powers and subject to the conditions hereinafter mentioned. Now know ye that we of our special grace with the advice of our Executive Council of our said Colony and in consideration of the quit rent hereinafter reserved have granted and for us our heirs and successors do hereby grant unto the said Richard Driver William Wilberforce Stephen and Philip Sheridan and their heirs all that piece or parcel of land in our said Colony containing by admeasurement twelve acres be the same more or less situated in the county of Cumberland parish of Alexandria: Commencing at the south-western corner of the six acres as a site for a military garden and bounded thence on the north by the southern boundary of that six acres bearing about east fifteen degrees north ten chains on the east by a line bearing about south fifteen degrees east twelve chains on the south by a line bearing about west fifteen degrees south ten chains and on the west by a line bearing about north fifteen degrees west twelve chains to the point of commencement as per plan in the margin hereof with all the rights and appurtenances thereto belonging to hold unto the said Richard Driver William Wilberforce Stephen and Philip Sheridan their heirs and assigns for ever yielding and paying therefor to us our heirs and successors yearly and every year the quit rent of one peppercorn on demand subject to the conditions reservations and provisos hereinafter mentioned and upon and for the trusts intents and purposes hereinafter declared of and concerning the said land that is to say upon trust in their discretion to permit and suffer the said land or any part thereof to be used by such persons clubs or associations at such times and upon such terms and conditions as the said Richard Driver William Wilberforce Stephen and Philip Sheridan or any other trustees of the said land appointed as hereinafter provided shall think fit and proper for any of the purposes hereinafter described that is to say firstly as a cricket ground or place at and upon which the game of cricket may be played under the direction or management of the New South Wales Cricket Association now existing or any other Association or club which may be hereafter founded for promoting the game of cricket secondly for any other public amusement or purpose which His Excellency the Governor of our said Colony for the time being with the advice of the Executive Council thereof may from time to time declare to be a public amusement

amusement or purpose for which the said land or any part thereof shall or may be used Provided always and it is hereby declared that it shall or may be lawful for the trustees for the time being of the said land for any of the purposes aforesaid to make all or any or every such rules and regulations for the use of and admission to the said land or any part thereof and to vary or alter the same from time to time as they may think fit for any of the purposes aforesaid Provided always and we do hereby declare that when and so often as the said Richard Driver William Wilberforce Stephen and Philip Sheridan or any trustee or trustees to be appointed by virtue hereof shall die resign cease to reside in the Colony of New South Wales or become incapable of acting in the trusts hereby created it shall be lawful for the Governor for the time being of our said Colony with the advice of the Executive Council thereof from time to time by writing under his hand to name and appoint a new trustee or trustees in the place and stead of any trustee or trustees so dying resigning ceasing to reside in our said Colony of New South Wales or becoming incapable of acting in the said trusts and thereupon the said land shall be conveyed and assured by the surviving or continuing trustee or trustees or by the heirs of the last surviving trustee their or his heirs or assigns upon the trusts and for the intents and purposes hereinbefore created and declared of and concerning the said land And we do hereby reserve unto us our heirs and successors all such parts and so much of the said land as may hereafter be required for public roads or ways in over and through the same to be set out by the Governor for the time being of our said Colony or some person by him authorized in that respect And also all stone and gravel all indigenous timber and all other materials the produce of the said land which may be required at any time or times hereafter for the construction and repair of roads ways and bridges for naval purposes and for public works together with the right of taking and removing the same And also all minerals with full and free liberty and power to search for dig and take away the same And also the right of full and free ingress egress and regress into out of and upon the said land for the several purposes aforesaid And we do further reserve unto us our heirs and successors full power for us or them or for the Governor for the time being of our said Colony to resume and take possession of all or any part of the said land not hereinbefore reserved which may be required at any time or times hereafter for any public purpose whatsoever Provided always and these presents are upon the express condition that if the said land hereinbefore described or any part thereof shall be used for any other purpose than is hereinbefore provided or declared in and by the said trusts the said trusts shall cease and the said land shall be forfeited and revert unto us our heirs and successors and these presents and every matter and thing herein contained shall cease and determine and become absolutely void to all intents and purposes and it shall be lawful for us our heirs and successors by our Governor for the time being of our said Colony or some person by him authorized in that behalf to re-enter upon the said land or any part thereof and the said grantees their heirs and assigns therefrom wholly to remove.

In testimony whereof we have caused this our grant to be sealed with the seal of our said Colony.

Witness our trusty and well-beloved Sir Hercules George Robert Robinson Knight Grand Cross of our Most Distinguished Order of Saint Michael and Saint George Governor and Commander-in-Chief of our said Colony of New South Wales and its dependencies and Vice-Admiral of the same at Government House Sydney in New South Wales aforesaid this third day of August in the forty-first year of our reign and in the year of our Lord one thousand eight hundred and seventy-seven.

HERCULES ROBINSON.

C.A.T.
R.U.
R. DRIVER.

1894.
(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

LEGALLY QUALIFIED MEDICAL PRACTITIONERS.
(REGISTER OF, FOR 1894.)

Ordered by the Legislative Assembly to be printed, 6 November, 1894.

[Laid upon the Table of this House in answer to Question No. 14, of 1st November, 1894.]

Question.

- (14.) LEGALLY QUALIFIED MEDICAL PRACTITIONERS:—MR. MILLER (*for* MR. HAYNES) *asked* THE COLONIAL SECRETARY,—Will he lay upon the Table of this House a copy of the register of the Legally Qualified Medical Practitioners of New South Wales?
-

Answer.
NEW SOUTH WALES MEDICAL BOARD.

PRESIDENT :

Charles M'Kay, Esq., M.D.

MEMBERS :

Robert Dalzell Ward, Esq., M.R.C.S.E. Arthur Renwick, Esq., M.D., F.R.C.S., Edin. Frederick Milford, Esq., M.D. Cosby W. Morgan, Esq., M.D. W. H. Goode, Esq., M.D.	H. G. A. Wright, Esq., M.R.C.S.E. P. Sydney Jones, Esq., M.D., F.R.C.S., Eng. Maurice John O'Connor, Esq., L.R.C.S., Irel; M.K.Q.C.P., Irel. Walter Brown, Esq., M.D., M.R.C.S. Eng. Frederick Harrison Quaife, Esq., M.D.
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SECRETARY :

Andrew Houison, M.B., Mast. Surg., 144, Phillip-street, Sydney.

Meet at the Board Room, 142, Phillip-street, on the second Wednesday in each month, at 4 o'clock p.m.

REGISTER OF MEDICAL PRACTITIONERS FOR 1894.

LIST of Medical Practitioners who are registered under the provisions of the Acts of Parliament of New South Wales, 2nd Vic. No. 22, 9th Vic. No. 12, 19th Vic. No. 17, and the 31st Vic. cap. XXIX, of the Imperial Act.

N.B.—The Medical Board have revised the Register to the best of their ability, but are aware that it may contain inaccuracies. They therefore invite Members of the Profession and public officers, especially in country districts, to forward to the Secretary particulars in their possession regarding the death of any of the gentlemen whose names are recorded in this Register. Practitioners whose addresses are not given, or are given inaccurately, are requested to forward their correct addresses, in order that the Register may be rendered as accurate as possible.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1666	April 8, 1891	Abbott, George Henry ...	Croydon	M.B. Univ. Sydney 1891; Ch. M. Univ. Sydney 1891.
1502	Dec. 12, 1888	Abramowski, Otto Louis Moritz.	Mildura	State Examination Certificate Berlin 1876.
749	Nov. 7, 1874	Agassiz, Alfred	Sydney	Mem. R. Coll. Surg. Eng. 1863.
753	Jan. 4, 1875	Alcorn, Robert George ...	West Maitland...	Lic. R. Coll. Surg. Irel. 1873; Lic. R. Coll. Phys. Edin. 1874.
1069	May 9, 1883	Alcorn, Samuel Alfred ...	East Maitland ...	M.B. Univ. Dub. 1883; Ch. B. Univ. Dub. 1883.
1165	Aug. 13, 1884	Allan, Robert John	Dulwich Hill ...	Lic. R. Coll. Phys. Edin. 1881; Mem. R. Coll. Surg. Eng. 1881.
1180	Oct. 8, 1884	Anderson, Eugene Wilton	Victoria	M.B. Univ. Melb. 1881; Lic. R. Coll. Surg. Edin. 1883; Lic. R. Coll. Phys. Edin. 1883.
1152	June 16, 1884	Anderson, James Fisher ...	Cootamundra ...	Lic. R. Coll. Phys. Edin. 1874; Lic. R. Coll. Surg. Edin. 1874; Lic. Apoth. Hall, Dub. 1877.
1561	Oct. 9, 1889	Anderson, James Robert..	Granville	L.R.C.P. Lond. 1889; M.R.C.S. Eng. 1889.
1802	Jan. 11, 1893	Anderson, Thomas Primrose.	Kiama	M.B. et Mast. Surg. Univ. Glas. 1890.
737	April 13, 1874	Andrews, Arthur	Albury	Lic. Soc. Apoth. Lond. 1869; Mem. R. Coll. Surg. Eng. 1869.
845	April 1, 1878	Andrews, Samuel	Albury	Lic. R. Coll. Phys. Lond. 1874; Mem. R. Coll. Surg. Eng. 1874.
1736	Feb. 10, 1892	Armstrong, George	Sydney	M.B. et. Ch. B. Univ. Melb. 1891.
1448	Feb. 8, 1888	Armstrong, William George	Emmaville	M.B. Univ. Sydney 1888; Mast. Surg. Univ. Sydney 1888.
1547	July 12, 1889	Arthur, Richard	Sydney	M.B. Univ. Edin. 1888; C.M. Univ. Edin. 1888; M.D. Univ. Edin. 1891.
1041	Nov. 8, 1882	Asher, Morris	Lithgow	Lic. R. Coll. Surg. Irel. 1882; Lic. K. and Q. Coll. Phys. Irel. 1882.
1042	Dec. 13, 1882	Ashwell, Frederick	Glebe	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882.
1166	Aug. 13, 1884	Atkins, Thomas Dealtry ...	South Australia...	Lic. R. Coll. Phys. Edin. 1866; Mem. R. Coll. Surg. Eng. 1866.
1302	May 12, 1886	Atkins, Thomas Edward...	Wilcannia	Lic. Apoth. Hall, Dub. 1877.
829	Nov. 5, 1877	Atkinson, William Joseph	London	Lic. R. Coll. Phys. Edin. 1874; Lic. R. Coll. Surg. Edin. 1874.
1569	Dec. 11, 1889	Atock, Martin Henry	Royal Navy	M.D. Royal Univ. Irel. 1882; M.Ch. Royal Univ. Irel. 1882.
1729	Jan. 13, 1892	Atterbury, Walter	Hillgrove	M.D. Royal Univ. Irel. 1883; Mem. R. Coll. Surg. Eng. 1881; Lic. Soc. Apoth. Lond. 1880.
1481	July 11, 1888	Atwater, Edward Paul ...	Newtown	M.D. Univ. Pennsylvania, U.S.A. 1888.
1025	Aug. 9, 1882	Austin, Thomas Mein	Victoria	Lic. R. Coll. Surg. Edin. 1864; Lic. R. Coll. Phys. Edin. 1864.
1915	—, 1894	Aynes, Charles .....	.....	M.B. et Mast. Surg. Univ. Edin. 1894.
1614	July 9, 1890	Baber, John James Yarrow	Goulburn	Lic. Soc. Apoth. Lond. 1882; Mem. R. Coll. Surg. Eng. 1882.
1470	May 10, 1888	Bacot, William Rickward	Queensland	Mem. R. Coll. Surg. Eng. 1887.
1824	April 12, 1893	Badham, Robert Charles...	Mossman's Bay..	Lic. R. Coll. Phys. Lond. 1892; Mem. R. Coll. Surg. Eng. 1892.
1737	Feb. 10, 1892	Bagot, George Hindes Herbert.	.....	M.B. Trin. Coll. Dub. 1886; Lic. R. Coll. Surg. Irel. 1884.
1288	Mar. 10, 1886	Bagshaw, Thomas Washington.	England	Mem. R. Coll. Surg. Eng. 1881; M.D. Cantab. 1885.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1089	Sept. 12, 1883	Baker, George Wiston ...	Hill End	Lic. R. Coll. Surg. Edin. 1882; Lic. R. Coll. Phys. Edin. 1883; M.D. Trin. Coll. Univ. Toronto, 1881; C.M. Trin. Coll. Univ. Toronto, 1881.
1516	Feb. 13, 1889	Baker, William Henry ...	London	Mem. R. Coll. Surg. Eng. 1886; Lic. R. Coll. Phys. Lond. 1886.
841	Mar. 6, 1878	Bakewell, Robert Hall ...	New Zealand ...	M.D. St. And. 1856; Mem. R. Coll. Surg. Eng. 1854.
1206	Feb. 11, 1885	Baldwin, George Pearce...	Sydney	Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
1458	April 11, 1888	Bancroft, Peter	Queensland	M.B. Univ. Sydney 1888.
963	July 13, 1881	Barber, Alexander	Penrith	Lic. Apoth. Hall, Dub. 1871; Lic. R. Coll. Surg. Irel. 1870.
1419	Nov. 9, 1887	Barcroft, Alfred Ernest Jaffray.	Moss Vale.....	Lic. K. et Q. Coll. Phys. Irel. 1885; Lic. R. Coll. Surg. Irel. 1884.
758	July 5, 1875	Barkas, William James ...	Paddington	Lic. R. Coll. Phys. Lond. 1868; Mem. R. Coll. Surg. Eng. 1868.
1477	June 13, 1888	Barker, Herbert Llewellyn	Dubbo	M.B. et Mast. Surg. Univ. Edin. 1887.
1525	April 15, 1889	Barker, John .....	.....	M.B. Univ. Durham 1885; M.D. Univ. Durham 1887; Mem. R. Coll. Surg. Eng. 1886; Lic. Soc. Apoth. Lond. 1885.
1289	Mar. 10, 1886	Barker, Theodore Hugh ...	Wellington	M.B. Univ. Edin. 1883; Mast. Surg. Univ. Edin. 1883.
374	April 5, 1853	Barker, Thomas	Queenscliffe	M.D. Univ. Edin. 1829.
763	Nov. 1, 1875	Barnard, Charles Edward	Hobart	Mem. R. Coll. Surg. Eng. 1873; M.B. Univ. Aberd. 1874; M.D. Univ. Aberd. 1876.
58	April 7, 1839	Barnes, George Frederick	Victoria.....	Mem. R. Coll. Surg. Eng. 1836.
886	April 7, 1879	Barnes, Raglan Wykeham	India.....	Lic. K. et Q. Coll. Phys. Irel. 1875; Lic. Soc. Apoth. Lond. 1876; Lic. R. Coll. Surg. Edin. 1878.
1677	May 13, 1891	Barrett, Samuel Bertie Cator.	Sydney	Mem. R. Coll. Surg. Eng. 1844; Lic. Soc. Apoth. Lond. 1845.
1428	Dec. 14, 1887	Barrow, Arthur Haynes...	Queensland	Mem. R. Coll. Surg. Eng. 1875; Lic. Soc. Apoth. Lond. 1875.
945	Feb. 9, 1881	Bartlett, Felix Paul.....	Cowra	Lic. R. Coll. Phys. Lond. 1878; Mem. R. Coll. Surg. Eng. 1877.
1827	May 10, 1893	Bartlett, Frank Whinfield	.....	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
1583	Feb. 12, 1890	Bartley, Joseph Francis ...	Broken Hill	M.B. Univ. Melb. 1888; Ch. B. Univ. Melb. 1888.
341	July 1, 1851	Bassett, William Frederick	Bathurst	Mem. R. Coll. Surg. Eng. 1849; Lic. Soc. Apoth. Lond. 1850.
984	Dec. 14, 1881	Bassett, William Frederick Prichard.	Bathurst	M.B. Univ. Edin. 1880; C.M. Univ. Edin. 1880; Mem. R. Coll. Surg. Eng. 1881; M.D. Univ. Edin. 1890.
846	May 6, 1878	Bateman, Arthur Wigley	Albion Park	Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875.
478	Oct. 22, 1857	Baxter, R. Walsley	England	M.D. Univ. St. And. 1854; Mem. R. Coll. Surg. Eng. 1846; Lic. Soc. Apoth. Lond. 1847.
969	Aug. 10, 1881	Beamish, Richard	Royal Navy	M.B. Univ. Dub. 1866; C.M. Univ. Dub. 1866.
1643	Jan. 14, 1891	Bean, Harold Knowles ...	Wallsend	M.D. Univ. Edin. 1884; C.M. Univ. Edin. 1880; B. Sc. Public Health, Univ. Edin. 1881.
869	Dec. 2, 1878	Beattie, Jos. Aloysius	Liverpool	Lic. K. et Q. Coll. Phys. Irel. 1878; Lic. R. Coll. Surg. Irel. 1878.
944	Jan. 12, 1881	Beattie, Robert Ettingsall	Camden.....	Lic. K. et Q. Coll. Phys. Irel. 1880; Lic. R. Coll. Surg. Irel. 1879.
624	April 2, 1867	Bedford, William James Guthrie.	Tasmania	Mem. R. Coll. Surg. Eng. 1866.
1905	—, 1894	Beegling, Daniel Henry...	.....	M.B. et Mast. Surg. Univ. Edin. 1893.
1036	Nov. 16, 1882	Beeston, Joseph Lievesley	Newcastle	Lic. K. et Q. Coll. Phys. Irel. 1882; Lic. R. Coll. Surg. Irel. 1882.
1552	Sept. 11, 1889	Beith, Robert	Mudgee.....	M.B. Univ. Glasg. 1882; C.M. Univ. Glasg. 1882.
750	Dec. 7 874	Belgrave, Thos. B.	Broken Hill	Mem. R. Coll. Surg. Eng. 1858; Lic. Soc. Apoth. Lond. 1858; M.D. Univ. Edin. 1864.
1660	Mar. 11, 1891	Bell, George Lawaluk.....	Camden.....	Mem. R. Coll. Surg. Eng. 1889; Lic. R. Coll. Phys. Lond. 1890; M.B. et Ch. B. Univ. Melb. 1887.
813	July 2, 1877	Bell, Henry Rufus	Murrurundi	M.B. et C.M. Univ. Aberd. 1876.
371	April 5, 1853	Bell, Hugh	Queensland	Mem. R. Coll. Surg. Eng. 1842.
780	Mar. 6, 1876	Bellamy, Charles Penrose	.....	Lic. R. Coll. Phys. Edin. 1874; Mem. R. Coll. Surg. Eng. 1874.
1488	Sept. 12, 1888	Belson, George de Veuille	Tumbarumba ...	Lic. R. Coll. Phys. Lond. 1887; Mem. R. Coll. Surg. Eng. 1887.
1473	June 13, 1888	Bennet, Francis Alexander	Sydney	M.B. et Mast. Surg. Univ. Aberd. 1884; M.D. Univ. Aberd. 1888.
1325	Sept. 8, 1886	Bennett, Frank Albert ...	Morpeth	Mem. R. Coll. Surg. Eng. 1885; Lic. R. Coll. Phys. Lond. 1885; Lic. Soc. Apoth. Lond. 1883.
703	Jan. 8, 1872	Bennett, Reginald Henry Kemp.	Gulgong	Lic. R. Coll. Surg. Irel. 1862; Lic. Med. R. Coll. Surg. Irel. 1863.
1471	May 10, 1888	Bennett, Thomas Charles	Broken Hill	M.B. et Mast. Surg. Univ. Aberd. 1886.
875	Dec. 2, 1878	Bernstein, Ludwik	Lismore.....	M.D. Univ. Heidelberg, 1864.
1787	Sept. 10, 1892	Bertram, Thomas Dun ...	.....	M.B. et Mast. Surg. Univ. Glasg. 1889.
1230	May 13, 1885	Bickle, Leonard Watkins	South Australia..	Lic. R. Coll. Phys. Lond. 1881; Mem. R. Coll. Surg. Eng. 1881.
1816	April 12, 1893	Binney, Edward Harold...	Sydney	M.B. Univ. Sydney 1893; (additional registration) M. Ch. Univ. Sydney 1893.
1772	June 8, 1892	Birch, Charles Ormonde...	Riverstone	Lic. R. Coll. Phys. Lond. 1887; Lic. Soc. Apoth. Lond. 1886.
1593	Mar. 12, 1890	Birchall, Thomas Barrow..	Victoria.....	M.B. Univ. Glasg. 1879; Mast. Surg. Univ. Glasg. 1879.
1510	Jan. 14, 1889	Blackall, Patrick	Queanbeyan	M.D. R. Univ. Irel. 1884; M.A.O. R. Univ. Irel. 1885; M. Ch. R. Univ. Irel. 1884.
724	July 7, 1873	Blackwell, Richard Fortune.	West Maitland...	M.D. Univ. Edin. 1862.
1291	Mar. 10, 1886	Blackwood, Frederick Martindale.	Cooma	M.B. Univ. Durham, 1884; Lic. Soc. Apoth. Lond. 1884; Mem. R. Coll. Surg. Eng. 1884.

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No.	Date.			
1337	Nov. 10, 1886	Blaxland, Ernest Gregory	Burwood	Mem. R. Coll. Surg. Eng. 1886; Lic. R. Coll. Phys. Lond. 1886.
830	Oct. 7, 1878	Blaxland, Herbert	Callen Park	M.R.C.S. Eng. 1877; L.R.C.P. Lond. 1878.
1412	Sept. 14, 1887	Blaxland, Walter.....	Broken Hill	Mem. 1883, Fell. 1886, R. Coll. Surg. Eng; Lic. R. Coll. Phys. Lond. 1884.
1711	Nov. 11, 1891	Bloch, Oscar	Albury	State Exam. Certif. Berlin. 1891.
1566	Dec. 11, 1889	Blumenreich, Theodore Meyor.	Warren.....	M.B. Univ. Edin. 1887; Mast. Surg. Univ. Edin. 1887.
1187	Nov. 12, 1884	Blyth, John Graham	Melbourne	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Irel. 1880.
1204	Feb. 11, 1885	Boake, William	Victoria	Lic. Apoth. Hall, Dub. 1884; Lic. R. Coll. Surg. Irel. 1883; Lic. 1888, Lic. Mid. 1888, K. et Q. Coll. Phys. Irel.
1810	April 12, 1893	Boelke, Paul W. R.	Prince Alfred Hospital.	M.B. et Ch. M. Univ. Sydney 1893.
1850	Nov. 8, 1893	Bohrsmann, Otto	Sydney	M.B. et Mast. Surg. Univ. Aberd. 1893.
1682	—, 1894	Böhrsmann, Rudolph Henry.	.....	M.R. Univ. Sydney 1894.
740	July 6, 1874	Bond, Joseph Francis	Penrith	Lic. Soc. Apoth. Dub. 1858.
1349	Dec. 8, 1886	Bonnefin, Fernand Henry	.....	Lic. R. Coll. Phys. Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
879	Feb. 7, 1879	Boodle, George Adolphus	Walcha.....	Lic. Soc. Apoth. Lond. 1876; Mem. R. Coll. Surg. Eng. 1876.
262	July 8, 1844	Boot, Edward	Moruya	Mem. R. Coll. Surg. Eng. 1837.
1837	July 12, 1893	Booth, Edward Johnson Hardy.	.....	Lic. Soc. Apoth. Lond. 1868; Mem. R. Coll. Surg. Eng. 1868.
1301	May 12, 1886	Bott, Joseph.....	Balmain	Lic. Soc. Apoth. Lond. 1881; Mem. R. Coll. Surg. Eng. 1882.
1429	Dec. 14, 1887	Bouchet, Louis Henry ...	.....	M.B. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1885.
1674	May 13, 1891	Bowker, Charles Stanser...	Murrumburrah...	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
223	Aug. 22, 1842	Bowker, Richard R. S. ...	Sydney	Mem. R. Coll. Surg. Eng. 1838; Lic. Soc. Apoth. Lond. 1838; M.D. Univ. St. And. 1839; Lic. R. Coll. Phys. Lond. 1854; Fell. R. Coll. Surg. Eng. 1854; Mem. R. Coll. Phys. Lond. 1882.
1124	Feb. 13, 1884	Bowker, Robert Steer	Sydney	Lic. R. Coll. Phys. Edin. 1883; Mem. R. Coll. Surg. Eng. 1883.
1009	May 11, 1882	Bowkett, William David...	Queensland	Lic. Soc. Apoth. Lond. 1872; Mem. R. Coll. Surg. Eng. 1873.
1004	Dec. 12, 1883	Bowman, Alistair Stuart ...	Singleton	M.B. Univ. Edin. 1882; Mast. Surg. Univ. Edin. 1882.
1290	Mar. 10, 1886	Bowman, Reginald	Parramatta	M.B. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1885; Mem. R. Coll. Surg. Eng. 1885.
1170	Aug. 13, 1884	Boyd, James Dunlop	Sandhurst	M.B. et Ch. M. Univ. Glas. 1880; Lic. Fac. Phys. and Surg. Glas. 1880; Lic. R. Coll. Phys. Edin. 1884; Lic. Soc. Apoth. Lond. 1884.
1148	June 16, 1884	Boyd, Nathan Ellington...	Sydney	M.D. Cooper Med. Coll. Cal. U.S.A. 1883.
1417	Nov. 9, 1887	Boyd, Robert John	Glebe.....	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
1907	—, 1894	Bracewell, Walter Hansford.	.....	M.B. Univ. Melb 1889; B.S. Univ. Melb. 1890; Mem. R. Coll. Surg. Eng. 1892.
1374	Mar. 9, 1887	Bradford, Robert Dickie...	.....	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Edin. 1882.
733	Jan. 23, 1874	Brady, Andrew John	Sydney	Lic. K. et Q. Coll. Phys. Irel. 1873; Lic. Mid. K. et Q. Coll. Phys. Irel. 1873; Lic. R. Coll. Surg. Irel. 1872.
836	Feb. 8, 1878	Brady, Owen Cornelius ...	Penrith.....	L.S.A. Lond. 1874.
1315	July 14, 1886	Brannigan, Henry Cooke...	Rockhampton ...	M.D. R. Univ. Irel. 1883; Lic. R. Coll. Phys. Edin. 1877; M. Ch. R. Univ. Irel. 1883; Lic. R. Coll. Surg. Edin. 1877.
1210	Feb. 11, 1885	Branson, George Attenborough.	Victoria.....	Mem. R. Coll. Surg. Eng. 1881; Lic. R. Coll. Phys. Edin. 1881.
1414	Oct. 12, 1887	Bray, Percy Dean	Victoria	Mem. R. Coll. Surg. Eng. 1885; Lic. Soc. Apoth. Lond. 1884.
1159	July 9, 1884	Breneman, Park Potts ...	Sydney	M.D. Univ. Penna. U.S.A. 1884.
768	Jan. 3, 1876	Brennan, John M'Donald	Milton	Lic. Fac. Phys. et Surg. Glas. 1863.
804	Mar. 5, 1877	Biereton, John Parker ...	Nowra	L.S.A. Dub. 1875; L.R.C.S. Edin. 1875; L.R.C.P. Edin. 1875.
899	June 2, 1879	Breton, Henry	Wentworth	M.D. Univ. Edin. 1853.
1243	Aug. 12, 1855	Brinton, Roland Danvers..	London	M.B. Cantab. 1884; Mem. R. Coll. Surg. Eng. 1882.
1719	Dec. 9, 1891	Brookes, Edward.....	South Australia...	M.B. Univ. Melb. 1891.
1856	Dec. 13, 1893	Broom Robert	Cudal	M.B. et Mast. Surg. Univ. Glasg. 1889.
1714	Dec. 9, 1891	Brown, John Daniel .....	.....	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1888.
494	Nov. 9, 1858	Brown, Walter.....	Parramatta	M.D. Univ. Edin. 1846; Mem. R. Coll. Surg. Eng. 1843; Lic. Soc. Apoth. Lond. 1841.
1503	Dec. 12, 1888	Brown, Walter Sigismund	Parramatta	Mem. R. Coll. Surg. Eng. 1888; Lic. Soc. Apoth. Lond. 1888.
1864	—, 1894	Browne, Arthur Edward Newbury.	.....	Lic. R. Coll. Phys. Edin. 1834; Lic. R. Coll. Surg. Edin. 1834.
1223	May 13, 1885	Browne, David Graham ...	Tasmania	M.D. Queen's Univ. Irel. 1871; Ch. M. Queen's Univ. Irel. 1871.
1478	June 13, 1888	Browne, Harold	Molong	Mem. R. Coll. Surg. Eng. 1885; Lic. R. Coll. Phys. Lond. 1885.
771	Jan. 3, 1876	Browne, Valentine Edwd.	Victoria	Lic. R. Coll. Surg. Irel. 1872; Lic. Mid. Univ. Dub. 1872; M.B. Univ. Dub. 1873.
1020	July 12, 1882	Brownless, Anthony Colling	Sydney	M.B. Univ. Melb. 1881; Ch. B. Univ. Melb. 1881.

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1405	Aug. 10, 1887	Brownrigg, Herbert Watson.	Queensland	Lic. R. Coll. Surg. Irel. 1879; Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1881.
1644	Jan. 14, 1891	Bucknell, Leslie Frank ...	Kogarah	Lic. R. Coll. Phys. Edin. 1890; Lic. R. Coll. Surg. Edin. 1890; Lic. Fac. Phys. et Surg. Glas. 1890.
877	Jan. 6, 1879	Bullen, Francis Dionysius	Grenfell	Lic. R. Coll. Phys. Edin. 1861; Lic. R. Coll. Surg. Edin. 1861.
756	April 5, 1875	Burgoyne, John Thomas...	Sydney	Lic. R. Coll. Surg. Irel. 1871; Lic. Mid. R. Coll. Surg. Irel. 1871.
499	Oct. 4, 1859	Burke, Stephen John	Victoria	Mem. R. Coll. Surg. Eng. 1856.
1783	Aug. 10, 1892	Button, Horace Gooch	Junee	Mem. R. Coll. Surg. Eng. 1870; Lic. Soc. Apoth. Lond. 1870.
1625	Sept. 10, 1890	Burkitt, William Arthur Hancock.	Goulburn	M.B., Ch. B., B.A.O. Univ. Dub. 1889.
1745	Mar. 9, 1892	Burton, Charles Frederick	.....	Lic. Soc. Apoth. Lond. 1880.
1162	July 9, 1884	Burton, William Henry...	Victoria.....	Lic. R. Coll. Phys. Lond. 1879; Mem. R. Coll. Surg. Eng. 1881; M.D. Toronto, Canada, 1881.
1609	June 11, 1890	Bury, Herbert Taylor	Sydney	Lic. R. Coll. Phys. Lond. 1885; Mem. R. Coll. Surg. Eng. 1884.
1653	Feb. 12, 1891	Butler, Matthias	Adaminaby	Lic. R. Coll. Surg. Irel. 1875.
1406	Aug. 10, 1887	Butler, Michael Lyons ...	Waterloo	Lic. R. Coll. Phys. Edin. 1886.
1039	Nov. 16, 1882	Byrne, William Samuel Octavius.	Queensland	M.B. Univ. Dub. 1877; Ch. B. Univ. Dub. 1877.
934	Sept. 8, 1880	Caffyn, Stephen Man- ington.	Melbourne	Mem. R. Coll. Surg. Eng. 1876; Lic. R. Coll. Phys. Edin. 1880.
1579	Feb. 12, 1890	Calder, Frank	Forbes	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1888; M.B. Univ. Lond. 1889.
1796	Nov. 8, 1892	Caldwell, James Addington	.....	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Edin. 1882.
764	Nov. 1, 1875	Callaghan, Joseph	Windsor	Lic. Fac. Phys. et Surg. Glas. 1867; Lic. Mid. F.P.S. Glas.; Lic. R. Coll. Phys. Edin. 1867; Lic. Mid. R.C.P. Edin.
1560	Oct. 9, 1889	Camac, Samuel Jones	Ultimo	Lic. R. Coll. Surg. Edin. 1884; Lic. R. Coll. Phys. Edin. 1884.
1228	May 13, 1885	Cameron, Malcolm L.....	Manning River...	M.B. Trin. Coll. Univ. Canada, 1881; Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
177	May 3, 1841	Campbell, Allen	Yass	Lic. Fac. Phys. Surg. Glas. 1835.
848	July 1, 1878	Campbell, Archibald .....	.....	L.R.C.P. Edin. 1868; L.R.C.S. 1868.
934	Sept. 8, 1880	Campbell, John Melvin ...	Dubbo	Lic. Soc. Apoth. Lond. 1878.
1345	Dec. 8, 1886	Campbell, Loftus.....	Barraba.....	Lic. R. Coll. Phys. Edin. 1885; Lic. R. Coll. Surg. Irel. 1883.
1191	Jan. 11, 1885	Canny, Denis Joseph	Bombala	Mem. R. Coll. Surg. Eng. 1864; Lic. R. Coll. Phys. Edin. 1864.
1085	Sept. 12, 1883	Carr, Michael	Victoria.....	Lic. K. et Q. Coll. Phys. Irel. 1883; Lic. R. Coll. Surg. Irel. 1883.
1051	Feb. 14, 1883	Carroll, William Joseph...	Victoria.....	Lic. R. Coll. Surg. Irel. 1876.
917	Mar. 16, 1880	Caruthers, Charles Uliek...	Balmain	Lic. K. et Q. Coll. Phys. Irel. 1876; Lic. R. Coll. Surg. Irel. 1876.
1017	July 12, 1882	Casement, Brabazon New- comen.	West Kempsey...	M.B. Univ. Dub. 1877; Lic. Apoth. Hall, Dub. 1878; Mem. R. Coll. Surg. Eng. 1878.
831	Nov. 5, 1877	Casey, Philip Forth.....	Hay	L.R.C.S. Irel. 1872; L.K. et Q.C.P. Irel. 1869.
1748	Sept. 14, 1892	Casperson, Edward .....	.....	M.D. Medico-Chirurgical Coll. Philadelphia U.S.A. 1892.
1756	April 13, 1892	Challands, Frederick	Sydney	M.B. Univ. Sydney 1892.
1018	July 12, 1882	Chambers, Thomas	Sydney	Lic. 1860, Mem. 1871, Fell. 1875, R. Coll. Phys. Edin.; Mem. R. Coll. Surg. Eng. 1858; Fell. R. Coll. Surg. Edin. 1867.
1558	Oct. 9, 1889	Champ, John Howard.....	Tasmania	M.D. Lond. 1884; L.S.A. Lond. 1882; M.R.C.S. Eng. 1883.
1822	April 12, 1893	Chenhell, William Thomas	Marrickville	M.B. et Ch. B. Univ. Melb. 1892.
1573	Dec. 11, 1889	Cheyne, Robert	England	Lic. R. Coll. Phys. Edin. 1863; Lic. Soc. Apoth. Lond. 1881.
588	April 4, 1865	Chisholm, Edwin.....	Ashfield.....	Mem. R. Coll. Surg. Eng. 1860; Lic. Soc. Apoth. Lond. 1862; M.D. St. Andrew's 1887.
1207	Feb. 11, 1885	Chisholm, William	Sydney	M.D. Univ. Lond. 1883; Mem. R. Coll. Surg. Eng. 1880.
1024	Aug. 9, 1882	Clark, Charles Alfred Dagnall.	St. Leonard's ...	Lic. R. Coll. Phys. Lond. 1878; Mem. R. Coll. Surg. Eng. 1886; M.B. Univ. Lond. 1881.
1570	Dec. 11, 1889	Clarke, William	Hamilton	Lic. Soc. Apoth. Lond. 1886; Mem. R. Coll. Surg. Eng. 1888.
884	Mar. 7, 1879	Clarke, William Hughes...	New Zealand ...	Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1864.
1332	Oct. 13, 1886	Clay, William Rudolph ...	Rockdale	Lic. R. Coll. Phys. Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
785	May 1, 1876	Clifford, John	Cooma	Lic. R. Coll. Surg. Irel. 1872; Lic. K. et Q. Coll. Phys. Irel.; Lic. Mid. K. et Q. Coll. Phys. 1875.
1742	Mar. 9, 1892	Clinton, Samuel Aubrey ...	Newtown	M.D. New York Med. Coll. U.S.A. 1854; Lic. R. Coll. Phys. Lond. 1875; Lic. Soc. Apoth. Lond. 1875; Fell. R. Coll. Surg. Eng. 1880; Mem. R. Coll. Surg. Eng. 1875.
1049	Feb. 14, 1883	Clowes, Herbert Alfred ...	Bathurst	M.B. Univ. Durham 1881; Lic. R. Coll. Phys. Lond. 1882; Mast. Surg. Univ. Durham 1881; Mem. R. Coll. Surg. Eng. 1880.
1073	June 13, 1883	Clubbe, Charles Percy Barlee.	Randwick.....	Lic. R. Coll. Phys. Lond. 1877; Mem. R. Coll. Surg. Eng. 1876.
717	Jan. 6, 1873	Clune, Michael Joseph ...	Sydney	Lic. K. et Q. Coll. Phys. Irel. 1872; Lic. R. Coll. Surg. Irel. 1872; Lic. Mid. K. et Q. Coll. Phys. Irel. 1872; Lic. Mid. Coomb. Hosp. Dub. 1871; Mem. 1881, Fell. K. et Q. Coll. Phys. Irel. 1883; M.D. Univ. Bruxelles 1883.

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No.	Date.			
1072	June 13, 1883	Clune, Thomas Benedict...	Petersham.....	Lic. R. Coll. Surg. Irel. 1882; Lic. R. Coll. Phys. Edin. 1882.
659	Jan. 5, 1869	Cobbett, R. Newberry.....	England	Mem. R. Coll. Surg. Eng. 1855; Lic. Soc. Apoth. Lond. 1857; Lic. Mid. R. Coll. Surg. Eng. 1857.
1366	Feb. 9, 1886	Cockle, Austin John .....	.....	M.B. Trin. Coll. Dub. 1881; Ch. B. Trin. Coll. Dub. 1882.
1511	Jan. 14, 1889	Cocks, Cambridge Cary ...	Hillston	M.R.C.S. Eng. 1861; M.D. St. Andrew's 1862; L.S.A. Lond. 1862.
653	Jan. 5, 1869	Codrington, John Frederic	Orange	Mem. R. Coll. Surg. Eng. 1867; Lic. R. Coll. Phys. Lond. 1867; Lic. R. Coll. Phys. Edin. 1867; Lic. Soc. Apoth. Lond. 1857.
1814	April 12, 1893	Coghlan, Iza Frances Josephine.	Sydney	M.B. et Ch. M. Univ. Sydney 1893.
1099	Dec. 12, 1883	Cohen, Algernon Aaron ...	Sydney	M.B. Univ. Aberd. 1880; M.D. Univ. Aberd. 1883; Mem. R. Coll. Surg. Eng. 1880.
1169	Aug. 13, 1884	Collingwood, David	Summer Hill.....	M.D. Univ. Lond. 1883; Ch. B. Univ. Lond. 1883; Fell R. Coll. Surg. Eng. 1884.
1548	Aug. 14, 1889	Collins, Michael Joseph ...	Queensland	Lic. R. Coll. Surg. Edin. 1882.
1114	Jan. 9, 1884	Collins, Patrick John	Woollahra.....	Lic. K. et Q. Coll. Phys. Irel. 1878; Lic. R. Coll. Surg. Irel. 1877.
1226	May 13, 1885	Colpe, Johannes Christopher Ludovic.	Nymagee	M.D. Univ. Leipzig 1884; State Exam. Certificate 1882.
1304	May 12, 1886	Connor, Francis Gillies ...	Coraki	M.B. et Mast. Surg. Univ. Edin. 1883.
1903	—, 1894	Cooley, Alfred Glover.....	.....	Lic. R. Coll. Phys. Lond. 1894; Lic. R. Coll. Phys. Edin. 1893; Mem. R. Coll. Surg. Eng. 1894; Lic. R. Coll. Surg. Edin. 1893.
1693	Aug. 12, 1891	Cooper, Austin Nathaniel..	Tamworth.....	Lic. K. et Q. Coll. Phys. Irel. 1882; Lic. Mid. K. et Q. Coll. Phys. Irel. 1882; Lic. R. Coll. Surg. Irel. 1882; Fell. R. Coll. Surg. Irel. 1885.
1252	Aug. 12, 1885	Cooper, Ernest Frederic...	Sydney	Mem. R. Coll. Surg. Eng. 1875; Lic. R. Coll. Phys. Lond. 1875.
1828	May 10, 1893	Cooper, Henry Westwood .....	.....	M.D. Univ. Baltimore, U.S.A., 1893.
1749	April 13, 1892	Corlette, Cyril Ernest.....	Sydney	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1897	—, 1894	Corlis, Philip Edwy .....	.....	M.D. Univ. Wooster, Cleveland, Ohio, U.S.A., 1892.
1689	July 8, 1891	Corliss, Josiah	Fernmount	M.D. M'Gill Coll. Montreal 1869; Mast. Surg. M'Gill Coll. Montreal 1869.
1766	May 11, 1892	Corliss, Margaret Amelia...	Sydney	M.D. Queen's Univ. Canada 1885; Mast. Surg. Queen's Univ. Canada 1885; Mem. Coll. Phys. et Surg. Ont. Canada 1885.
696	July 3, 1871	Cortis, William R.	Cowra	Lic. R. Coll. Phys. Lond. 1868; Lic. Soc. Apoth. Lond. 1868; Mem. R. Coll. Surg. Eng. 1868.
1026	Sept. 13, 1882	Cortis, William Smithson	Leichhardt	M.D. Univ. Aberd. 1857; Lic. Soc. Apoth. Lond. 1841; Lic. R. Coll. Surg. Edin. 1841.
885	Aug. 5, 1878	Cory, Fred. William	England	L.S.A. Lond. 1874; M.R.C.S. 1875.
1546	July 12, 1889	Cory, Guy Chamberlyn ...	Victoria.....	Lic. Soc. Apoth. Lond. 1886; Mem. R. Coll. Surg. Eng. 1888.
270	Jan. 25, 1845	Cotter, Barry	Balranald	Lic. Fac. Phys. et Surg. Glas. 1841.
1324	Sept. 8, 1886	Cotterell, William	Launceston	Lic. R. Coll. Phys. Edin. 1871; Lic. Soc. Apoth. Lond. 1870; Mem. R. Coll. Phys. Edin. 1882.
1064	May 9, 1883	Coutie, William Henry ...	Petersham.....	M.B. Univ. Melb. 1881; Ch. B. Univ. Melb. 1881.
1611	June 18, 1890	Cox, Allaster Edward.....	Parkes	M.B. Univ. Edin. 1888; Mast. Surg. Univ. Edin. 1888.
496	Feb. 1, 1859	Cox, James Charles.....	Sydney	Lic. R. Coll. Surg. Edin. 1856; M.D. Univ. Edin. 1857; Fell. R. Coll. Surg. Eng. 1858; Lic. Mid. R. Coll. Surg. Edin. 1856.
1032	Nov. 16, 1882	Cox, James Wharton	Sydney	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882.
1269	Dec. 9, 1885	Coxwell, Charles Fillingham.	Victoria.....	M.B. Cantab. 1881; Mem. R. Coll. Surg. Eng. 1881; Mem. R. Coll. Phys. Lond. 1883.
816	Aug. 6, 1877	Crabbe, James Brown.....	North Willoughby	M.B. et C.M. Univ. Edin. 1874.
1082	Aug. 9, 1883	Crago, William Henry ...	Sydney	Lic. R. Coll. Phys. Lond. 1883; Mem. R. Coll. Surg. Eng. 1883.
1876	—, 1894	Craig, Robert Gordon.....	.....	M.B. Univ. Sydney 1894; (additional Registration) M. Ch. Univ. Sydney 1894.
1255	Oct. 14, 1885	Crampton, John Samuel...	Tasmania	Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875.
996	Mar. 8, 1882	Crawford, James Robert...	Temora	Lic. Fac. Phys. et Surg. Glas. 1855.
618	April 2, 1868	Creed, John Mildred	Woollahra.....	Mem. R. Coll. Surg. Eng. 1866; Lic. R. Coll. Phys. Edin. 1866; Lic. Mid. R. Coll. Surg. Eng. 1866.
1612	July 9, 1890	Cribb, Arthur William Gordon.	Newcastle	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1890.
1661	April 8, 1891	Crommelin, Charles Ebdon	Casino	M.D. Cincinnati Coll. Med. et Surg. Ohio, U.S.A. 1891.
1851	Nov. 8, 1893	Cromwell, Arthur John ...	.....	Lic. R. Coll. Phys. Edin. 1893; Lic. R. Coll. Surg. Edin. 1893; Lic. Fac. Phys. et Surg. Glas. 1893.
1897	—, 1894	Crooke, Robert Warren ...	.....	Lic. R. Coll. Phys. Edin. 1893; Lic. R. Coll. Surg. Edin. 1893; Lic. Fac. Phys. et Surg. Glas. 1893.
1888	—, 1894	Crooke, William .....	.....	Mem. R. Coll. Surg. Eng. 1838.
1723	Jan. 13, 1892	Cross, Edward John	England	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1888.
777	Feb. 14, 1876	Crossen, Henry	Melbourne	Lic. Fac. Phys. et Surg. Glas. 1851.
1910	—, 1894	Cruise, John Edward William.	.....	M.B. Royal Univ. Irel. 1890; B.Ch. Royal Univ. Irel. 1890; B.A.O. Royal Univ. Irel. 1890.
1821	April 12, 1893	Cumming, William.....	.....	M.B. Univ. Edin. 1883; M.D. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1883.
1227	May 13, 1885	Cummings, Harold Lytton	Leichhardt	Lic. R. Coll. Phys. Lond. 1884; Mem. R. Coll. Surg. Eng. 1884.
975	Oct. 12, 1881	Cuppaidge, John Loftus...	Queensland	M.D. Univ. Dub. 1880; Ch. B. Univ. Dub. 1880.
1127	Mar. 12, 1884	Curtayne, Herbert Maxwell	Cundletown	Mem. R. Coll. Surg. Eng. 1881.
1338	Nov. 10, 1886	Cuscaden, George.....	Victoria.....	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
983	Dec. 14, 1881	Cutfield, Arthur	Brisbane	Lic. Soc. Apoth. Lond. 1880; Mem. R. Coll. Surg. Eng. 1880.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1118	Feb. 13, 1884	Cutts, William Henry.....	Victoria.....	M.B. Univ. Melb. 1883.
1716	Dec. 9, 1891	Dale, John Thomas.....	Balmain	Lic. R. Coll. Phys. Edin. 1873; Lic. R. Coll. Surg. Edin. 1873.
806	May 7, 1877	Dalton, Frederick George	Pictou	Mem. R. Coll. Surg. Eng. 1856; Lic. Soc. Apoth. Lond. 1860.
1171	Aug. 13, 1884	Dalton, Henry Moyer Cyril.	Gunnedah.....	M.B. et C.M. Univ. Glas. 1884.
1550	Aug. 14, 1889	Daly, Charles Andrew ...	Victoria	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1883; Lic. R. Coll. Surg. Irel. 1883.
451	July 1, 1856	Daniel, John.....	Cooma	Lic. Soc. Apoth. Dub. 1856.
614	Jan. 9, 1867	Dansey, George Frederick	Sydney	Mem. R. Coll. Surg. Eng. 1852.
575	Jan. 5, 1864	Davidson, L. Gordon	Goulburn	M.D. Univ. Aberd. 1861; Mast. Surg. Univ. Aberd. 1861.
1449	Feb. 8, 1888	Davidson, Leslie Gordon...	Walgett	M.B. Univ. Sydney 1858; M. Ch. Univ. Sydney 1888.
1639	Dec. 10, 1890	Davies, Leslie	Melbourne	M.B. Univ. Melb. 1890.
1616	Aug. 13, 1890	Davies, Samuel Hickman...	S. S. Islands	Lic. R. Coll. Phys. Edin. 1890; Lic. Fac. Phys. et Surg. Glasg. 1890; Lic. R. Coll. Surg. Edin. 1890.
1875	—, 1894	Davies, Thomas	Sydney	Lic. R. Coll. Phys. Edin. 1855; Lic. R. Coll. Surg. Edin. 1885; Lic. Fac. Phys. et Surg. Glasg. 1885.
1734	Feb. 10, 1892	Davis, Gateward Coleridge	Sydney	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1889.
1715	Dec. 9, 1891	Davy, Francis Arthur.....	Balmain	M.D. Royal Univ. Irel. 1867.
1706	Oct. 14, 1891	Dawson, Cecil Lacy.....	Pambula	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
1334	Nov. 10, 1886	d'Englesqueville, Maurice Louis Antoine Cotton.	Hunter's Hill ...	M.D. Univ. Paris, 1885.
655	April 6, 1859	De Leon, Jacob	Queensland	Mem. R. Coll. Surg. Eng. 1863.
815	July 2, 1877	Deck, John Field.....	Ashfield.....	M.D. Univ. St. And. 1862; Lic. R. Coll. Phys. Lond. 1862; Mem. R. Coll. Surg. Eng. 1862.
850	July 1, 1878	Denis, Arthur	Mulwala	M.D. Univ. Strasbourg 1868.
1629	Oct. 8, 1890	Devenish-Mearns, Archibald Lewis.	New Zealand ...	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1889.
1658	Mar. 11, 1891	Devlin, Henry William ...	Parkes	Lic. et Lic. Mid. R. Coll. Phys. Irel. 1890; Lic. et Lic. Mid. R. Coll. Surg. Irel. 1890.
995	Mar. 8, 1882	Dewar, Alexander	Sydney	M.D. Univ. Edin. 1862; Lic. R. Coll. Surg. Edin. 1862.
1724	Jan. 13, 1892	Dick, Frances	England	Lic. Soc. Apoth. Lond. 1890; M.B., Bac. Surg. 1891, R. Univ. Irel.
1778	Aug. 10, 1892	Dick, James Adam	Windsor	M.B. et Mast. Surg. Univ. Edin. 1890; M.D. Univ. Edin. 1892.
1755	April 13, 1892	Dick, Robert.....	Sydney	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1617	Aug. 13, 1890	Dixon, Charles.....	.....	Mem. R. Coll. Surg. Eng. 1852.
873	Dec. 13, 1878	Dixson, Craig	Sydney	M.B. Univ. Edin. 1877; Mast. Surg. Univ. Edin. 1877; M.R.C.S. Eng. 1877; M.D. Univ. Sydney 1882; Fell. R. Coll. Surg. Edin. 1882.
893	May 5, 1879	Dixson, Thomas	Sydney	M.B. Univ. Edin. 1877; Mast. Surg. Univ. Edin. 1877.
1316	July 14, 1886	Dobie, Henry Edwin Newman.	Tintalra	M.B. and Mast. Surg. Univ. Glasg. 1884; Lic. R. Coll. Surg. Edin. 1884.
770	Jan. 3, 1876	Donovan, James L.....	Cooma	Lic. K. et Q. Coll. Phys. Irel. 1871; Lic. R. Coll. Surg. Irel. 1871; Lic. Mid. K. et Q. Coll. Phys. Irel. 1871.
1870	—, 1894	Doolan, Denis .....	.....	Lic. R. Coll. Phys. et Surg. Edin. 1890.
754	Feb. 1, 1875	Doudney, Edwin	England	Mem. R. Coll. Surg. Edin. 1870.
1513	Feb. 13, 1889	Douglas, Alfred William..	Cootamundra ...	Lic. R. Coll. Surg. Edin. 1888; Lic. R. Coll. Phys. Edin. 1888; Lic. Fac. Phys. et Surg. Glasg. 1888.
227	Jan. 16, 1843	Douglas, James	Glebe, Sydney ...	Lic. R. Coll. Surg. Edin. 1832.
1201	Feb. 11, 1885	Dowd, Charles.....	Victoria.....	Mem. R. Coll. Surg. Eng. 1860.
1588	Mar. 12, 1890	Dowdell, Charles Seymour	Sydney	Lic. R. Coll. Phys. Lond. 1883; Mem. R. Coll. Surg. Eng. 1888.
818	Aug. 6, 1877	Dowe, Samuel Aloys	Broken Hill	M.D. Univ. Pennsylvania U.S.A. 1867.
876	Dec. 2, 1878	Downie, Kenneth M.	Bengal	M.B. Univ. Edin. 1866; Mast. Surg. Univ. Edin. 1866; M.D. Univ. Edin. 1875.
903	Aug. 4, 1879	Doyle, Bernard	Bengal	M.D. Queen's Univ. Irel. 1871; Lic. R. Coll. Surg. Edin. 1865.
1657	Mar. 11, 1891	Doyle, Henry Martin	Newcastle	Lic. R. Coll. Phys. Lond. 1889; Lic. Soc. Apoth. Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
1640	Dec. 10, 1890	Drew, Hedley Vicars	Queensland	Lic. R. Coll. Phys. Lond. 1888; Fell. R. Coll. Surg. Eng. 1890; Mem. R. Coll. Surg. Eng. 1882.
1313	July 14, 1886	Drought, Percy James ...	Crookwell	Lic. R. Coll. Surg. Irel. 1882; Lic. K. et Q. Coll. Phys. Irel. 1883.
1322	Aug. 11, 1886	Druitt, Lionel	Tasmania	Mem. R. Coll. Surg. Eng. 1875; Lic. R. Coll. Phys. Lond. 1877; M.D. Univ. Edin. 1882; Mast. Surg. Univ. Edin. 1877.
1006	May 11, 1882	Duigan, Charles Beamish..	Victoria.....	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
1650	Feb. 12, 1891	DuMoulin, Edward Joseph Brooks.	Dubbo	M.B. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1885.
1823	April 12, 1893	Duncan, Edward Hugh ...	.....	M.B. et Mast. Surg. Univ. Edin. 1889.
870	Dec. 2, 1878	Durham, John Charles Crozier.	Victoria.....	L.R.C.S. Irel. 1870; Lic. Mid. R. Coll. Surg. Irel. 1871.
727	Oct. 6, 1873	Eadon, S. Bailey	Victoria.....	M.D. Univ. Aberd. 1862; C.M. Univ. Aberd. 1862.
1197	Jan. 11, 1885	Eakins, George Reginald ..	Echuca.....	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Edin. 1882.
1408	Aug. 10, 1887	Eames, William L'Es-trange	Newcastle	M.B. et Ch. B. Univ. Dub. 1886.
1889	—, 1894	Eaton, Joseph .....	.....	Mem. et Lic. Mid. R. Coll. Phys. Irel. 1874; Lic. et Lic. Mid. R. Coll. Surg. Irel. 1874.
1175	Oct. 8, 1884	Eddie, Arthur William ...	Victoria.....	M.D. Univ. Aberd. 1882; Mast. Surg. Univ. Aberd. 1882.

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No.	Date.			
1083	Aug. 9, 1883	Eddie, Robert	Bombala	M.B. Univ. Aberd. 1877; C.M. Univ. Aberd. 1877.
1307	May 12, 1886	Edgelow, Samuel Henry...	Croydon, Q.	Mem. R. Coll. Surg. Eng. 1877.
1323	Sept. 8, 1886	Edmunds, Daniel Taylor ..	Bathurst	Lic. R. Coll. Phys. Edin. 1883; Mem. R. Coll. Surg. Eng. 1883.
1490	Oct. 12, 1888	Edwards, Charles Augustus	Waverley	Lic. R. Coll. Phys. Edin. 1886; Lic. Soc. Apoth. Lond. 1883; Lic. R. Coll. Surg. Edin. 1886.
959	May 10, 1881	Edwards, David Richard ..	Goulburn	M.D. Univ. Edin. 1875; Mast. Surg. Univ. Edin. 1871.
1563	Nov. 13, 1889	Egan, John Joseph.....	Queensland	M.B., Ch. B., B.A.O., Royal Univ. Irel. 1889.
454	April 6, 1858	Eichler, Charles F.	Sydney	Mem. R. Coll. Surg. Eng. 1857; M.D. Univ. Heidelberg, 1852.
259	June 3, 1844	Elliott, George Robinson ..	Balmain	Mem. R. Coll. Surg. Eng. 1843.
1540	May 8, 1839	Elliott, Nicholas Phillips	Newcastle	Mem. R. Coll. Surg. Eng. 1880; Lic. R. Coll. Phys. Edin. 1883.
1248	Aug. 12, 1885	Ellis, Henry Augustus ...	Darlinghurst	M.B. Univ. Dub. 1884; Ch. B. Univ. Dub. 1885.
1186	Nov. 12, 1884	Ellison, John Clement ...	Brisbane	M.B. Univ. Lond. 1882.
1237	April 14, 1886	Elmslie, William Wallace	Sydney	Lic. Fac. Phys. et Surg. Glasg. 1875; Lic. Soc. Apoth. Lond. 1877.
1231	July 9, 1885	Elsner, Frederick William	.....	Lic. K. et Q. Coll. Phys. Irel. 1882; Lic. R. Coll. Surg. Irel. 1882; Fell. R. Coll. Surg. Irel. 1885.
1784	Aug. 10, 1892	Elphick, Edward	South Australia.	Lic. R. Coll. Phys. Lond. 1864; Mem. R. Coll. Surg. Eng. 1869; Lic. Soc. Apoth. Lond. 1869.
862	Oct. 7, 1878	Emmerson, John Bolton...	England	M.B. Durham, 1877; L.S.A. Lond. 1877; Mem. R. Coll. Surg. Eng. 1876.
1299	April 14, 1886	English, Joseph	Yass	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
926	June 9, 1880	Evans, Thomas.....	Sydney	Lic. Soc. Apoth. Lond. 1872; Mem. R. Coll. Surg. Eng. 1873.
720	Mar. 12, 1873	Evershed, Montague Fred- eric.	Bega	Lic. Soc. Apoth. Lond. 1863; Mem. R. Coll. Surg. Eng. 1863.
1665	April 8, 1891	Evill, Frederick Claude ...	Broken Hill	Mem. R. Coll. Surg. Eng. 1886; Lic. R. Coll. Phys. Lond. 1886.
665	Oct. 4, 1869	Ewington, William Fred- eric.	Waratah	Mem. R. Coll. Surg. Eng. 1853; Lic. Soc. Apoth. Lond. 1861.
1272	Dec. 9, 1885	Failes, Frederick George...	Coonanbarabran..	Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1885.
839	Dec. 8, 1880	Faithful, Robert Lionel ...	Sydney	Lic. R. Coll. Phys. Lond. 1880; Lic. Soc. Apoth. Lond. 1880; M.D. Coll. Phys. and Surg. (Med. Depart. Columbia Coll.) New York, U.S.A. 1879.
1761	April 13, 1892	Falkner, Edgar Ashley ...	Queensland	M.B. Univ. Durham 1889; Lic. R. Coll. Phys. Lond. 1888; Fell. R. Coll. Surg. Eng. 1891.
1251	Aug. 12, 1885	Fetherstonhaugh, William	Tumbarumba ...	M.B. Univ. Dub. 1866; Lic. R. Coll. Surg. Irel. 1867.
1192	Jan. 11, 1885	Ferguson, Robert.....	Newcastle	M.B. Univ. Glasg. 1875; M.D. Univ. Glasg. 1879; C.M. Univ. Glasg. 1875.
883	Mar. 7, 1879	Fiaschi, Thomas	Sydney	M.D. Univ. Pisa, 1877; M. Ch. Univ. Pisa 1877; Italian Certificate to practise Medicine and Surgery, 1878.
664	Oct. 4, 1869	Fiddes, John Montgomery	Royal Artillery...	M.B. Trin. Coll. Dublin, 1858; Lic. R. Coll. Surg. Irel. 1858.
1586	Feb. 12, 1890	Fielder, Sidney	Wollongong	Lic. K. et Q. Coll. Phys. Irel. 1889; Lic. Soc. Apoth. Lond. 1889.
1355	Jan. 12, 1887	Finlay, Sinclair	Stroud	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1884; Lic. R. Coll. Surg. Irel. 1883.
1275	Jan. 12, 1886	Finlay, William	Young	M.D. Cooper Med. Coll. San Francisco U.S.A. 1885. Additional registration:—Fell. Fac. Phys. et Surg. Glasg. 1894; Lic. R. Coll. Phys. Edin. 1894; Lic. R. Coll. Surg. Edin. 1894; Lic. Fac. Phys. et Surg. Glasg. 1894.
1310	May 12, 1886	Fisher, Thomas Carson ...	Bowral	M.D. Trin. Coll. Dub. 1884; M. Ch. Trin. Coll. Dub. 1875.
1718	Dec. 9, 1891	Fitzgerald, Michael Ed- ward.	Bourke	Lic. R. Coll. Surg. Irel. 1880; Lic. et Lic. Mid. 1881; K. et Q. Coll. Phys. Irel.
1234	July 9, 1885	Fitzpatrick, Alfred Edward	Crookwell	Lic. R. Coll. Phys. Edin. 1877; Lic. R. Coll. Surg. Edin. 1877.
1107	Dec., 28, 1883	Fitzpatrick, Louis	Dubbo	Lic. R. Coll. Phys. Edin. 1881; Lic. Soc. Apoth. Dub. 1880; Lic. R. Coll. Surg. Edin. 1881.
1356	Jan. 12, 1887	Fjeldstad, Axel Hierony- mus.	Randwick	Medicine Candidatus Univ. Christiania 1885.
1877	—, 1894	Flashman, James Froude..	.....	M.B. Univ. Sydney 1894.
1158	July 9, 1884	Florence, Egbert.....	Cootamundra ...	M.D. Univ. Penna. U.S.A. 1884.
1098	Dec. 12, 1883	Floyer, Blaise Bernard ...	Minmi	Mem. R. Coll. Surg. Eng. 1872; Lic. Soc. Apoth. Lond. 1872.
1883	—, 1894	Flynn, John .....	.....	M.B. Royal Univ. Irel. 1885; M. Ch. Royal Univ. Irel. 1886.
906	Nov. 12, 1879	Forbes, Armitage.....	Wardell	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Irel. 1878.
684	Oct. 3, 1870	Forbes, Arthur L. A.	Fiji.....	Lic. R. Coll. Phys. Edin. 1870; Lic. Fac. Phys. Surg. Glas. 1870; Lic. Mid. R. Coll. Phys. Edin. 1870.
1835	July 12, 1893	Forbes, Arthur David.....	.....	M.B. Univ. Aberd. 1887; Mast. Surg. Univ. Aberd. 1887.
802	Feb. 6, 1877	Foreman, Joseph.....	Sydney	Lic. Soc. Apoth. Lond. 1873; Lic. R. Coll. Phys. Edin.; L.M.R. Coll. Phys. Edin. 1874; Mem. R. Coll. Surg. Eng. 1874.
1722	Dec. 9, 1891	Foster, Albert Ernest .....	.....	Mem. R. Coll. Surg. Eng. 1883; Lic. Soc. Apoth. Lond. 1884.
1831	June 14, 1893	Foster, Alfred .....	.....	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1889.
612	Jan. 8, 1867	Fotheringham, Thomas ...	Cape of Good Hope.	Mem. R. Coll. Surg. Eng. 1856.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
430	April 3, 1855	Foucart, Louis.....	Sydney	M.D. Univ. Glas. 1846; Lic. R. Coll. Surg. Edin. 1849; Mast. Surg. Univ. Glas. 1848; F.R.C.S. Edin. 1875.
1739	Feb. 10, 1892	Fowler, Walter	Victoria.....	Fell. R. Coll. Surg. Eng. 1894; M.B. et B. C. Cantab. 1885.
1130	Mar. 12, 1884	Fox, George.....	Victoria	Lic. R. Coll. Phys. Edin. 1883; Mem. R. Coll. Surg. Eng. 1882.
1807	Feb. 8, 1893	Fox, Walter	Narrandera	M.B. et Mast. Surg. Univ. Glasg. 1886.
1344	Dec. 8, 1886	Franklin, Thomas Evans...	Trial Bay	Lic. R. Coll. Phys. Edin. 1883; Lic. Apoth. Hall, Dub. 1883; Lic. R. Coll. Surg. Edin. 1883.
1717	Dec. 9, 1891	Fraser, Paul Wilkes	Tasmania	Lic. R. Coll. Phys. Lond. 1887; Mem. R. Coll. Surg. Eng. 1886.
769	Jan. 3, 1876	Freeman, Richard Thomas	England	Lic. R. Coll. Phys. Edin. 1865; Lic. Mid. R. Coll. Phys. Edin. 1865.
1805	Jan. 11, 1893	Freyer, John Kennedy ...	Kempsey	Lic. et Lic. Mid. R. Coll. Phys. Irel. 1892; Lic. et Lic. Mid. R. Coll. Surg. Irel. 1892.
1006	Dec. 12, 1893	Friedman, Henry.....	Deniliquin.....	M.B. Univ. Melb. 1881; Ch. B. Univ. Melb. 1881.
1664	April 8, 1891	Frizell, Thomas	Strathfield	M.D. Royal Univ. Irel. 1884; M. Ch. Royal Univ. Irel. 1884.
1808	Feb. 8, 1893	Fullerton, Alexander Young.	Sydney	Lic. R. Coll. Phys. Lond. 1892; Mem. R. Coll. Surg. Eng. 1892.
1418	Nov. 9, 1887	Furnival, Francis Henry...	Auburn.....	Lic. Soc. Apoth. Lond. 1882; Mem. R. Coll. Surg. Eng. 1882.
523	Oct. 2, 1863	Fyffe, Benjamin	Victoria.....	Mem. R. Coll. Surg. Eng. 1860.
1811	Mar. 8, 1893	Fyffe, Edward Henry	Fitzroy, Vic. ...	M.B. et Mast. Surg. Univ. Glasg. 1888.
1283	Mar. 10, 1886	Gabriel, Charles Louis ...	Gundagai	Lic. R. Coll. Phys. Edin. 1885; Lic. R. Coll. Surg. Edin. 1885.
1317	Aug. 11, 1886	Gaggin, Richard Nason ...	Lismore.....	Lic. R. Coll. Phys. Edin. 1884; Lic. R. Coll. Surg. Edin. 1884.
1253	Aug. 12, 1885	Gannon, Diego.....	Taree.....	Lic. R. Coll. Surg. Irel. 1883; Lic. K. et Q. Coll. Phys. Irel. 1884.
1532	April 15, 1889	Gardner, Henry Wil- loughby.	England	Mem. R. Coll. Surg. Eng. 1885; Lic. R. Coll. Phys. Lond. 1885; M.D. Lond. 1888.
957	May 10, 1881	Garrett, Henry Edward...	Sydney	Mem. R.C. Surg. Eng. 1878.
1472	June 13, 1888	Garrett, William Fry.....	Parramatta	Lic. R. Coll. Phys. Edin. 1887; Lic. R. Coll. Surg. Edin. 1887; Lic. Fac. Phys. et Surg. Glasg. 1887.
1238	July 9, 1885	Gay, Herbert Moultrie ...	Dubbo	M.B. Univ. Glas. 1883; Ch. M. Univ. Glas. 1883.
784	May 1, 1876	Geldard, John	Victoria.....	Lic. Soc. Apoth. Lond. 1844.
1132	Mar. 12, 1884	Ghio, Carmelo	Fiji	M.D. Univ. Malta 1880.
1868	—, 1894	Gibbes, Alexander Edward	.....	M.B. et B.S. Univ. Adelaide, 1892.
1002	Dec. 12, 1883	Gibbons, Charles Samuel...	.....	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
1498	Nov. 14, 1888	Gibson, John	Windsor	M.D. Univ. Edin. 1887; M.B. Univ. Edin. 1879; C.M. Univ. Edin. 1879.
1860	Dec. 13, 1893	Gill James Macdonald ...	.....	M.D. Univ. Lond. 1891; Lic. R. Coll. Phys. Lond. 1890; Mem. R. Coll. Eng. 1890.
923	May 12, 1880	Girdlestone, Henry	Queensland	Mem. R. Coll. Surg. Eng. 1839; Lic. Soc. Apoth. Lond. 1840.
1520	Mar. 20, 1889	Givin, Robert Daniel .....	.....	Lic. R. Coll. Phys. Edin. 1883; Lic. R. Coll. Surg. Edin. 1883.
1648	Jan. 14, 1891	Glasier, Charles .....	.....	M.D. Univ. Edin. 1879; D.P.H. Cambridge 1885; C.M. Univ. Edin. 1875.
1797	Nov. 8, 1892	Gledden, Alfred Maitland	West Maitland...	Mem. R. Coll. Surg. Eng. 1886; Fell. R. Coll. Surg. Edin. 1891; Lic. R. Coll. Phys. Lond. 1886.
971	Sept. 21, 1881	Godson, Edwin	Parramatta	Mem. R. Coll. Surg. Eng. 1880.
1371	Mar. 9, 1887	Goodall, William Ainslie..	.....	M.D. Victoria Univ. Toronto, 1885; Lic. K. et Q. Coll. Phys. Irel. 1885; M. Ch. Victoria Univ. Toronto 1885; Lic. Coll. Phys. et Surg. Ontario, 1885.
752	Jan. 4, 1875	Goode, George	Orange	M.B. Univ. Dub. 1872; Mast. Surg. Univ. Dub. 1872; M.D. Univ. Dub. 1877.
738	April 13, 1874	Goode, W. H.	Sydney	M.B. Univ. Dub. 1867; Mast. Surg. Univ. Dub. 1868; M.D. Univ. Dub. 1876; Lic. Mid. K. et Q. Coll. Phys. Irel. 1876; Diploma in State Medicine Dub. 1877.
694	July 3, 1871	Goodman, Godfrey	Royal Navy	Lic. R. Coll. Surg. Irel. 1858; Lic. Mid. R. Coll. Surg. Irel. 1858.
1833	July 12, 1893	Gordon, Edward Patrick..	Argyle	M.D. Victoria Coll. Ontario 1890.
1389	June 8, 1887	Gorrick, Herbert Percy Critchett.	Waverley	M.D. Bellevue Hospital Med. Coll. New York, U.S.A. 1887.
1135	April 9, 1884	Govett, Edward	Leichhardt	Mem. R. Coll. Surg. Eng. 1847.
919	Mar. 16, 1880	Grady, John Fitzgerald ...	Mitchell	M.D. Jefferson Medical College, U.S.A. 1875.
1259	Oct. 14, 1885	Graham, George Robert Moore.	Echuca	Lic. K. et Q. Coll. Phys. Irel. 1883.
1195	Jan. 11, 1885	Graham, James	Sydney	M.B. Univ. Edin. 1882; Mast. Surg. Univ. Edin. 1882.
1153	June 16, 1883	Graham, John Bass	Balmain	M.D. Royal Univ. Irel. 1883; Mast. Surg. Royal Univ. Irel. 1883.
698	July 3, 1871	Grant, Charles J.....	New Zealand ...	Mem. R. Coll. Surg. Eng. 1851.
1217	Mar. 11, 1885	Grant, David	Melbourne	M.B. Univ. Edin. 1876; Mast. Surg. Univ. Edin. 1876.
610	Oct. 2, 1866	Gray, John Henry	London	Mem. R. Coll. Surg. Eng. 1865.
1211	Feb. 11, 1885	Gray, John Roubol	Victoria.....	M.B. Univ. Aberd. 1873; Mast. Surg. Univ. Aberd. 1873; M.D. Univ. Aberd. 1876.
1830	June 14, 1893	Green, Terence Albert ...	.....	M.B. Univ. Sydney 1893; Ch. Mi. Univ. Sydney 1893.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1509	Jan. 14, 1889	Greville, Sampson John Roger.	Victoria.....	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Surg. Edin. 1886; Lic. R. Coll. Phys. Edin. 1886; Lic. Fac. Phys. et Surg. Glasg. 1886.
1663	April 8, 1891	Grieves, Thomas Arthur...	Temora	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1889.
1633	Nov. 12, 1890	Griffith, Thomas Nugent	Granville	Lic. R. Coll. Phys. Edin. 1876; Mem. R. Coll. Surg. Eng. 1877.
986	Dec. 14, 1881	Griffiths, Ernest Edward..	Blayney.....	Lic. R. Coll. Phys. Edin. 1881; Lic. Soc. Apoth. Lond. 1881; Mem. R. Coll. Surg. Eng. 1880.
1681	June 10, 1891	Griffiths, William Arthur	England	Lic. R. Coll. Phys. Lond. 1887; Mem. R. Coll. Surg. Eng. 1887.
718	Jan. 14, 1873	Grigson, Robert Edward...	Muswellbrook ...	Lic. Soc. Apoth. Lond. 1870; Mem. R. Coll. Surg. Eng. 1868.
1128	Mar. 12, 1884	Groves, Henry Joseph Firth.	Broken Hill	Lic. R. Coll. Phys. Lond. 1873; Lic. Soc. Apoth. Lond. 1873; Mem. R. Coll. Surg. Eng. 1873.
1058	April 11, 1883	Gunn, William	Peak Hill	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Edin. 1882.
599	Oct. 3, 1865	Gunst, Jean Werner	Melbourne	M.D. Univ. Leyden, Netherlands, 1847.
1254	Oct. 14, 1885	Gurdon, Edward John ...	Victoria.....	Lic. R. Coll. Phys. Edin. 1875; Mem. R. Coll. Surg. Eng. 1875.
1328	Oct. 13, 1886	Guyenot, Paul	Richmond.....	French Navy.
1347	Dec. 10, 1886	Gwynne-Hughes Devereux	Redfern.....	Lic. R. Coll. Surg. Edin. 1886; Lic. R. Coll. Phys. Edin. 1886.
695	July 3, 1871	Haines, Charles H.	New Zealand ...	M.D. Queen's Univ. Irel. 1870; M. Ch. Queen's Univ. Irel. 1870.
1004	May 11, 1882	Haines, Humphrey	Auckland	Lic. R. Coll. Phys. Edin, 1879; Lic. R. Coll. Surg. Edin. 1879.
1023	Aug. 9, 1882	Haley, Frank	Victoria.....	M.B. Univ. Melb. 1877; Ch. B. Melb. Univ. 1881.
1841	Sept. 13, 1893	Hall, William Frederick...	Sydney	Lic. R. Coll. Phys. Lond. 1890; Mem. R. Coll. Surg. Eng. 1890; M.D. Lond. 1891; M.S. Lond. 1891.
1895	—, 1894	Handcock, Charles Lancelot	.....	M.B. Univ. Sydney 1894; M. Ch. Univ. Sydney 1894.
973	Sept. 21, 1881	Hankins, George T.....	Sydney	Lic. Soc. Apoth. Lond. 1866; Mem. R. Coll. Surg. Eng. 1866.
424	April 3, 1855	Hansard, James Thomas...	Summer Hill ...	M.D. Univ. Edin. 1836; Lic. R. Coll. Phys. Lond. 1839.
1280	Mar. 10, 1886	Hanson, Albert George ...	Darlinghurst.....	Mem. R. Coll. Surg. Eng. 1885.
998	Mar. 8, 1882	Hanson, Hargreaves Hallis Halls.	Bega	Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875.
1190	Dec. 10, 1884	Harbison, John Wesley ...	Victoria.....	M.B. Univ. Melb. 1882; Ch. B. Univ. Melb. 1882.
1890	—, 1894	Hardcastle, Cooper .....	.....	M.B. et Mast. Surg. Univ. Edin. 1893.
789	June 5, 1876	Harding, Thomas Massey..	Moree	Mem. R. Coll. Surg. Eng. 1848; Fell. R. Coll. Surg. Eng. 1868.
1539	May 8, 1889	Hare, Richard Isaac .....	.....	Lic. R. Coll. Phys. Edin. 1871; Lic. Fac. Phys. et Surg. Glasg. 1871.
1542	June 12, 1889	Harkin, Charles Fitzmaurice.	Victoria.....	M.B. Univ. Dub. 1888; Ch. B. Univ. Dub. 1888; B.A.O. Univ. Dub. 1888.
797	Oct. 2, 1876	{ Harper, Charles Norton *Harper-Crewe, Charles Norton.	Dulwich Hill ... ,, ,,	Lic. Soc. Apoth. Lond. 1876. Lic. R. Coll. Phys. Edin. 1882; Mem. R. Coll. Phys. Edin. 1882.
786	June 5, 1876	Harricks, Francis Meagher	Melbourne	Lic. R. Coll. Surg. Irel. 1870; Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1871.
1086	Sept. 12, 1883	Harris, Henry Louis	Tamworth.....	M.B. Univ. Melb. 1880; Ch. B. Univ. Melb. 1880.
760	Sept. 6, 1875	Harris, John.....	Newcastle.....	M.B. et C.M. Univ. Aberd. 1875; Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875; M.D. Univ. Aberd. 1882.
1631	Nov. 12, 1890	Harris, Percival Seymour..	England	Lic. Soc. Apoth. Lond. 1888.
1741	Mar. 9, 1892	Harris, Stewart Hall	Woolahra.....	Lic. et Lic. Midwif. K. et Q. Coll. Phys. Irel. 1867; Lic. R. Coll. Surg. Irel. 1866.
867	Nov. 4, 1878	Harrison, Thomas.....	.....	M.B. et Mast. Surg. Univ. Dub. 1875; M.D. Univ. Dub. 1885.
1604	May 14, 1890	Hart, John Wesley.....	Parramatta	M.B. et Mast. Surg. Univ. Edin. 1890.
1474	June 13, 1888	Harvey, John Thomas ...	Broken Hill	M.B. et Mast. Surg. Univ. Edin. 1885; Mem. R. Coll. Surg. Eng. 1886.
967	Aug. 10, 1861	Harvey, Richard Richards	Hay	M.D. Univ. Melb. 1881; Ch. B. Univ. Melb. 1881.
1131	Mar. 12, 1884	Harvey, William	Newtown	Lic. R. Coll. Phys. Edin. 1872; Lic. Soc. Apoth. Lond. 1872; Mem. R. Coll. Surg. Eng. 1873.
1866	—, 1894	Harrison, Walter Sheffield	.....	Lic. R. Coll. Phys. Edin. 1892; Lic. R. Coll. Surg. Edin. 1882; Lic. Fac. Phys. et Surg. Glasg. 1892.
1407	Aug. 10, 1887	Harwood, Alfred John ...	Newcastle	Lic. R. Coll. Phys. Edin. 1886; Lic. Fac. Phys. and Surg. Glasg. 1886; Lic. R. Coll. Surg. Edin. 1886.
1333	Oct. 13, 1886	Hawkins, William Robert	Bourke	M.D. Royal Univ. Irel. 1885; Mast. Surg. Royal Univ. Irel. 1885; Lic. Mid. K. et Q. Coll. Phys. Irel. 1885.
1479	June 13, 1888	Hawthorne, Alfred Wynter	Carcoar.....	M.D. Royal Univ. Irel. 1882; M.Ch. Royal Univ. Irel. 1882; Lic. Mid. K. et Q. Coll. Phys. Irel. 1882.
1450	Mar. 14, 1888	Hayden, James Augustus..	Adelong	Mem. et Lic. Midwif. 1866, R. Coll. Surg. Eng.; Lic. Soc. Apoth. Lond. 1866.
1368	Feb. 9, 1887	Haynes, Edward James Ambrose.	West Australia...	Lic. R. Coll. Phys. Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
1512	Jan., 14, 1889	Heale, Alfred Lanson	New Zealand ...	Lic. R. Coll. Phys. Lond. 1888; Lic. Soc. Apoth. Lond. 1888; Mem. R. Coll. Surg. Eng. 1873.
1369	Feb. 9, 1887	Heard, Charles de Wolfe...	Victoria.....	Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
1080	Aug. 9, 1883	Hedley, Charles	Grafton.....	M.B. Univ. Melb. 1883; Ch. B. Univ. Melb. 1883.
648	Oct. 8, 1868	Heeley, John Theophilus..	Young	Lic. Soc. Apoth. Lond. 1858; Lic. R. Coll. Phys. Edin. 1858.

* Prior to receiving these additional qualifications, Mr. Harper adopted the surname of Crewe, and the name of Harper-Crewe appears on the later diplomas.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
950	Feb. 9, 1881	Heinemann, William	Peak Hill	M.D. Univ. Wurzburg, 1869; Lic. R. Coll. Phys. Lond. 1877.
1843	Oct. 4, 1893	Helbing, Paul .....	.....	State Exam. Certif. Tübingen Germany 1889.
1493	Oct. 12, 1888	Helsham, William Macdonald.	Richmond.....	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1887.
1066	May 9, 1883	Henderson, Arthur Vincent	Melbourne	M.B. Univ. Melb. 1883; Ch. B. Univ. Melb. 1883.
1845	Oct. 4, 1893	Henderson, James Niven..	.....	M.B. Univ. Sydney 1893; Ch. M. Univ. Sydney 1893.
1526	April 15, 1889	Henry, Arthur.....	Narrabri	M.B. Univ. Sydney 1889.
1465	May 10, 1888	Henry, Arthur Geddes ...	Callan Park	M.B. Univ. Sydney 1888; Ch. M. Univ. Sydney 1888.
1878	—, 1894	Henry, Joseph Edmund Oram.	.....	M.B. Univ. Sydney, 1894; M. Ch. Univ. Sydney 1894 (additional Registration).
1363	Feb. 9, 1887	Henry, Thomas James ...	Warialda	Lic. Fac. Phys. and Surg. Glasg. 1886; Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886.
1265	Dec. 9, 1885	Herdegen, Moritz	Albury	M.D. Univ. Munich, 1881; State Exam. Certif. Munich 1880.
1768	June 8, 1892	Herriot, Stuart.....	Moree	Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886.
1529	April 15, 1889	Hester, Jeaffreson William	Stockton	M.B. Univ. Sydney 1889.
1638	Dec. 10, 1890	Hetherington, Henry Budd	Narrandera	M.D. Univ. Edin. 1890; C.M. Univ. Edin. 1886.
1642	Jan. 14, 1891	Hickey, Evan Lewis	Parkes	M.B. Univ. Durham 1886; Mem. R. Coll. Surg. Eng. 1885; Lic. Soc. Apoth. Lond. 1885; M.D. Univ. Durham 1891.
1683	July 8, 1891	Hicks, John Sydney	West Australia...	Lic. Soc. Apoth. Lond. 1887; M.B. Univ. Lond. 1888.
1673	May 13, 1891	Hill, Charles Herbert	Victoria.....	M.B. Univ. Melb. 1888.
925	June 9, 1880	Hill, Joseph Higham	England	Lic. R. Coll. Phys. Edin. 1867; Lic. Soc. Apoth. Lond. 1868; Fell. R. Coll. Surg. Edin. 1872; Lic. Fac. Phys. Surg. Glas. 1867.
1527	April 15, 1889	Hinder, Henry Vincent Critchley.	Ashfield	M.B. Univ. Sydney, 1889.
1834	July 12, 1893	Hocken, James Preston ...	.....	Lic. R. Coll. Phys. Lond. 1882; Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1892.
1426	Dec. 14, 1887	Hodgson, Ralph	Sydney	Lic. R. Coll. Phys. Lond. 1884; Lic. Soc. Apoth. Lond. 1884; Mem. R. Coll. Surg. Eng. 1885.
1011	May 11, 1882	Hoets, Alton Kingsley ...	Brushgrove	Lic. Soc. Apoth. Lond. 1879; Mem. R. Coll. Surg. Eng. 1880.
1873	—, 1894	Hogg, Gustave Heuzé .....	.....	M.D. et Mast. Surg. Univ. Edin. 1892.
1062	April 11, 1883	Hogg, James Balantine	Queensland	Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
1607	May 14, 1890	Hollis, Leslie Thomas.....	Goulburn	M.B. et Ch.M. Univ. Sydney 1890.
1885	—, 1894	Holmes, Richard .....	.....	Lic. R. Coll. Phys. Edin. 1892; Lic. R. Coll. Surg. Edin. 1892; Lic. Fac. Phys. et Surg. Glasg. 1892.
504	Jan. 3, 1860	Homan, Frederick	Victoria	Lic. Fac. Phys. Surg. Glas. 1855.
1143	June 16, 1884	Hood, Alexander Jarvie ...	Sydney	M.B. Univ. Glasg. 1882; Mast. Surg. Univ. Glasg. 1882.
1637	Dec. 10, 1890	Hood, James Jarvie	Maclean	M.B. et Mast. Surg. Univ. Glasg. 1890; Dip. Publ. Health Glasg. 1890.
1809	Feb. 8, 1893	Horne, Robert Alexander	.....	M.B. Univ. Melb. 1891.
1898	—, 1894	Horton, Edward Skelton..	.....	M.D. Univ. California, U.S.A. 1893.
1268	Dec. 9, 1885	Horton, Thomas Robert ...	Balmain	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
732	Jan. 23, 1874	Houison, Andrew.....	Sydney	M.B. Univ. Edin. 1873; Mast. Surg. Univ. Edin. 1873.
651	Jan. 5, 1869	Houison, James	Grafton.....	M.B. Univ. Edin. 1867; Mast. Surg. Univ. Edin. 1867; M.D. Univ. Sydney 1870.
1884	—, 1894	Howse, Alfred Oswald ...	.....	Lic. R. Coll. Phys. Lond. 1893; Mem. R. Coll. Surg. Eng. 1893.
1567	Dec. 11, 1889	Howse, Neville Reginald...	Taree	Mem. R. Coll. Surg. Eng. 1886.
1155	July 9, 1884	Hozier, Charles Henry Smith.	Sydney	Lic. K. et Q. Coll. Phys. Irel. 1871; Lic. R. Coll. Surg. Irel. 1871; Fell. R. Coll. Surg. Irel. 1883.
1427	Dec. 14, 1887	Hughes, Joseph Foord ...	Bungendore	M.B. Univ. Glasg. 1887; Mast. Surg. Univ. Glasg. 1887.
1507	Jan. 14, 1889	Hull, Walter	West Maitland...	M.D. Lond. 1887; Mem. R. Coll. Surg. Eng. 1882; Lic. R. Coll. Phys. Lond. 1882.
1490	June 13, 1888	Hume, John.....	Queensland	M.B. and Mast. Surg. Univ. Edin. 1884.
1668	April 8, 1891	Hunt, Claude Leopold Wolfgang.	Queensland	M.B. Univ. Sydney, 1891.
1352	Jan. 12, 1887	Hunter, George Holbrey	Temora	Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1885.
730	April 13, 1874	Hunter, Robert	Sydney	Lic. R. Coll. Phys. Edin. 1873; Lic. R. Coll. Surg. Edin. 1867; Lic. Mid. R. Coll. Surg. Edin. 1867; Lic. Mid. R. Coll. Phys. Edin. 1873.
1296	April 14, 1886	Hunter, Robert Rankin ...	Mount Morgan...	M.B. Mast. Surg. Univ. Glasg. 1883; Mem. R. Coll. Surg. Eng. 1884.
954	April 13, 1881	Hurst, George	Sydney	M.B. Univ. Edin. 1879; M.B. Univ. Lond. 1880; Mast. Surg. Univ. Edin. 1879.
859	Sept. 9, 1878	Hutching, Arthur Carey...	Young	M.R.C.S. Eng. 1873; M.B. and Mast. Surg. Univ. Aberd. 1875; M.D. Univ. Aberd. 1891.
1452	Mar. 14, 1888	Huxtable, Louis Ralston...	Sydney	M.B. et Mast. Surg. Univ. Edin. 1881.
1794	Oct. 12, 1892	Huxtable, Robert Beveridge.	.....	M.B. et Mast. Surg. Univ. Edin. 1891.
1914	—, 1894	Irwin, William.....	.....	M.D. et Mast. Surg. Univ. Glasg. 1893.
513	May 21, 1860	Ivimy, Thomas Goldson...	Taralga	Lic. Soc. Apoth. Lond. 1833.
1893	—, 1894	Jackson, James Kennedy..	.....	M.D. Univ. Melb. 1893.
535	Oct. 2, 1861	Jackson, Henry .....	.....	Lic. R. Coll. Phys. Edin. 1858; Lic. R. Coll. Phys. Edin. 1859.
712	July 1, 1872	Jackson, Henry Willan ...	Blackheath	Lic. R. Coll. Phys. Edin. 1867; Mem. R. Coll. Surg. Eng. 1863.
1691	Aug. 12, 1891	James, David Philip	New Zealand ...	Lic. R. Coll. Phys. Lond. 1886; Fell. R. Coll. Surg. Eng. 1887; Mem. R. Coll. Surg. Eng. 1871.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1671	April 8, 1891	Jamieson, Sydney	Sydney	M.B. Univ. Edin. 1888; Lic. R. Coll. Phys. Lond. 1889; Mast. Surg. Univ. Edin. 1888; Mem. R. Coll. Surg. Eng. 1889.
1342	Nov. 10, 1886	Jefferies, James Eddington	Newtown	M.B. et Mast. Surg. Univ. Aberd. 1885; Mem. R. Coll. Surg. Eng. 1883.
1136	April 9, 1884	Jenkins, Edward Johnstone.	Sydney	M.B. Univ. Oxon. 1882; Mem. R. Coll. Phys. Lond. 1883; Lic. Soc. Apoth. Lond. 1883; Mem. R. Coll. Surg. Eng. 1882.
1859	Dec. 13, 1893	Jermyn Walter Herbert...	.....	M.B. Univ. Melb. 1889; Ch. B. Univ. Melb. 1890.
1278	Jan. 12, 1886	Johnson, Alexander Mackey	Sydney	M.D. Royal Univ. Irel. 1883; Mast. Surg. Royal Univ. Irel. 1883.
671	Jan. 3, 1870	Johnson, Charles	Burwood	M.B. Trin. Coll. Dub. 1869; Lic. Mid. Dub. 1850; Mem. R. Coll. Surg. Eng. 1850; M.D. Trin. Coll. Dub. 1872.
1869	—, 1894	Johnson, Harry Oswin ..	.....	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
953	April 13, 1881	Johnson, John Frederick	.....	M.D. Univ. Edin. 1878; Lic. R. Coll. Phys. Edin. 1874; Lic. R. Coll. Surg. Edin. 1874.
946	Feb. 9, 1881	Johnston, A. A.	Victoria	Lic. et Lic. Mid. K. and Q. Coll. Phys. Irel. 1875; Mem. K. et Q. Coll. Phys. Irel. 1875; Lic. R. Coll. Surg. Edin. 1876.
1270	Dec. 9, 1885	Johnstone, Archibald Stephen Tunstall.	.....	Lic. R. Coll. Phys. Edin. 1883; Lic. Fac. Phys. et Surg. Glas. 1883.
1247	Aug. 12, 1885	Johnstone, William Henry	Victoria	Lic. Med. Univ. Dub. 1884; Lic. Surg. Univ. Dub. 1874.
442	Jan. 8, 1856	Jonasen, Hermann	Melbourne	M.D. Univ. Versberg 1848.
1314	July 14, 1886	Jones, George Burnett Mander.	Homebush	Lic. R. Coll. Phys. Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
709	April 2, 1872	Jones, James Aberdein ...	Balmain	Lic. R. Coll. Phys. Edin. 1869; Lic. R. Coll. Surg. Edin. 1869.
537	Oct. 2, 1861	Jones, Philip Sydney	Sydney	M.D. Univ. Lond. 1860; Fell. R. Coll. Surg. Eng. 1861; Lic. Soc. Apoth. Lond. 1860.
743	July 6, 1874	Jones, Richard Theophilus	Ashfield	Lic. R. Coll. Phys. Edin. 1869; Lic. Fac. Phys. and Surg. Glas. 1869; Lic. Mid. R. Coll. Phys. Edin. 1869; M.D. Univ. Syd. 1874.
1541	May 8, 1889	Jones, Shadrach Edward Robert.	Raymond Terrace	M.D. St. Andrews 1842; Lic. Soc. Apoth. Lond. 1844; Mem. R. Coll. Surg. Eng. 1843.
1462	April 11, 1888	Jones, Walter William Stockton.	Victoria	Lic. et Lic. Midwif. K. et Q. Coll. Phys. Irel. 1881; Lic. R. Coll. Surg. Irel. 1881.
1774	July 20, 1892	Joscelyne, Arthur Edwin	Queensland	Lic. R. Coll. Phys. Lond. 1889; Lic. Soc. Apoth. Lond. 1888; Mem. R. Coll. Surg. Eng. 1889.
1580	Feb. 12, 1890	Kane, Francis William ...	Cooma	Lic. R. Coll. Phys. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889; Lic. R. Coll. Surg. Edin. 1889.
1581	Aug. 14, 1889	Kane, Robert English	Woonoona	Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886.
1404	Aug. 10, 1887	Kavanagh, Edmund Raphael.	Cootamundra ...	Lic. R. Coll. Phys. Edin. 1887; Lic. Fac. Phys. et Surg. Glasg. 1887; Lic. R. Coll. Surg. Edin. 1887.
1125	Feb. 13, 1884	Kealy, Joseph Patrick	Tunmut	Lic. K. et Q. Coll. Phys. Irel. 1880; Lic. R. Coll. Surg. Irel. 1880.
1618	Aug. 13, 1890	Kearney, James	Parramatta	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1889; Lic. R. Coll. Surg. Irel. 1889.
1312	June 9, 1886	Keenan, Alfred James William.	Sydney	Lic. R. Coll. Phys. Edin. 1884; Lic. R. Coll. Surg. Edin. 1884.
1445	Feb. 8, 1888	Kelley, Daniel Luke .....	.....	Lic. R. Coll. Surg. Irel. 1869; Lic. R. Coll. Phys. Edin. 1871.
1656	Mar. 11, 1891	Kelly, James Patrick	Balranald	Lic. R. Coll. Phys. Edin. 1889; Lic. R. Coll. Surg. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889.
1902	—, 1894	Kelly, John James .....	.....	M.D. Queen's Univ. Kingston, Canada 1892; C.M. Queen's Univ. Kingston, Canada 1892.
1530	April 15, 1889	Kelly, Patrick John	Balmain	M.B. Univ. Sydney 1889.
1504	Dec. 12, 1888	Kelly, Robert Vandeleur...	Sydney	Lic. R. Coll. Phys. Edin. 1873; Lic. R. Coll. Surg. Edin. 1873; Fell. R. Coll. Surg. Edin. 1880.
609	Oct. 2, 1866	Kelly, Thomas .....	.....	Lic. Soc. Apoth. Lond. 1863; Lic. Fac. Phys. Surg. Glas. 1862.
1720	Dec. 9, 1891	Kelly, Walter Maconnell	Sydney	Lic. R. Coll. Phys. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889; Lic. R. Coll. Surg. Edin. 1889.
1576	Jan. 8, 1890	Kelly, William Augustine	.....	Lic. K. et Q. Coll. Phys. Irel. 1886; Lic. R. Coll. Surg. Irel. 1886.
1140	April 9, 1884	Kelty, William	Orange	M.B. Univ. Aberd. 1883; Mast. Surg. Univ. Aberd. 1883.
616	Jan. 8, 1867	Kempf, Joseph De Angreth.	.....	M.D. Univ. Pesth-Buda, Hungary, 1844; Ch. D. Univ. Pesth-Buda 1853.
1216	Mar. 11, 1885	Kendall, Peter Slade	Petersham	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
1105	Dec. 12, 1883	Kendall, Theodore Mailler	Sydney	Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
1701	Aug. 12, 1891	Kenna, Patrick James	Sydney	M.B. et Mast. Surg. Univ. Edin. 1888.
1727	Jan. 13, 1892	Kennedy, Jacob Bruce ...	Leadville	Mem. Coll. Phys. et Surg. Ont. Canada 1874; M.D. Queen's Coll. Ont. Canada 1873.
1654	Feb. 25, 1891	Kennedy, John Michael ...	.....	Lic. R. Coll. Surg. Irel. 1881.
1239	July 9, 1885	Kennedy, John William...	Hay	Lic. 1870, Fell. 1881, R. Coll. Surg. Irel.; Lic. K. et Q. Coll. Phys. Irel. 1875.
808	May 7, 1877	Kennedy, Patrick	Albury	Lic. R. Coll. Surg. Irel. 1873; Lic. K. et Q. Coll. Phys. Irel. 1874.
1556	Sept. 11, 1889	Kenwood, Harry Richard	.....	M.B. Univ. Edin. 1887; L.R.C.P. Lond. 1888; C.M. Univ. Edin. 1887.
1690	Aug. 12, 1891	Kerr, Alexander Livingstone.	Molong	M.D. Univ. Edin. 1890; Fell. R. Coll. Surg. Edin. 1889; Mem. R. Coll. Surg. Eng. 1889.
1336	Nov. 10, 1886	Kerr, John	New Zealand	M.B. Univ. Glas. 1883; Mast. Surg. Univ. Glas. 1883.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1682	July 8, 1891	Kesteven, Leighton	St. Leonards.....	Mem. R. Coll. Surg. Eng. 1873.
1372	Mar. 9, 1887	Kiernander, Herbert Byrne	Narandera	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1876.
834	Jan. 7, 1878	King, H. Kirwan.....	Nowra	M.B. Univ. Aberd. 1868; Lic. Soc. Apoth. Lond. 1867; C.M. Univ. Aberd. 1868; Mem. R. Coll. Surg. Eng. 1867.
861	Oct. 7, 1878	Kingdon, Boughton	Sydney	L.S.A. Lond. 1842.
968	Aug. 10, 1881	Kingsbury, James	Newtown	M.D. Univ. Pennsylvania U.S.A. 1881.
1879	—, 1894	Kinross, Robert Menzies...	.....	M.D. Univ. Sydney 1894; (additional Registration) M. Ch. Univ. Sydney, 1894.
1531	April 15, 1889	Kirkland, Hugh	Bathurst	M.B. Univ. Glasg. 1888; Mast. Surg. Univ. Glasg. 1888.
1615	July 9, 1890	Kirkland, Thomas Speirs	Croydon	M.B. et Mast. Surg. Univ. Glas. 1887.
704	Jan. 8, 1872	Knaggs, Samuel T.	Sydney	M.B. Univ. Aberd. 1871; Mast. Surg. Univ. Aberd. 1871; Lic. Med. K. et Q. Coll. Phys. Irel. 1870; Lic. R. Coll. Surg. Irel. 1870; Fell. R. Coll. Surg. Irel. 1871; M.D. Univ. Aberd. 1873.
1491	Oct. 12, 1888	Knott, Thomas Henry ...	Royal Navy	Lic. Soc. Apoth. Lond. 1864; Mem. R. Coll. Sur. Eng. 1864.
1373	Mar. 9, 1887	Korff, Berthold	Broken Hill	State Exam. Certif. Munich, 1884.
838	Feb. 8, 1878	Kyngdon, F. H.	St. Leonards.....	M.B. Aberd. 1876; L.S.A. Lond. 1875; M.R.C.S. Eng. 1874; C.M. Aberd. 1876; M.D. Univ. Aberd. 1878.
1264	Nov. 11, 1885	Labatt de Lambert, Joseph	Waverley	M.D. Univ. Paris, 1870.
766	Dec. 6, 1875	Lamb, William	New Zealand ...	M.B. Univ. Edin. 1875; Mast. Surg. Univ. Edin. 1875.
415	Jan. 2, 1855	Lambert, George Proud...	Berrima	Mem. R. Coll. Surg. Eng., 1852.
1346	Dec. 8, 1886	Lamrock, James	Kogarah	M.B. Univ. Edin. 1886; Mast. Surg. Univ. Edin. 1886.
1858	Dec. 13, 1858	Lamrock, Leslie James ...	.....	M.B. et Mast. Surg. Univ. Edin. 1891; M.D. Univ. Edin. 1893.
1077	June 13, 1883	Lane, Thomas	Inverell.....	Lic. R. Coll. Surg. Irel. 1882; Lic. K. et Q. Coll. Phys. Irel. 1883; Lic. Mid. K. et Q. Coll. Phys. Irel. 1883; Diploma in State Medicine K. et Q. Coll. Phys. Irel. 1883.
1208	Feb. 11, 1885	Lang, William Henry.....	Corowa	M.B. Univ. Edin. 1882; Mast. Surg. Univ. Edin. 1882.
1775	July 20, 1892	Langdon, John Arthur ...	Surry Hills	Lic. R. Coll. Phys. Edin. 1874; Lic. Fac. Phys. et Surg. Glasg. 1874.
1776	July 20, 1892	Langhorne, Thomas Grant	Redfern.....	Lic. R. Coll. Phys. Edin. 1886; Mem. R. Coll. Surg. Eng. 1885.
1067	May 9, 1883	Langstone, William	Melbourne.....	Mem. R. Coll. Surg. Eng. 1858.
1826	May 10, 1893	Lapraik, George .....	.....	M.B. et Mast. Surg. Univ. Glasg. 1887.
640	April 7, 1868	Lauré, Louis Thomas	Sydney	M.D. et Surg. Univ. Paris 1861.
1214	Mar. 11, 1885	Lauterer, Joseph.....	Queensland	M.D. Univ. Freiburg 1872; State Exam. Certificate 1872.
965	July 13, 1881	Law, Edward	England	M.B. Univ. Edin. 1877; M.D. Univ. Edin. 1861; Mem. R. Coll. Surg. Eng. 1877; Mast. Surg. Univ. Edin. 1877.
1747	April 13, 1892	Lawes, Charles Herbert Essery.	Goodooga	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1110	Jan. 9, 1884	Lawson, George Langrigg Leathes.	Gosford.....	Lic. R. Coll. Phys. Edin. 1881; Mem. R. Coll. Surg. Eng. 1882.
1746	April 13, 1892	Leahy, John Patrick Daunt.	.....	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
914	Feb. 11, 1880	Leask, John Thomas	Singapore	M.B. et Mast. Surg. Univ. Edin. 1879.
1785	Sept. 14, 1892	Lee, Herbert Ernest	Gunnedah.....	M.B. et Mast. Surg. Univ. Edin. 1891.
1074	June 13, 1883	Lee, Timothy Wood	Wollongong	Lic. Soc. Apoth. Lond. 1867; Mem. R. Coll. Surg. Eng. 1868.
900	July 7, 1879	Lee, William Poulton.....	Parramatta	Lic. R. Coll. Phys. Edin. 1869; Mem. R. Coll. Surg. Eng. 1868.
1700	Aug. 12, 1891	Leeper, Richard John.....	Lithgow.....	Lic. R. Coll. Surg. Irel. 1885; Lic. Apoth. Hall Dub. 1887.
1232	July 9, 1885	Lehane, Daniel.....	England	M.D. Queen's Univ. Irel. 1880; M.D. Royal Univ. Irel. 1882.
1662	April 8, 1891	Lennhoff, Gustav	Glebe.....	M.D. Univ. Berlin 1890; State Exam. Certif. Berlin 1889.
685	Oct. 3, 1870	Lepervanche, Charles Meziér de.	Narrabri	M.D. Univ. Paris 1869.
1544	July 12, 1889	Leslie, Louis Gordon	Victoria.....	Lic. R. Coll. Phys. Edin. 1883; Lic. R. Coll. Surg. Edin. 1883.
1713	Nov. 11, 1891	Lester, Charles Edward ...	Mudgee.....	Lic. R. Coll. Phys. Edin. 1891; Lic. R. Coll. Surg. Edin. 1891; Lic. Fac. Phys. et Surg. Glasg. 1891.
1010	May 11, 1882	Lewers, Thomas Ross	Berry.....	M.B. Univ. Melb. 1880; Ch. B. Univ. Melb. 1880; Mem. R. Coll. Surg. Eng. 1881.
1545	July 12, 1889	Lewis, William Morrow ...	Victoria.....	M.D. Royal Univ. Irel. 1886; M. Ch. Royal Univ. Irel. 1887; Lic. Mid. K. et Q. Coll. Phys. Irel. 1887.
1659	Mar. 11, 1891	Liddell, Frank	West Maitland...	M.B. Univ. Edin. 1887; Mast. Surg. Univ. Edin. 1887.
1168	Aug. 13, 1884	Lilie, Heinrich.....	.....	M.D. Univ. Bonn, 1879.
1767	June 8, 1892	Lindsay, Herbert Stott ...	.....	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
1555	Sept. 11, 1889	Linton, Edward	North Sydney ...	L.R.C.P. Edin. 1887; L.F.P.S. Glasg. 1887; L.R.C.S. Edin. 1887.
1750	April 13, 1892	Lister, Henry	Kiama	M.B. Univ. Sydney 1892.
1818	April 12, 1893	Litchfield, William Frederick.	.....	M.B. Univ. Sydney 1893.
1005	May 11, 1882	Little, William	Burwood	Lic. R. Coll. Phys. Edin. 1867; Lic. R. Coll. Surg. Edin. 1867.
1327	Oct. 13, 1886	Llewellyn, James Davies...	Victoria.....	Lic. R. Coll. Phys. Lond. 1886; Lic. Soc. Apoth. Lond. 1882; Mem. R. Coll. Surg. Eng. 1882.
660	Jan. 5, 1869	Llewellyn, Rees	Braidwood	Mem. R. Coll. Surg. Eng. 1865; Lic. Soc. Apoth. Lond. 1865.
1392	July 13, 1887	Lloyd, Henry Sandersen...	Hunter's Hill ...	M.B. Univ. Edin. 1883; C.M. Univ. Edin. 1883; Mem. R. Coll. Surg. Eng. 1883.

No of Certificate and Date of Registration		Name.	Address	Qualifications registered
No	Date			
824	Sept. 3, 1870	Lock, Ezekiel John	Victoria	Lic Soc Apoth. Lond. 1852.
895	May 5, 1879	Locke, George William ...	Lismore ..	Mem R. Coll. Surg. Eng. 1858.
1836	July 12, 1893	Lockhead, William Kerr	..	Lic R Coll Phys Fdm 1888; Lic. R. Coll. Surg. Edin. 1888, Lic Fac. Phys. et Surg. Glasg. 1888.
1792	Oct 12, 1892	Lon, Adrien Charles Marie	Rodd Island	M.D Univ. Paris 1892.
1451	Mar. 14, 1888	Long, Andrew Sinclair	Wagga Wagga	Lic R Coll Surg. Irel 1886; Lic. K. et Q. Coll. Phys. Irel. 1886
1123	Feb. 13, 1884	Long, Mark Henry	Sydney ..	M.D. Univ. City of New York 1883; Lic. K. et Q. Coll. Phys. Irel 1883.
1001	—, 1894	Longher, Richard	.. ...	Lic R. Coll. Phys. Edin. 1868, Lic. Fac. Phys. et Surg. Glasg. 1868, Lic Soc. Apoth. Lond 1869.
1000	Mar. 8, 1882	Lovell, Robert Haynes	England	Mem. R. Coll. Surg. Eng 1878; Lic. R. Coll. Phys. Lond 1879.
1765	May 11, 1892	Ludlow, Herbert Buxton.	.....	Lic. et Lic. Mid R Coll Phys. Irel 1892, Lic. Apoth. Hall Dub 1891, Lic et Lic Mid. R Coll. Surg. Irel. 1892
1358	Jan. 12, 1887	Ludlow, Victor Ethelbert	Newcastle ...	Lic R. Coll. Surg. Irel 1886, Lic. et Lic. Mid. K. et Q. Coll Phys Irel 1886
1896	—, 1894	Luken, Donald...	..	M B. et Ch. M. Univ Sydney 1894.
1273	Jan. 12, 1886	Lyden, Michael John ...	Sydney ...	M.D., Q.U. Irel. 1877, Mast Surg Q U. Irel 1877.
198	Dec 20, 1841	Lynch, Henry	Ireland	Mem R. Coll. Surg Eng. 1838
1770	June 8, 1892	Lyon, Walter	Groveville	M D Univ Glasg 1875, C M. Univ. Glasg 1870.
1311	June 9, 1886	Lyons, Harry Sydenham	Victoria	M.D. Univ. Glas. 1885.
583	July 5, 1864	Lyons, William	Brisbane ..	Mem. R. Coll. Surg Eng 1861; Lic R. Coll. Phys. Lond. 1862.
1056	Feb. 14, 1883	Lyttleton, William Margrave	Adelong ...	Mem. R. Coll. Surg Eng. 1868; Lic. R. Coll Phys. Edin. 1869.
1318	Aug 11, 1886	M'Allister, John Francis..	Stalmore	M B. 1885, Ch. B. 1886, Univ. Melb., M D. Univ. Melb 1892
1500	Dec 12, 1888	MacCarthy, Charles Denis	Victoria ...	Lic et Lic Midwif K et Q. Coll Phys. Irel. 1888; Lic R. Coll. Surg Irel. 1888.
1185	Nov. 12, 1884	MacCarthy, Charles William	Sydney	M.D. Bruxelles 1884, Mem. 1883, Lic. K. et Q. Coll. Phys. Irel. 1872, Lic. 1872, Fell. R. Coll. Surg. Irel. 1884.
1271	Dec. 9, 1885	M'Clure, William George	Hillgrove	M D. Univ. Glasg. 1847, Mem R. Coll Surg. Eng 1847.
1093	Oct 10, 1883	MacCormick, Alexander	Sydney	M.B. Univ. Edin. 1880, Mast. Surg. Univ. Edin. 1880; Mem. R. Coll. Surg. Eng 1881 M.D. Univ. Edin. 1885.
1880	—, 1894	MacCredie, John Laing Martin	..	M B Univ Sydney 1894; (additional registration) M. Ch. Univ Sydney 1894
1425	Nov. 9, 1887	M'Coy, Thomas Joseph	Captain's Flat	Lic. K. et Q. Coll Phys Irel 1876; Lic. R. Coll. Surg. Irel. 1874; Lic. Mid. K et Q. Coll. Phys. Irel. 1876.
853	Aug. 5, 1878	M'Culloch, S H.	Sydney	M.B. et C.M. Univ. Edin. 1877.
1934	—, 1894	Macdonald, George Bothwell Douglas.	...	M B. et Mast. Surg Univ Aberd 1887.
1423	Nov. 9, 1887	Macdonald, George Childs	Sydney	Lic. R. Coll. Phys. Edin. 1893, Mem. R. Coll. Surg. Eng. 1884, Fell R Coll. Surg Edin 1887.
1413	Oct 12, 1887	Macdonald, Roderick	Tweed River	M B. Univ. Glasg 1884; Mast Surg Univ Glasg. 1884.
1495	Nov. 14, 1888	Macdonald, Thomas Fauset	...	M B Univ Glasg 1882, Mast Surg Univ Glasg. 1882.
1002	Mar. 8, 1882	Macdonald, William Craig Christie	Queensland	M.B Univ. Glasg. 1878, C.M. Univ. Glasg. 1878.
1912	—, 1894	MacDonnell, Lucius Gerald Armstrong	..	M.B., B. Ch., B.A O Univ. Dub 1890.
1447	Feb. 8, 1888	M'Donagh, Augustus William	Byron Bay ..	Lic. Soc. Apoth Lond 1875
1380	April 13, 1887	M'Donagh, John Michael	Sydney	Lic. 1882, Fell. 1883, R. Coll. Surg Irel, Mem. R. Coll. Phys Lond 1885, Lic Mid K & Q Coll Phys Irel. 1883; Lic Mid R Coll. Surg Irel 1883
1376	Mar 9, 1887	M'Donogh, Bernard	Coraki ...	Lic R Coll Phys Edin 1886; Lic R Coll Surg. Edin. 1886, Lic Fac. Phys et Surg Glasg. 1886
1598	April, 9, 1890	M'Donnell, Aeneas John.	Queensland	M.B. et M. Ch. Univ. Sydney 1889
1129	Mar. 12, 1884	M'Donnell, Edward Patrick	Forbes	Lic. K. et Q. Coll. Phys. Irel. 1878; Lic. R. Coll. Surg. Irel. 1877.
1292	Mar. 10, 1886	M'Douall, Herbert Crichton	Gladesville ...	Mem. R. Coll. Surg. Eng. 1884; Lic. R. Coll. Phys. Lond. 1884.
844	May 6, 1878	M'Dougall, Richard	South Australia..	M B. et Mast. Surg. Univ Glasg. 1878; M.D. Univ. Glasg. 1882.
828	Oct 15, 1862	MacFarlane, William Holdsworth	Tasmania	M.B Univ. Melb. 1874.
866	Nov 4, 1878	MacGowan, Robert...	South Australia	L.F.P.S. Glasg. 1874
711	April 2, 1872	M'Grath, Henry Francis	Tamworth	Mem. R. Coll. Surg. Eng. 1857.
1515	Feb. 13, 1889	Macgregor, Robert Donald	...	M B et Mast. Surg. Univ. Edin 1880.
1627	Sept. 10, 1890	M'Ginniss, John	Victoria	Lic. R. Coll Surg. Irel 1884, Lic. et Lic. Mid. K. et Q. Coll Phys Irel 1884
1326	Sept. 8, 1886	M'Guire, William Walters	Wingham	M.B. Ch. B. Univ. Melb 1881.
937	Nov. 10, 1880	Machattie Thomas Alfred	Bathurst	M.B. et Mast. Surg Univ Edin 1879.
1626	Sept. 10, 1890	M'Ilroy, John Black	Condobolin	Lic R Coll Phys Lond 1887; Lic Soc. Apoth. Lond. 1886, Mem. R Coll Surg Eng 1888
1705	Sept 9, 1891	M'Inerny, John	Victoria	Lic. Soc Apoth Lond 1889, M D Coll Phys et Surg. New York, U S A 1886
347	April 6, 1852	M'Kay, Charles	Rooty Hill	M D Univ St. And 1843, Lic R. Coll. Surg Edin. 1843.
1684	July 8, 1891	M'Kay, John Gilbert	Sydney	M B et Ch B Univ Melb 1870
1692	Aug 12, 1891	MacKay, William	..	M B et Mast Surg. Univ Edin 1885
1678	May 13, 1891	M'Kay, William John	Sydney	M.B. Univ. Sydney 1891 - Ch M Univ Sydney 1891.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1900	—, 1894	MacKinnen, Roger Robert Steel.	.....	M.B. et Ch. M. Univ. Sydney 1894.
1697	Aug. 12, 1891	MacKnight, Conway Montgomery.	Urana	M.B. et B.S. Univ. Melb. 1887; Mem. R. Coll. Surg. Eng. 1890.
706	Mar. 25, 1872	Mackellar, Charles Kinnaid.	Sydney	M.B. Univ. Glas. 1871; C.M. Univ. Glasg. 1871.
1094	Oct. 10, 1883	Mackenzie, John Hugh ...	Victoria.....	Lic. R. Coll. Surg. Edin. 1880; Fell R. Coll. Surg. Edin. 1880.
730	Jan. 5, 1874	M'Killop, Robert.....	Goulburn	Lic. R. Coll. Phys. Edin. 1863; Lic. Fac. Phys. et Surg. Glasg. 1872; Fell R. Coll. Surg. Edin. 1882.
1295	April 14, 1886	Macky, James	Glebe.....	Lic. Fac. Phys. et Surg. Glasg. 1885; Lic. R. Coll. Phys. Edin. 1885; Lic. R. Coll. Surg. Edin. 1885.
663	Oct. 1, 1869	MacLaurin, Henry Norman.	Sydney	M.D. Univ. Edin. 1857; Lic. R. Coll. Surg. Edin. 1857; Lic. Mid. R. Coll. Surg. Edin. 1857.
1758	April 13, 1892	Maclean, Alexander.....	.....	M.B. et Mast. Surg. Univ. Edin. 1889.
1435	Dec. 14, 1887	MacLennan, John Norman Emslie.	Casino	M.B. et Mast. Surg. Univ. Aberd. 1883.
1800	Dec. 14, 1892	MacLeod, Charles Gordon	.....	M.B. et Mast. Surg. Univ. Edin. 1889.
1213	Mar. 11, 1885	M'Leod, James	Sydney	M.B. Univ. Glasg. 1884; Mast. Surg. Univ. Glasg. 1884.
1602	May 14, 1890	M'Leod, James	Hurstville	M.B. et Mast. Surg. Univ. Edin. 1887.
1070	June 13, 1883	M'Leod, John	Sydney	M.D. Bishop's Coll. Univ. Montreal 1876; Mast. Surg. Bishop's Coll. Univ. Montreal 1876.
1367	Feb. 9, 1887	MacLoughlin, Thomas James.	Glen Innes	Lic. R. Coll. Surg. Edin. 1878; Lic. R. Coll. Phys. Edin. 1878.
885	Mar. 7, 1879	M'Master, Robert Dickie.	Goulburn	Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875; M.D. Queen's Univ. Irel. 1876.
1147	June 16, 1884	M'Math, Arthur William	Dungog	Lic. K. et Q. Coll. Phys. Irel. 1884; Lic. R. Coll. Surg. Irel. 1880.
795	Sept. 4, 1876	Macmullen, Hamilton.....	Melbourne	M.B. Univ. Dub. 1871; Lic. R. Coll. Surg. Irel. 1872.
747	Nov. 2, 1874	M'Mullen, John Joseph Kyan.	Shoalhaven	Lic. R. Coll. Phys. Edin. 1862; Lic. Fac. Phys. et Surg. Glasg. 1862.
1181	Oct. 8, 1884	M'Murray, Wahab	Sydney	M.D. Queen's Univ. Irel. 1881; Ch. M. Queen's Univ. Irel. 1881.
896	June 2, 1879	Macnamara, Patrick Joseph.	Victoria.....	Lic. R. Coll. Surg. Irel. 1870.
1440	Jan. 11, 1888	MacNamara, Matthew ...	Queensland	Lic. K. et Q. Coll. Phys. Irel. 1884; Lic. Mid. K. et Q. Coll. Phys. Irel. 1884; Lic. R. Coll. Surg. Irel. 1883.
1874	—, 1894	M'Naughton, John .....	.....	M.B. et Mast. Surg. Univ. Edin. 1886.
1394	July 13, 1887	M'Neil, John Patrick.....	Burwood	M.B. 1873, M.D. 1876, Trin. Coll. Dub.; Lic. et Lic. Mid. R. Coll. Surg. Irel. 1873.
1401	Aug. 10, 1887	M'Nish, James.....	Bulladelah	M.B. Univ. Glasg. 1882; Lic. R. Coll. Phys. Edin. 1886; Mast. Surg. Univ. Glasg. 1882; Lic. R. Coll. Surg. Edin. 1886.
751	Dec. 7, 1874	Macqueen, Archibald	Lismore	Lic. R. Coll. Phys. Edin. 1871; Lic. Mid. R. Coll. Phys. Edin. 1871; Lic. Fac. Phys. et Surg. Glasg. 1871; Lic. Mid. Fac. Phys. et Surg. Glasg. 1871; F.R.C.S. Edin.
1434	Dec. 14, 1887	MacRoberts, William Kirkpatrick.	Uralla	M.B. et Mast. Surg. Royal Univ. Irel. 1887; Lic. K. and Q. Coll. Phys. Irel. 1886.
1133	Mar. 12, 1884	M'Swinney, George Henry	Petersham.....	M.D. Queen's Univ. Irel. 1871; M. Ch. Queen's Univ. Irel. 1871.
1076	June 13, 1883	Macguire, Stanislaus	Molong	Lic. K. et Q. Coll. Phys. Irel. 1877; Lic. R. Coll. Surg. Irel. 1876.
1852	Dec. 13, 1893	Madden, Frank Cole .....	.....	M.B. Univ. Melb. 1893.
880	Feb. 7, 1879	Madden, Henry Murray ...	Tasmania	M.D. Queen's Univ. Irel. 1868; Lic. Apoth. Hall, Dub. 1868; M. Ch. Queen's Univ. Irel. 1870.
1744	Mar. 9, 1892	Maffey, John	Sydney	Lic. R. Coll. Surg. Edin. 1869; Lic. R. Coll. Phys. Edin. 1869.
1534	May 8, 1889	Magill, Martin.....	Queensland	M.B. Univ. Melb. 1887; Ch. B. Univ. Melb. 1887.
1294	April 14, 1886	Maher, Charles Henry ...	Sydney	Mem. R. Coll. Surg. Eng. 1884; Lic. K. and Q. Coll. Phys. Irel. 1883; Lic. Mid. K. and Q. Coll. Phys. Irel. 1884.
1137	April 9, 1884	Maher, William Odillo ...	Sydney	M.D. Queen's Univ. Irel. 1881; Mast. Surg. Queen's Univ. Irel. 1881; Mem. R. Coll. Surg. Eng. 1882.
1748	April 13, 1892	Maitland, Herbert Lethington.	Sydney	M. B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1704	Sept. 9, 1891	Malcolm, John	Helensburgh	M.B. et Mast. Surg. Univ. Aberd. 1885.
1196	Jan. 11, 1885	Mallam, Laurence George	Armidale	M.B. Univ. Edin. 1884; C.M. Univ. Edin. 1884; Mem. R. Coll. Surg. Eng. 1884.
654	Jan. 5, 1869	Manning, F. Norton	Hospital for the Insane, Gladesville	Mem. R. Coll. Surg. Eng. 1860; Lic. Soc. Apoth. Lond. 1860; M.D. Univ. St. And. 1862.
833	Jan. 7, 1878	Marano, Gregori Vincent..	Sydney	M.D. Univ. Naples 1871. C.M. Univ. Naples 1885.
921	May 12, 1880	Marr, Joseph Bell	Victoria.....	Lic. Fac. Phys. Surg. Glasg. 1860; Lic. R. Coll. Phys. Edin. 1864.
755	Aug. 27, 1873	Marsden, Charles G. Wilson.	Sydney	M.B. Trin. Coll. Dub. 1872; Lic. R. Coll. Surg. Edin. 1873.
1733	Jan. 13, 1892	Marshall, Frederick William.	Kempsey	M. B. Univ. Edin. 1890; Mast. Surg. Univ. Edin. 1890.
1033	Nov. 16, 1882	Marshall, George Archibald.	Sydney	M.B. Univ. Dub. 1882; Ch. B. Univ. Dub. 1882.
1281	Mar. 10, 1886	Marshall, Hezlett Hamilton.	Sydney	Lic. R. Coll. Phys. Edin. 1885; Lic. R. Coll. Surg. Edin. 1885; Lic. Fac. Phys. and Surg. Glasg. 1885; M.B. et Mast. Surg. Univ. Edin. 1894.
1282	Mar. 10, 1886	Marshall, Joseph	Bega	M.B. Trin. Coll. Dub. 1876; Ch. B. Trin. Coll. Dub. 1876.
1740	Feb. 10, 1892	Martin, Charles James ...	Sydney	M. B. Univ. Lond. 1890; Mem. R. Coll. Surg. Eng. 1889 Lic. Soc. Apoth. Lond. 1889.
1475	June 13, 1888	Martin, John Wilson	Victoria.....	M.B. et Mast. Surg. Univ. Edin. 1887; Lic. R. Coll. Phys. Edin. 1887; Lic. Fac. Phys. et Surg. Glasg. 1887; Lic. R. Coll. Surg. Edin. 1887.

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1233	July 9, 1885	Martin, Morgan Thomas...	Sydney	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
1141	April 9, 1884	Mason, Harry Wharton ...	Tumut	M.B. Univ. Edin. 1879; Mast. Surg. Univ. Edin. 1879.
1229	May 13, 1885	Massey, Harry Massey ...	Gunnedah	Lic. R. Coll. Phys. Lond. 1882; Mem. R. Coll. Surg. Eng. 1882.
907	Nov. 12, 1879	Matheson, Murdoch	Waverley	M.D. Queen's College, Kingston, Canada; Fell. R. Coll. Phys. et Surg. Kingston, Canada, 1876; Mem. Coll. Phys. et Surg. Ontario 1887.
1779	Aug. 10, 1892	Mathews, William Robert	Albury	Lic. R. Coll. Phys. Lond. 1892; Mem. R. Coll. Surg. Eng. 1892.
1572	Dec. 11, 1889	Mathias, William Lloyd...	Sydney	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1888.
1728	Jan. 13, 1892	Mattei, Charles	Hill End	Lic. R. Coll. Phys. Edin. 1888; Lic. Fac. Phys. et Surg. Glasg. 1888; Lic. R. Coll. Surg. Edin. 1888.
1708	Oct. 14, 1891	Mattei, Edward .....	.....	Mem. R. Coll. Surg. Eng. 1882.
940	Dec. 8, 1880	Matthews, Thomas	Shoalhaven	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1877.
194	Oct. 4, 1841	Maxwell, Edward Stanford	Hillston	Mem. R. Coll. Surg. Eng. 1838.
1492	Oct. 12, 1888	May, Arthur William.....	Royal Navy	Lic. R. Coll. Phys. Lond. 1877; Mem. R. Coll. Surg. Eng. 1876.
1522	Mar. 13, 1889	Meade, Ravis.....	Quirindi	M.B. Univ. Edin. 1882; Mast. Surg. Univ. Edin. 1882; Mem. R. Coll. Surg. Eng. 1883.
1240	Aug. 12, 1885	Meeke, Arthur Henry.....	Candelo	M.B. Univ. Dub. 1885; M.D. Univ. Dub. 1885.
1764	May 11, 1892	Meeke, William M'Elrath	Queensland	Lic. et Lic. Mid. R. Coll. Phys. Irel. 1891; Lic. et Lic. Mid. R. Coll. Surg. Irel. 1891.
1015	July 12, 1882	Meggison, Archibald Megget.	Sydney	M.B. Univ. Edin. 1878; C.M. Univ. Edin. 1878.
1710	Oct. 14, 1891	Mellish, Percy.....	Wallsend	Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886.
997	Mar. 8, 1882	Menzies, Edward	New Zealand ...	Mem. R. Coll. Surg. Eng. 1841.
1519	Feb. 13, 1889	Meredith, John Baldwin...	Raymond Terrace	Lic. R. Coll. Phys. Edin. 1888; Lic. R. Coll. Surg. Edin. 1888; Lic. Fac. Phys. et Surg. Glasg. 1888.
1403	Aug. 10, 1887	Merrifield, Sydney Sargent	Bombala	Mem. R. Coll. Surg. Eng. 1883; Lic. Soc. Apoth. Lond. 1883.
1829	June 14, 1893	Merrilees, James Frederick	.....	M.B. et B.S. Univ. Melb. 1889.
891	May 5, 1879	Metcalfe, Peter Herbert...	Norfolk Island...	Mem. R. Coll. Surg. Eng. 1876.
1119	Feb. 13, 1884	Middleton, William.....	Mittagong.....	Lic. R. Coll. Phys. Edin. 1883; Lic. Fac. Phys. et Surg. Glasg. 1883.
1696	Aug. 12, 1891	Miers, Arthur .....	.....	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1888.
1321	Aug. 11, 1886	Miles, George Edward ...	Callan Park	Lic. R. Coll. Phys. Lond. 1884; Mem. R. Coll. Surg. Eng. 1875.
464	Nov. 16, 1885	Milford, Frederick	Sydney	Mem. R. Coll. Surg. Eng. 1856; M.D. Univ. Heidelberg 1856; Lic. R. Coll. Phys. Lond. 1868; Lic. Mid. R. Coll. Surg. Eng. 1856.
1669	April 8, 1891	Millard, Reginald Jeffrey	Parramatta	M.B. Univ. Sydney 1891.
1528	April 15, 1889	Mills, Arthur Edward.....	Picton	M.B. Univ. Sydney 1889.
1634	Nov. 12, 1890	Minchin, Edward James...	Forbes	Lic. K. et Q. Coll. Phys. Irel. 1884; Lic. R. Coll. Surg. Irel. 1884.
1351	Jan. 12, 1887	Mitchell, Adam Garratt...	.....	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
693	July 3, 1871	Mitchell, Alexander	Royal Navy	M.D. Univ. Aberd. 1861; Mast. Surg. Univ. Aberd. 1861.
1198	Jan. 11, 1885	Mitchell, James	Narrandera	M.B. Univ. Aberd. 1884; C.M. Univ. Aberd. 1884.
922	May 12, 1880	Moffit, John Ernest James	Balmain.....	Lic. K. et Q. Coll. Phys. Irel. 1878; Lic. R. Coll. Surg. Irel. 1878.
897	June 2, 1879	Mohs, Ernest Johann Rudolph.	Queensland	M.D. Univ. Berlin, 1865; M.D. Univ. Halle 1865.
1261	Nov. 11, 1885	Moir, Henry Christopher...	.....	M.D. Univ. City of New York, U.S.A. 1882.
1334	Oct. 13, 1886	Moir, William	Victoria	M.B. et Mast. Surg. Univ. Aberd. 1883.
1652	Feb. 12, 1891	Molyneux, John Francis...	Sydney	Lic. R. Coll. Phys. Edin. 1883; Mem. R. Coll. Surg. Eng. 1883.
1909	—, 1894	Momont, Louis .....	.....	M.D. Univ. Paris 1891.
1803	Jan. 11, 1893	Money, Angel	Sydney	Fell. R. Coll. Phys. Lond. 1889; B.S. Univ. Lond. 1880; Mem. R. Coll. Surg. Eng. 1879; M.B. Univ. Lond. 1880.
1060	April 11, 1883	Moore, Arthur Malcolm ...	Sydney	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882.
1486	Sept. 12, 1888	Moore, John Brook.....	Bathurst	Lic. K. et Q. Coll. Phys. Irel. 1887; Lic. R. Coll. Surg. Irel. 1887.
1497	Nov. 14, 1888	Moore, John Irwin	Queensland	Lic. R. Coll. Surg. Irel. 1884; Lic. et Lic. Midwif. K. et Q. Coll. Phys. Irel. 1887.
1499	Nov. 23, 1888	Morice, Robert James.....	Tenterfield	M.B. Mast. Surg. Univ. Aberd. 1874; M.D. Univ. Aberd. 1878.
463	Nov. 3, 1856	Morgan, Allan Bradley ...	Bowral	Mem. R. Coll. Surg. Eng. 1855; Lic. R. Coll. Phys. Edin. 1869.
518	July 3, 1860	Morgan, Cosby William ...	Wagga Wagga...	Mem. R. Coll. Surg. Eng. 1859; Lic. R. Coll. Phys. Lond. 1864; Lic. Fac. Phys. et Surg. Glas. 1860; M.D. Univ. Brussels 1864.
1298	April 14, 1886	Morgan, Edward Hume ...	Mount Victoria...	Mem. R. Coll. Surg. Eng. 1885.
410	Oct. 4, 1854	Morris, William	Sydney	Lic. Fac. Phys. et Surg. Glas. 1854.
1237	July 9, 1885	Morrow, Robert	Victoria	M.B. Univ. Dub. 1884; Ch. B. Univ. Dub. 1884.
627	Oct. 1, 1857	Morson, Alexander K.....	North Sydney ...	M.D. Univ. Edin. 1864; Lic. R. Coll. Surg. Edin. 1863; Lic. R. Coll. Phys. Edin. 1863.
668	Jan. 3, 1870	Morton, Chas. Peyton.....	Victoria	Mem. R. Coll. Surg. Eng. 1864; Lic. Soc. Apoth. Lond. 1867.
1595	April 9, 1890	Morton, Gavin.....	Gladesville	M.B. Univ. Sydney 1890.
1596	April 9, 1890	Morton, John	Sydney	M.B. Univ. Sydney 1890; Ch. M. Univ. Sydney 1890.
1444	Feb. 8, 1888	Morton, William John ...	Inverell	Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886; M.B. et Mast. Surg. Univ. Aberd. 1891; M.D. Univ. Aberd. 1894.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1894	—, 1894	Mouritz, John Ruddock..	.....	M.B. Univ. Melb. 1893.
1695	Aug. 12, 1891	Müller, Charles Albert ...	Sydney	M.B. Univ. Melb. 1889.
1799	Dec. 14, 1892	Müller, Hans .....	.....	State Exam. Certif. Munich 1889.
1421	Nov. 9, 1887	Mullins, George Lane	Waverley	M.B. Univ. Dub. 1887; M.D. Trin. Coll. Dub. 1888; Lic. Mid. K. et Q. Coll. Phys. Irel. 1888.
1145	June 16, 1884	Munro, Andrew Watson...	Sydney	M.B. Univ. Edin. 1883; Mast. Surg. Univ. Edin. 1883.
1242	Aug. 12, 1885	Munro, William John.....	Glebe	M.B. Univ. Edin. 1884; Mast. Surg. Univ. Edin. 1884; Mem. R. Coll. Surg. Eng. 1885.
1029	Sept. 13, 1882	Murdock, James	Victoria.....	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1877; Fell. R. Coll. Surg. Edin. 1879.
1173	Oct. 8, 1884	Murphy, Michael Dominick	Bega	Lic. Fac. Phys. et Surg. Glasg. 1868; Lic. Soc. Apoth. Lond. 1868.
1126	Feb. 13, 1884	Murray, Arthur Hill	Queensland	Lic. K. and Q. Coll. Phys. Irel. 1881; Lic. R. Coll. Surg. Irel. 1880.
1881	—, 1894	Murray, George Lathrop...	.....	M.B. Univ. Sydney 1894; (additional Registration) M. Ch. Univ. Sydney 1894.
1456	April 11, 1888	Murray, John James Goodlatte.	Parkes	Lic. R. Coll. Phys. Edin. 1878; Lic. Apoth. Hall Dub. 1883; Lic. R. Coll. Surg. Edin. 1878.
1236	July 9, 1885	Murray, William.....	Armidale	M.B. Univ. Dub. 1872; Mem. R. Coll. Surg. Eng. 1873.
1013	July 12, 1882	Muskett, Philip Edward...	Sydney	Lic. R. Coll. Phys. Edin. 1880; Lic. R. Coll. Surg. Edin. 1880.
1386	May 11, 1887	Nagel, Günther	Bingera.....	M.D. Univ. Berlin 1881; State Exam. Certif. Berlin 1882.
1380	Jan. 12, 1887	Nash, Andrew William ...	Robertson.....	M.B. Univ. Edin. 1886; Mast. Surg. Univ. Edin. 1886.
1053	Feb. 14, 1883	Nash, John Brady	Lambton	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882; Mem. R. Coll. Surg. Eng. 1882; M.D. Univ. Edin. 1888.
775	Feb. 14, 1876	Naylor, Henry George Horace.	Tasmania	Lic. R. Coll. Phys. Edin.; Lic. Mid. R. Coll. Phys. Edin. 1874; Lic. R. Coll. Surg. Edin.; Lic. Mid. R. Coll. Surg. Edin. 1864.
1840	Sept. 13, 1893	Neale, Alfred James ...	.....	M.D. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1882.
1620	Aug. 13, 1890	Neill, Channing	Bear Hill	M.D. Q. U. Irel. 1876; M. Ch. Q. U. Irel. 1876; Lic. R. Coll. Surg. Edin. 1881.
1605	May 14, 1890	Neill, Leopold Edward Flood.	Double Bay	M.B. et Ch. M. Univ. Sydney 1890.
1482	Aug. 8, 1888	Nelly, John Francis	Victoria.....	Lic. R. Coll. Phys. Edin. 1887; Lic. R. Coll. Surg. Edin. 1887; Lic. Fac. Phys. et Surg. Glasg. 1887.
1537	May 8, 1889	Newland, Edward Oriel...	Coonamble	Lic. R. Coll. Phys. Lond. 1889; Mem. R. Coll. Surg. Eng. 1889.
1752	April 13, 1892	Newell, Benjamin Armitage.	.....	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1222	April 15, 1885	Newman, Dewitt Clinton...	America	M.D. Cooper Med. Coll. San Francisco, U.S.A. 1883.
1065	May 9, 1883	Newmarch, Bernard James	St. Leonards.....	Lic. R. Coll. Phys. Lond. 1880; Mem. R. Coll. Eng. 1877.
1853	Dec. 13, 1893	Newton, William Schackelfield.	.....	Lic. Soc. Apoth. Lon. 1893.
1387	May 11, 1887	Nichol, Henry	Gippsland, Vic....	Lic. R. Coll. Phys. Edin. 1860; Mem. R. Coll. Surg. Eng. 1859.
465	Nov. 16, 1856	Nicholls, Geo. Archibald...	Delegate	Lic. R. Coll. Surg. Irel. 1880; M.D. Univ. Glasg. 1839.
1364	Feb. 9, 1887	Nicholls, John William ...	Penrith	M.D. Queen's Univ. Irel. 1873; M. Ch. Queen's Univ. Irel. 1873.
1442	Jan. 11, 1888	Nickoll, Harvey	Mudgee.....	Lic. R. Coll. Phys. Edin. 1883; Lic. R. Coll. Surg. Edin. 1883.
1459	April 11, 1888	Nickson, Wilfred John Robert.	Newcastle.....	M.B. et Ch.B. Univ. Dub. 1886; M.D. Univ. Dub. 1891.
1651	Feb. 12, 1891	Nielsen, Frederick William	Queensland	Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1886.
1730	Jan. 13, 1892	Nolan, Joseph Adam .....	.....	Mem. R. Coll. Surg. Eng. 1889; Lic. R. Coll. Phys. Edin. 1888; Lic. R. Coll. Surg. Edin. 1888; Lic. Fac. Phys. et Surg. Glasg. 1888.
1379	April 13, 1887	Norcott, William Boyle ...	Victoria.....	Mem. R. Coll. Surg. Eng. 1848.
1762	April 13, 1892	Norman, Arthur Harry ...	Bourke	Lic. R. Coll. Phys. Edin. 1877; Lic. R. Coll. Surg. Edin. 1877.
979	Dec. 14, 1881	Norrie, Andrew	Sydney	M.B. Univ. Aberd. 1878; M.B. Univ. Aberd. 1881; C.M. Univ. Aberd. 1878.
1378	April 13, 1887	Noyes, Alexander Wellesley Finch.	Victoria.....	Lic. R. Coll. Phys. Lond. 1886; Lic. Soc. Apoth. Lond. 1885; Mem. R. Coll. Surg. Eng. 1886.
573	Oct. 6, 1863	Noyes, Alfred William Finch.	Deniliquin.....	Mem. R. Coll. Surg. Eng. 1857.
911	Jan. 14, 1880	Oakes, Arthur William ...	England	M.B. et Mast. Surg. Univ. Edin. 1879; Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
1585	Feb. 12, 1890	O'Brien, Philip Kennedy	Tasmania	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1888.
819	Aug. 6, 1877	O'Connor, Maurice John...	Sydney	Lic. R. Coll. Surg. Irel. 1876; Lic. K. et Q. Coll. Phys. Irel. 1877; Mem. K. et Q. Coll. Phys. Irel. 1884; Lic. Mid. K. et Q. Coll. Phys. Irel. 1877.
512	April 3, 1860	O'Connor, Morgan	Wagga Wagga ...	Mem. R. Coll. Surg. Eng. 1855.
531	April 2, 1861	O'Doherty, Kevin Izod ...	Queensland	Fell. R. Coll. Surg. Irel. 1837.
1111	Jan. 9, 1884	O'Dwyer, James Joseph ...	Gundagai	Lic. K. et Q. Coll. Phys. Irel. 1880; Lic. R. Coll. Surg. Irel. 1879; (additional Registration) Lic. Midwif. R. Coll. Surg. Irel. 1880; Lic. Midwif. K.Q. Coll. Phys. Irel. 1880.
1305	May 12, 1886	O'Flanagan, Andrew Joseph	Merriwa	Lic. et Lic. Mid. K. and Q. Coll. Phys. Irel. 1884; Lic. R. Coll. Surg. Irel. 1883.
1384	May 11, 1887	Ogden, William Henry ...	.....	Lic. R. Coll. Surg. Irel. 1878; Lic. K. et Q. Coll. Phys. Irel. 1879.
952	Mar. 9, 1881	Ogg, Alexander Stark .....	.....	M.B. Univ. Toronto, Canada. 1878; Lic. R. Coll. Phys. Edin. 1880; Mem. Coll. Phys. et Surg. Ontario 1878; (additional Registration) M.D. Univ. Toronto 1884.
1867	—, 1894	O'Hara, Acland Anderson	.....	M.B. et Mast. Surg. Univ. Edin. 1892.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
598	Oct. 3, 1865	O'Hara, Daniel Murray ...	Echuca	M.D. Queen's Univ. Irel. 1857; Mem. R. Coll. Surg. Eng. 1859.
964	July 13, 1881	O'Leary, Morgan Phillip...	S. Australia	L. K. et Q. Coll. Phys. Irel. 1871; Mem. R. Coll. Surg. Eng. 1870.
1353	Jan. 12, 1887	O'Neill, Gregory John Lamb.	Sydney	M.B. et Mast. Surg. Univ. Edin. 1886.
1565	Dec. 11, 1889	O'Neill, William Henry Basil.	Sydney	M.B. Univ. Edin. 1889; Mast. Surg. Univ. Edin. 1889.
1008	May 11, 1882	Oram, Arthur Murray ...	Sydney	M.B. Univ. Edin. 1879; C.M. Univ. Edin. 1879; M.D. Univ. Edin. 1881.
721	April 7, 1873	O'Reilly, Walter W. Joseph.	Sydney	M.D. Queen's Univ. Irel. 1870; M. Ch. Queen's Univ. Irel. 1871; Mem. R. Coll. Surg. Eng. 1872.
1416	Nov. 9, 1887	Orr, Andrew William.....	.....	M.B. Trin. Coll. Dub. 1887; Lic. K. and Q. Coll. Phys. Irel. 1887; M.D. Univ. Dub. 1890; B. Ch. Univ. Dub. 1889.
1536	May 8, 1889	Orr, Herbert Holmes .....	.....	M.B. Univ. Dub. 1888; Ch.B. Univ. Dub. 1888.
1133	Nov. 12, 1884	Orton, Arthur	Queensland	Mem. R. Coll. Surg. Eng. 1882.
1655	Mar. 11, 1891	O'Shaughnessy, Michael...	Albury	Lic. R. Coll. Phys. Edin. 1890; Lic. R. Coll. Surg. Edin. 1890; Lic. Fac. Phys. et Surg. Glasg. 1890.
333	Oct. 1, 1850	Palmer, Edward Fielding	Queensland	Mem. R. Coll. Surg. Eng. 1844.
1117	Feb. 13, 1884	Pardey, Charles William	Victoria.....	M.B. Univ. Melb. 1883.
510	April 3, 1860	Park, John Steel	Victoria.....	Lic. Soc. Apoth. Lond. 1859.
1751	April 13, 1892	Park, Joseph .....	.....	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
872	Dec. 2, 1878	Parker, Arthur Frederick	Woollabra.....	L.S.A. Lond. 1876; M.R.C.S. Eng. 1876.
678	April 4, 1870	Parker, James .....	.....	Lic. R. Coll. Surg. Irel. 1859; Lic. Soc. Apoth. Dub. 1861; Lic. Med. R. Coll. Surg. Irel. 1864.
794	Sept. 4, 1876	Parker, Joseph.....	Redfern.....	Lic. R. Coll. Phys. Edin.; Lic. Med. R. Coll. Phys. Edin. 1876; Lic. et L. Mid. Fac. Phys. and Surg. Glas. 1876.
1249	Aug. 12, 1885	Parkinson, Charles Joseph	Victoria.....	M.B. Lond. 1884; Mem. R. Coll. Surg. Eng. 1882; Lic. Soc. Apoth. Lond. 1882.
1178	Oct. 8, 1884	Parry, Lloyd Davenport...	Murrumburrah...	Lic. R. Coll. Surg. Edin. 1871.
842	April 1, 1878	Paterson, Alexander	Sydney	M.D. Univ. Edin. 1868; C.M. Univ. Edin. 1868; M.R.C.S. Eng. 1868; F.R.C.S. Edin. 1869.
1339	Nov. 10, 1886	Paton, Robert Thomson...	Sydney	Lic. R. Coll. Phys. et Surg. Edin. 1885; Fell. R. Coll. Surg. Edin. 1887.
1395	July 13, 1887	Patrick, Charles Adam ...	Marrickville	M.B. et Mast. Surg. Univ. Glasg. 1877.
1592	Mar. 12, 1890	Patton, Alexander Stoney	Queensland	M.B. Univ. Dub. 1885; B. Ch. Univ. Dub. 1885.
1095	Oct. 10, 1883	Payne, Charles Alexander	Victoria.....	Lic. Soc. Apoth. Lond. 1879; Mem. R. Coll. Surg. Eng. 1879.
1589	Mar. 12, 1890	Peare, Humphreys Robert Henry.	.....	Lic. K. et Q. Coll. Phys. Irel. 1887; Lic. Mid. K. et Q. Coll. Phys. Irel. 1887.
1154	June 16, 1884	Pearson, George	Queensland	Lic. R. Coll. Phys. Edin. 1870; Lic. R. Coll. Surg. Edin. 1870.
577	April 5, 1864	Peechey, William Crisp ..	.....	Mem. R. Coll. Surg. Eng. 1860; M.D. Univ. St. And. 1861; Lic. Soc. Apoth. Lond. 1861.
1393	July 13, 1887	Peel, Robert.....	Paddington	Lic. K. et Q. Coll. Phys. Irel. 1879; Mem. R. Coll. Surg. Eng. 1861.
1215	Mar. 11, 1885	Peirce, William	Coast Hospital, Little Bay.	M.B. 1863, M.D. 1865, Univ. Dub.; Lic. R. Coll. Surg. Irel. 1864.
1116	Jan. 9, 1884	Pellis, Charles Robert.....	.....	M.D. Univ. France, 1879.
1709	Oct. 14, 1891	Pentland, Alexander	West Maitland...	M.B. 1878, M.D. 1891, Univ. Dub.; Lic. R. Coll. Surg. Irel. 1877.
1777	July 20, 1892	Percival, Montague William	.....	Lic. et Mem. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1877.
1476	June 13, 1888	Perkins, Alfred Edward ...	.....	M.B. Univ. Sydney 1888; M. Ch. Sydney 1888.
641	April 7, 1868	Perry, Michael.....	Sydney	Mem. R. Coll. Surg. Eng. 1866; L. c. Soc. Apoth. Lond. 1887.
302	Jan. 8, 1849	Pettigrew, Frederick Webb	Jersey, U. S. America.	Mem. R. Coll. Surg. Eng. 1845.
865	Nov. 4, 1878	Philip, Alexander	Surry Hills	L.K.Q.C.P. Irel. 1877; L.R.C.S. Irel. 1878.
1035	Nov. 8, 1882	Phillips, George Henry ...	Parramatta	Lic. R. Coll. Phys. Edin. 1882; Mem. R. Coll. Surg. Eng. 1882.
1437	Jan. 11, 1888	Phillips, George Gordon Owen.	Victoria.....	Lic. R. Coll. Phys. Lond. 1887; Lic. Soc. Apoth. Lond. 1886; Mem. R. Coll. Surg. Eng. 1887.
667	Jan. 3, 1870	Pickburn, Thomas James	Sydney	M.B. Univ. Aberd. 1868; Mast. Surg. Univ. Aberd. 1868; Lic. Soc. Apoth. Lond. 1868; M.D. Univ. Aberd. 1874; Mem., Lic. Mid. R. Coll. Surg. Eng. 1876.
918	Mar. 16, 1880	Piercy, Ellis S.....	Murrurundi	M.D. Univ. of City of New York, U.S.A. 1874.
1601	April 9, 1890	Pigg, Cuthbert Ridley ...	.....	Lic. R. Coll. Phys. Edin. 1888; Lic. Fac. Phys. et Surg. Glas. 1888; Lic. R. Coll. Surg. Edin. 1883.
1549	Aug. 14, 1889	Pigot, Edward Francis ...	Riverview	M.B. et Ch. B. Univ. Dub. 1882.
373	April 5, 1853	Pilgrim, Edward William	England	Mem. R. Coll. Surg. Eng. 1842; Lic. Soc. Apoth. Lond. 1843.
1581	Feb. 12, 1890	Pilkington, Francis Sergeant.	Leichhardt	Lic. R. Coll. Phys. Lond. 1880; Mem. R. Coll. Surg. Eng. 1879.
633	Oct. 1, 1867	Pinching, R. L. A. C.....	New Zealand ...	Mem. R. Coll. Surg. Eng. 1833.
1903	—, 1894	Plumbe, Arthur .....	.....	Lic. R. Coll. Phys. Lond. 1893; Mem. R. Coll. Surg. Eng. 1893.
1781	Aug. 10, 1892	Plummer, Walter George	.....	Lic. K. et Q. Coll. Phys. Irel. 1870; Lic. R. Coll. Surg. Irel. 1869.
1225	May 13, 1885	Pockley, Francis Antill ...	St. Leonards.....	M.B. Univ. Edin. 1884; Mast. Surg. Univ. Edin. 1884; Mem. R. Coll. Surg. Eng. 1884.
976	Nov. 16, 1881	Pocock, Zachary Pearce ...	Paddington	Mem. R. Coll. Surg. Eng. 1843; Lic. Soc. Apoth. Lond. 1840.
1594	April 9, 1890	Poggioli, Vitaliano	Peak Hill	M.D. Univ. Bologna 1876; M. Ch. Univ. Bologna 1876.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1738	Feb. 10, 1892	Pollard, Evelyn Richard Hugh.	.....	Mem. 1887, Lic. et Lic. Midwif. 1877, K. et Q. Coll. Phys. Irel.; Mem. R. Coll. Surg. Eng. 1878.
1793	Nov. 8, 1892	Ponder, Charles Frederick	.....	M.B. et Mast. Surg. Univ. Edin. 1889.
1398	July 13, 1887	Pope, Henry Alexander Lephtheria.	Corowa	Mem. R. Coll. Surg. Eng. 1886; Lic. Soc. Apoth. Lond. 1886.
1849	Nov. 8, 1893	Pope, Rolard James	Sydney	M.D. Univ. Edin. 1892; Mast. Surg. Univ. Edin. 1890; Fell. R. Coll. Surg. Edin. 1893.
807	May 7, 1877	Power, John Joseph	Sydney	M.B. et M. Ch. Univ. Dub. 1875.
1224	May 13, 1885	Power, Richard	Victoria.....	Lic. R. Coll. Phys. Edin. 1864; Lic. R. Coll. Surg. Irel. 1863.
912	Jan. 14, 1880	Power, William Dudley...	West Maitland...	Lic. R. Coll. Phys. Edin. 1875; Lic. R. Coll. Surg. Edin. 1875.
1621	Aug. 13, 1890	Praagst, Lionel Francis ...	Victoria.....	M.B. et Ch. B. Univ. Melb. 1889.
1455	April 11, 1888	Prangley, Thomas	Katoomba.....	Lic. Soc. Apoth. Lond. 1862; Mem. R. Coll. Surg. Eng. 1861.
681	July 4, 1870	Pratt, Eustace Henry Lever.	Tamworth.....	Lic. Soc. Apoth. Lond. 1862; Mem. R. Coll. Surg. Eng. 1862.
1871	———, 1894	Pring, Arthur .....	.....	Lic. R. Coll. Phys. Lond. 1884.
1865	———, 1894	Proudfoot, Robert .....	.....	M.B. et Mast. Surg. Univ. Edin. 1892.
1731	Jan. 13, 1892	Pullin, Frank Bingley.....	Victoria	Lic. Fac. Phys. et Surg. Glasg. 1879; Lic. R. Coll. Phys. Edin. 1879.
1791	Sept. 14, 1892	Purcell, Herbert Churchill	Sydney	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1870; Lic. R. Coll. Surg. Irel. 1869.
1606	May 14, 1890	Purser, Cecil .....	.....	M.B. et Ch. M. Univ. Sydney 1890.
1194	Jan. 11, 1885	Pybus, John Alfred	Sydney	Lic. R. Coll. Phys. Edin. 1878; Lic. Soc. Apoth. Lond. 1878; Lic. R. Coll. Surg. Edin. 1878.
1769	June 8, 1892	Pym, Charles Brownlow...	Braidwood	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1888.
642	Jan. 5, 1869	Quaife, Frederick Harrison	Woollahra.....	M.D. Univ. Glasg. 1867; Mast. Surg. Univ. Glasg. 1867.
1212	Mar. 11, 1885	Quaife, William Francis...	Woollahra.....	M.B. Univ. Glasg. 1883; Mast. Surg. Univ. Glasg. 1883.
1630	Oct. 8, 1890	Quilter, John	Moruya	M.B. Univ. Melb. 1889.
1844	Oct. 4, 1893	Ramsay, James Edward...	.....	M.B. Univ. Lond. 1893.
1361	Jan. 12, 1887	Rankin, Richard Power ...	Victoria.....	Lic. R. Coll. Phys. Edin. 1885; Lic. R. Coll. Surg. Edin. 1885.
1142	June 16, 1884	Ray, Henry	Victoria.....	M.D. Univ. Glasg. 1883; M.B. Univ. Glasg. 1878; Lic. R. Coll. Phys. Edin. 1878; C.M. Univ. Glasg. 1878; Lic. R. Coll. Surg. Edin. 1878.
293	April 3, 1848	Read, Charles .....	.....	Lic. R. Coll. Surg. Edin. 1847.
942	Dec. 8, 1880	Read, George	Kiama	Lic. R. Coll. Surg. Irel. 1879.
1267	Dec. 9, 1885	Read, Herbert Huntington	Ashfield.....	M.D. McGill Coll. Montreal 1861; Lic. R. Coll. Surg. Edin. 1861.
716	Jan. 6, 1872	Read, Richard	Singleton	M.D. Queen's Univ. Irel. 1872; M. Ch. Queen's Univ. Irel. 1872.
1468	May 10, 1888	Reading, Richard Fairfax	Sydney	Mem. R. Coll. Surg. Eng. 1887; Lic. R. Coll. Phys. Lond. 1887.
1390	June 8, 1887	Reddall, Osborne Henry...	Randwick	Mem. R. Coll. Surg. Eng. 1886; Lic. R. Coll. Phys. Lond. 1886.
1092	Oct. 10, 1883	Redmond, Walter	Queensland	Lic. Soc. Apoth. Lond. 1879.
1773	June 8, 1892	Reed, James Lewis	Neutral Bay.....	M.B. et Mast. Surg. Univ. Edin. 1891.
1676	May 13, 1891	Rees, John .....	.....	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1883.
1559	Oct. 9, 1889	Reid, John	Victoria.....	M.B. Univ. Aberd. 1882; Mast. Surg. Univ. Aberd. 1882.
1647	Jan. 14, 1891	Reid, William Gladstone	.....	Lic. Soc. Apoth. Lond. 1877.
1523	Mar. 13, 1889	Rennie, George Edward...	Sydney	M.B. Univ. Lond. 1887; Mem. R. Coll. Surg. Eng. 1887; M.D. Lond. 1888.
1340	Nov. 6, 1886	Rennie, John Taylor	Ballina	M.D. Michigan Coll. of Medicine, U.S.A. 1884.
539	Jan. 7, 1862	Renwick, Arthur	Sydney	Lic. R. Coll. Surg. Edin. 1860; M.D. Univ. Edin. 1861; Fell. R. Coll. Surg. Edin. 1861.
1861	———, 1894	Richards, George Pickering	.....	Lic. R. Coll. Phys. Edin. 1871; Lic. Soc. Apoth. Lond. 1871; Mem. R. Coll. Surg. Eng. 1873.
1813	April 12, 1893	Richards, Samuel Jabez...	.....	M.B. Univ. Sydney 1893.
366	Jan. 4, 1853	Richards, Wm. Nicholas...	Sydney	Mem. R. Coll. Surg. Eng. 1838.
825	Sept. 3, 1877	Richardson, Sydney Longden.	Queanbeyan	Mem. R. Coll. Surg. Eng. 1876; Lic. R. Coll. Phys. Edin. 1877.
1760	April 13, 1892	Rielly, William Ernest ...	.....	Lic. R. Coll. Phys. Lond. 1891; Mem. R. Coll. Surg. Eng. 1891.
1732	Jan. 13, 1892	Ring, William	Orange	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
393	Oct. 18, 1853	Roberts, Alfred	Sydney	Mem. R. Coll. Surg. Eng. 1844; Lic. Soc. Apoth. Lond. 1844.
1157	July 9, 1884	Roberts, Arthur Henry ...	Sydney	Lic. R. Coll. Phys. Lond. 1883; Mem. R. Coll. Surg. Eng. 1883.
630	Oct. 1, 1867	Roberts, Edwin	Queensland	Mem. R. Coll. Surg. Eng. 1863.
1862	———, 1894	Roberts, Hubert William.	.....	Lic. R. Coll. Phys. Lond. 1892; Lic. Soc. Apoth. Lond. 1891; Mem. R. Coll. Surg. Eng. 1892.
1396	July 13, 1887	Robinson, Archibald Clarke	Jerilderie	M.D. Q. U. Irel. 1881; Lic. R. Coll. Surg. Edin. 1882.
1812	April 12, 1893	Robinson, Grace Fairley...	Sydney	M.B. et Ch. M. Univ. Sydney 1893.
1068	May 9, 1883	Robinson, Leonard	Victoria.....	M.D. Royal Univ. Irel. 1882; Mast. Surg. Royal Univ. Irel. 1882.
1688	July 8, 1891	Robinson, William Charles	Junee	Lic. R. Coll. Phys. Edin. 1889; Lic. R. Coll. Surg. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889.
1156	July 9, 1884	Rogers, William Henry ...	Greta.....	Lic. Fac. Phys. et Surg. Glas. 1862; Lic. Soc. Apoth. Lond. 1877.
1030	Nov. 16, 1882	Rooke, Charles.....	Marrickville	Mem. R. Coll. Surg. Eng. 1881.
1012	July 12, 1882	Rorke, Charles	St. Leonards.....	Lic. R. Coll. Surg. Irel. 1878; Lic. K. et Q. Coll. Phys. Irel. 1879.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
962	July 13, 1881	Roser, Karl .....	.....	M.D. Univ. Marburg 1881; State Exam. Certif. Germany 1880.
479	Nov. 28, 1857	Ross, Andrew	Molong	M.D. Univ. Glasg. 1852; Mast. Surg. Univ. Glasg. 1852.
1000	Dec. 12, 1883	Ross, Chisholm	Newcastle	M.B. Univ. Edin. 1883; Mast. Surg. Univ. Edin. 1883; M.D. Univ. Sydney 1886.
1189	Dec. 10, 1884	Ross, Elsey Fairfax	Sydney	M.R.C.S. Eng. 1884; Lic. R. Coll. Phys. Lond. 1884; M.D. Bruxelles 1884.
1461	April 11, 1888	Ross, W. Chisholm	Victoria	M.B. et Ch. B. Univ. Melb. 1885.
1046	Jan. 10, 1883	Roth, Reuter Emerich	Sydney	Mem. R. Coll. Surg. Eng. 1881.
1771	June 8, 1892	Roth, Walter Edmund	Young	Lic. R. Coll. Phys. Lond. 1892; Mem. R. Coll. Surg. Eng. 1892.
1613	July 9, 1890	Row, Linford Elfe	Grenfell	Lic. R. Coll. Phys. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889; Lic. R. Coll. Surg. Edin. 1889.
1842	Sept. 13, 1893	Rowland, George Hamilton .....	.....	Lic. R. Coll. Phys. Edin. 1890; Lic. R. Coll. Surg. Edin. 1890; Lic. Fac. Phys. et Surg. Glasg. 1890.
791	Aug. 7, 1876	Rundle, George Edward	Sydney	Lic. R. Coll. Phys. Edin; L. Mid. R. C. P. Edin. 1873; Lic. R. Coll. Surg. Edin.; Lic. Mid. R. C. S. Ed. 1873; Fell. R. Coll. Surg. Edin. 1878.
1163	July 9, 1884	Russell, Bartholomew Taylor	West Maitland	Lic. K. et Q. Coll. Phys. Irel. 1883; Lic. R. Coll. Surg. Irel. 1883.
1047	Feb. 14, 1883	Russell, George Blakely	Army Medical Staff	M.B. Univ. Dub. 1882; Ch. B. Univ. Dub. 1882.
1457	May 10, 1888	Russell, Robert Ussher	Parramatta	Lic. R. Coll. Surg. Irel. 1883; Lic. R. Coll. Phys. Edin. 1886.
1303	May 12, 1886	Russell, William John	West Maitland	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1885; Lic. R. Coll. Surg. Irel. 1885; Fell. R. Coll. Surg. Irel. 1894.
1454	Mar. 14, 1888	Rutledge, David Dunlop	Waverley	M.B. Ch. M. Univ. Sydney 1888.
1645	Jan. 14, 1891	Ryan, Joseph	Wollongong	Lic. R. Coll. Phys. Edin. 1890; Lic. R. Coll. Surg. Edin. 1890; Lic. Fac. Phys. et Surg. Glasg. 1890.
788	June 5, 1876	Ryan, William	Waverley	Lic. R. Coll. Surg. Irel. 1874; Lic. K. et Q. Coll. Phys. Irel. 1875.
1578	Jan. 8, 1890	Rygate, Charles Daniel Hartley	Wellington	Mem. R. Coll. Surg. Eng. 1889; Lic. R. Coll. Phys. Lond. 1889.
386	Oct. 4, 1853	Rygate, Robert	Wellington	Mem. R. Coll. Surg. Eng. 1850.
977	Nov. 16, 1881	Rygate, Robert Edward	Grenfell	Mem. R. Coll. Surg. Eng. 1881; Lic. R. Coll. Phys. Edin. 1881.
447	April 1, 1886	Sachse, Otto	Sydney	M.D. Berlin.
1557	Oct. 9, 1889	Samuelson, Gerald Septimus	Gundagai	M.B. Univ. Edin. 1883; Mast. Surg. Univ. Edin. 1883.
1780	Aug. 10, 1892	Saunders, John Harry	Victoria	M.B. et Bsc. Surg. Univ. Melb. 1889; Mem. R. Coll. Surg. Eng. 1891.
1757	April 13, 1892	Sawkins, Frederick John Thomas	Sydney	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
635	Jan. 7, 1868	Sawyer, Robert Henry	England	Mem. R. Coll. Surg. 1855.
817	July 1, 1878	Scale, George John	Burwood	M.R.C.S. Eng. 1871; L.S.A. Lond. 1871.
1590	Mar. 12, 1890	Scanlon, Charles Edward Foucart	New Zealand	M.B. Univ. Glasg. 1885; Mast. Surg. Univ. Glasg. 1886.
1820	April 12, 1893	Schlink, Rudolph .....	.....	M.D. Univ. Berlin 1892; State Exam. Certif. Berlin 1892.
887	April 7, 1879	Scholefield, George Edward	England	M.B. et Mast. Surg. Univ. Edin. 1878.
1872	....., 1894	Schrafer, Sydney Henry .....	.....	M.D. Univ. California, U.S.A. 1893.
1179	Oct. 8, 1864	Schwarzbach, Bruno Beheim	Sydney	Lic. Fac. Phys. et Surg. Glasg. 1880.
800	Dec. 4, 1876	Scoles, Richard Battersby	Queensland	M.B. et C.M. Univ. Edin. 1874.
1083	Sept. 12, 1883	Scot-Skirving, Robert	Sydney	M.B. Univ. Edin. 1881; C.M. Univ. Edin. 1881.
1096	Nov. 14, 1883	Scott, Charles Henry	Penrith	M.B. Univ. Melb. 1877; Ch. B. Univ. Melb. 1879.
1846	Oct. 4, 1893	Scott, Edward Henry .....	.....	M.B. Univ. Sydney 1893.
1469	May 10, 1888	Scott, Henry James Herbert	Scone	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1888.
1250	Aug. 12, 1885	Scott, Hubert Payne	Sydney	Lic. Soc. Apoth. Lond. 1872.
1587	Feb. 12, 1890	Scott, John Melby	Parramatta	M.B. Univ. Melb. 1889.
1838	Aug. 9, 1893	Scott, Robert	Balmain	Lic. R. Coll. Phys. Edin. 1891; Lic. R. Coll. Surg. Edin. 1891; Lic. Fac. Phys. et Surg. Glasg. 1891.
1832	July 12, 1893	Scott, Robert William Loveridge	Redfern	M.B. et Mast. Surg. Univ. Edin. 1891.
759	Sept. 6, 1875	Scott, Thomas	Victoria	Mem. R. Coll. Surg. Eng. 1863; Lic. R. Coll. Phys. Edin. 1866.
863	Oct. 7, 1878	Scott, William George	New Zealand	L.S.A. Lond. 1877.
1377	Mar. 9, 1887	Seabrook, Thomas Edward Fraser	Broken Hill	M.D. St. Andrews 1861; Mem. R. Coll. Surg. Eng. 1860.
1790	Sept. 14, 1892	Seccombe, Samuel Hubert	Tallangatta, Victoria	Mem. R. Coll. Surg. Eng. 1889; Lic. Soc. Apoth. Lond. 1889.
692	July 3, 1875	Seccombe, Thomas	England	M.D. Univ. Aberd. 1865; Mem. R. Coll. Surg. Eng. 1843; Fell. R. Coll. Surg. Eng. 1864.
453	July 1, 1856	Sedgwick, William Gillet	Newtown	Mem. R. Coll. Surg. Eng. 1844.
594	April 4, 1865	Segol, Louis	Emmaville	M.D. Acad. Montpellier.
1759	April 13, 1892	Segol, Louis	Narrabri	Lic. R. Coll. Surg. Edin. 1891; Lic. R. Coll. Phys. Edin. 1891; Lic. Fac. Phys. et Surg. Glasg. 1891.
1848	Nov. 8, 1893	Sellar, William Grant .....	.....	M.B. et Mast. Surg. Univ. Edin. 1892; Lic. R. Coll. Phys. Edin. 1892; Lic. R. Coll. Surg. Edin. 1892; Lic. Fac. Phys. et Surg. Glasg. 1892.
1246	Aug. 12, 1885	Semple, Andrew	Parramatta	M.B. Univ. Glas. 1882; Mast. Surg. Univ. Glas. 1882.
1359	Jan. 12, 1887	Semple, Miller	Ulmarra	M.B. and Mast. Surg. Univ. Glasg. 1884.
1375	Mar. 9, 1887	Semple, William Macphun	Wilcannia	M.B. and Mast. Surg. Univ. Glasg. 1885.
1221	April 15, 1885	Service, John	Newtown	Lic. R. Coll. Phys. Edin. 1878; Lic. R. Coll. Surg. Edin. 1878.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
360	Oct. 5, 1852	Seymour, John.....	.....	M.D. Univ. St. Andw. 1847; Mem. R. Coll. Surg. Irel. 1846; Lic. Soc. Apoth. Lond. 1849.
1362	Feb. 9, 1887	Shand, John Cappie.....	Penrith	M.B. et Mast. Surg. Univ. Glasg. 1877.
761	Sept. 6, 1875	Shaw, James.....	Redfern.....	Mem. R. Coll. Surg. Eng. 1856.
1753	April 13, 1892	Shaw, Frederick Charles Seymour.	.....	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
591	April 4, 1865	Sheldon, William	St. Leonards	M.D. Univ. Edin. 1864; Mem. R. Coll. Surg. Eng. 1864.
1789	Sept. 14, 1892	Shells, William Francis Michael.	Woolloomooloo.....	Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1838.
1600	April 9, 1890	Sheppard, Arthur Murray	.....	M.B. Univ. Sydney 1890; Ch. M. Univ. Sydney 1890.
817	Aug. 6, 1877	Shewen, Alfred.....	Sydney	M.B. Univ. Lond. 1870; M.D. Univ. Lond. 1873; Mem. R. Coll. Surg. Eng. 1869.
1571	Dec. 11, 1889	Shiels, Edward Eddaile...	.....	Lic. R. Coll. Phys. and Surg. Edin. 1883.
1564	Nov. 13, 1889	Shirres, George	Victoria.....	M.B. et Mast. Surg. Univ. Aberd. 1881.
1726	Jan. 13, 1892	Shirlow, Sydney Stewart...	.....	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1725	Jan. 13, 1892	Shirlow, William John ...	Inverell	M.B. Univ. Sydney 1892; M. Ch. Univ. Sydney 1892.
1699	Aug. 12, 1891	Shortt, William	Corowa	Lic. R. Coll. Phys. Edin. 1839; Lic. R. Coll. Surg. Edin. 1839; Lic. Fac. Phys. et Surg. Glas. 1889.
920	Mar. 16, 1880	Sibley, Jonathan Campbell	Watson's Bay ...	M.D. Univ. of City of New York, U.S.A. 1857.
868	Dec. 2, 1878	Sides, Richard	Bourke	M.B. Univ. Melb. 1877.
1284	Mar. 10, 1886	Simmons, Benjamin	Darlinghurst ...	M.D. St. Andrews 1862; Mem. R. Coll. Surg. Eng. 1859.
1411	Sept. 14, 1887	Simmons, Fourness Henry	.....	M.B. Univ. Edin. 1884; Mast. Surg. Univ. Edin. 1884.
1139	April 9, 1884	Simons, Charles Nathaniel	Victoria.....	Lic. Soc. Apoth. Lond. 1881; Lic. R. Coll. Surg. Irel. 1883.
1402	Aug. 10, 1887	Simpson, Robert Arthur...	Germanton	M.B. et Mast. Surg. Univ. Glasg. 1874.
1847	Nov. 8, 1893	Sinclair, Edward Petrie ...	Newtown	M.B. et Surg. Univ. Glasg. 1893.
970	Sept. 21, 1881	Sinclair, Eric	Gladesville	M.B. Univ. Glasg. 1881; C.M. Univ. Glasg. 1881; M.D. Univ. Glasg. 1886.
981	Dec. 14, 1881	Sinclair, Henry	Sydney	M.D. Queen's Univ. Irel. 1881; M. Ch. Queen's Univ. Irel. 1881.
1793	Oct. 12, 1892	Sinclair, Robert Fraser ...	Camden	M.B. et Mast. Surg. Univ. Edin. 1881.
62	April 7, 1839	Skinner, Alexander	Near Inverell ...	Lic. Fac. Phys. Surg. Glas. 1833.
863	Mar. 5, 1877	Slater, Oliver Thomas.....	.....	Mem. R. Coll. Surg. Eng. 1876.
742	July 6, 1874	Smith, Edward R.	Cowra	Mem. R. Coll. Surg. Eng. 1864; Lic. Mid. R. Coll. Surg. Eng. 1865; Lic. Soc. Apoth. Lond. 1866.
1149	June 16, 1884	Smith, Frederic Moore ...	Waverley	Mem. R. Coll. Surg. Eng. 1851; Lic. Soc. Apoth. Lond. 1851; M.D. Univ. St. Andrews 1857.
1443	Jan. 11, 1888	Smith, George Francis ...	Hamilton	Lic. R. Coll. Phys. Lond. 1885; Mem. R. Coll. Surg. Eng. 1885.
1333	—, 1894	Smith, George Henry Walton.	.....	Lic. R. Coll. Phys. Edin. 1892; Lic. R. Coll. Surg. Edin. 1892; Lic. Fac. Phys. et Surg. Glasg. 1892.
1817	April 12, 1893	Smith, Grafton Elliot.....	.....	M.B. et Ch. M. Univ. Sydney 1893.
1275	Oct. 14, 1885	Smith, John Walker	Glebe.....	Lic. R. Coll. Phys. Edin. 1873.
1483	Aug. 8, 1888	Smith, Robert	Tasmania	Lic. R. Coll. Surg. Edin. 1832; Lic. Apoth. Hall Dub. 1880.
1506	Jan. 14, 1889	Smith, Thomas Orde	Victoria.....	M.B. Dub. 1878; Ch. B. Dub. 1879; L. Mid. K.Q.C.P. Irel. 1878.
1410	Sept. 14, 1887	Smith, Ventry Alexander John.	Harden	Lic. R. Coll. Surg. Irel. 1881; Lic. et Lic. Mid. 1884, K. et Q. Coll. Phys. Irel.
1675	May 13, 1891	Smith, William Gordon Cumming.	Ryde	M.B. Univ. Glas. 1878; C.M. Univ. Glas. 1878.
1635	Dec. 10, 1890	Smyth, Thomas Edward...	Campbelltown ...	M.B. 1886, M.D. 1890, B. Ch. 1886, Univ. Dublin.
556	Oct. 7, 1862	Snape, Charles	England	Lic. Soc. Apoth. Lond. 1835; Mem. R. Coll. Surg. Eng. 1836; M.D. Univ. St. And. 1859.
924	May 12, 1880	Soule, Milan.....	San Francisco ...	M.D. Med. Dep. Univ. Vermont, U.S.A. 1869.
1432	Dec. 14, 1887	Souter, Charles H. J.	South Australia..	M.B. Univ. Aberd. 1887; Mast. Surg. Univ. Aberd. 1887.
902	Aug. 4, 1879	Souter, John Clement.....	South Australia..	M.D. Univ. Aberd. 1869; Mast. Surg. Univ. Aberd. 1867.
1575	Jan. 8, 1890	Souter, John Francis	Guyra	M.B. et Mast. Surg. Univ. Aberd. 1889.
801	Dec. 4, 1876	Southam, John Binns.....	Brisbane	Mem. R. Coll. Surg. Eng. 1868; Lic. Soc. Apoth. Lond. 1874.
1439	Jan. 11, 1888	Spark, John	Katoomba.....	Lic. Soc. Apoth. Lond. 1875; Mem. R. Coll. Surg. Eng. 1875.
906	July 3, 1866	Sparling, Wm. Augustus...	Victoria.....	Mem. R. Coll. Surg. Eng. 1864.
1274	Jan. 12, 1886	Speece, Will Comely .....	.....	M.D. Starling Med. Coll. Ohio, U.S.A. 1883.
1457	April 11, 1888	Speer, Hugh Johnstone ...	Sydney	M.D. Harvard Med. Coll. Harvard Univ. U.S.A. 1874.
673	April 4, 1870	Spencer, Walter W.....	Bathurst	Lic. Soc. Apoth. Lond. 1868; Mem. R. Coll. Surg. Eng. 1867.
1743	Mar. 9, 1892	Spencer, Walter	Enmore	Lic. R. Coll. Phys. Edin. 1882; Lic. Soc. Apoth. Lond. 1882; Mem. R. Coll. Surg. Eng. 1883.
532	July 2, 1861	Spink, William.....	East Maitland ...	Mem. R. Coll. Surg. Eng. 1836; Lic. Soc. Apoth. Lond. 1836.
1348	Dec. 8, 1886	Spofforth, John Lee.....	Sydney	Lic. R. Coll. Phys. Edin. 1879; Mem. R. Coll. Surg. Eng. 1876.
1003	Dec. 12, 1883	Springthorp, John William	Victoria.....	M.B. Univ. Melb. 1879; Mem. R. Coll. Phys. Lond. 1881; Ch. B. Univ. Melb. 1879.
1463	May 10, 1888	Stace, Malcolm Vincent ...	.....	Lic. R. Coll. Phys. Edin. 1879; Lic. R. Coll. Surg. Edin. 1879.
1112	Jan. 9, 1884	Stacpoole, Adam Richard	Hillgrove	Lic. R. Coll. Phys. Edin. 1883; Lic. R. Coll. Surg. Edin. 1883.
1667	April 8, 1891	Stanley, George Percival	.....	M.B. Univ. Sydney 1891.
1014	July 12, 1882	Stanton, Thomas	Victoria.....	M.B. Trin. Coll. Dub. 1881; Lic. R. Coll. Surg. Irel. 1880.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1037	Nov. 16, 1882	Stapleton, Joseph John...	Lambton	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882; Mem. R. Coll. Surg. Eng. 1882; M.D. Univ. Edin. 1887.
994	Mar. 8, 1882	Steel, John James	Sydney	Lic. R. Coll. Phys. Edin. 1878; Lic. R. Coll. Surg. Edin. 1878; M.B. Univ. Melb. 1883.
1591	Mar. 12, 1890	Steell, John	Victoria.....	M.B. Univ. Edin. 1883; Lic. R. Coll. Phys. Edin. 1882; Mast. Surg. Univ. Edin. 1883; Lic. R. Coll. Surg. Edin. 1882.
1466	May 10, 1888	Stephens, Samuel.....	Sydney	Lic. Soc. Apoth. Lond. 1882; Mem. R. Coll. Surg. Eng. 1883.
1329	Oct. 13, 1886	Stevens, Alfred.....	.....	Mem. and Lic. Soc. Apoth. Lond. 1856; Mem. R. Coll. Surg. Eng. 1853.
1256	Oct. 14, 1885	Stevenson, Frederick Charles.	Tasmania	Lic. K. et Q. Coll. Phys. Irel. 1880; Lic. R. Coll. Surg. Irel. 1879.
1489	Sept. 12, 1888	Stevenson, James Robert..	South Australia ..	M.B. et Mast. Surg. Univ. Edin. 1882.
1913	....., 1894	Stewart, Andrew.....	.....	M.B. et Mast. Surg. Univ. Glasg. 1883.
1694	Aug. 12, 1891	Stewart, Hugh George ...	Queensland	M.B. et Mast. Surg. Univ. Glasg. 1889.
1646	Jan. 14, 1891	Stewart, John	Victoria.....	Lic. K. et Q. Coll. Phys. Irel. 1887; Lic. R. Coll. Surg. Irel. 1887.
1641	Dec. 10, 1890	Stoker, Henry	Victoria.....	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1885; Lic. R. Coll. Surg. Irel. 1884.
1670	April 8, 1891	Stokes, Edward Sutherland	Port Macquarie..	M.B. Univ. Sydney 1891; M. Ch. Univ. Sydney 1891.
242	Jan. 11, 1884	Stone, Robt.....	Victoria.....	Mem. R. Coll. Sur. Eng. 1834; Lic. Soc. Apoth. Lond. 1834.
1649	Jan. 14, 1891	Stoney, Robert Bindon ...	Nowra	M.B., Ch. B., B. A. O. Univ. Dub. 1890.
1553	Sept. 11, 1889	Strangman, Thomas	Victoria.....	Lic. et Lic. Mid. K. et Q. Coll. Phys. Irel. 1888; Lic. R. Coll. Surg. Irel. 1886.
690	April 3, 1871	Strong, William Edmund	Canowindra	M.D. Univ. Aberd. 1861; Mem. R. Coll. Surg. Eng. 1849.
1622	Aug. 13, 1890	Struthers, James	Rylstone	M.B. et Mast. Surg. Univ. Aberd. 1883; M.D. Univ. Aberd. 1888.
881	Feb. 7, 1879	Stuatt, Charles Edward ...	Victoria.....	Lic. Soc. Apoth. Lond. 1842; Lic. R. Coll. Surg. Eng. 1840.
1063	May 9, 1883	Stuart, Thomas Peter Anderson.	Sydney Univ.....	M.B. Univ. Edin. 1880; C.M. Univ. Edin. 1880; M.D. Univ. Edin. 1882.
1319	Aug. 11, 1886	Stuart, William	Victoria.....	M.B. Mast. Surg. 1881; M.D. Univ. Aberd. 1885.
1535	May 8, 1889	Sturt, Clifton	Bullit	Lic. R. Coll. Phys. Edin. 1889; Lic. R. Coll. Surg. Edin. 1889; Lic. Fac. Phys. et Surg. Glasg. 1889.
888	May 5, 1879	Sturt, Thomas James	Kogarah	Lic. Soc. Apoth. Lond. 1846; M.D. Lond. 1847; Mem. R. Coll. Surg. Eng. 1846.
1795	Nov. 8, 1892	Sully, Albert Max. ....	.....	Mem. R. Coll. Surg. Eng. 1887; Lic. R. Coll. Phys. Lond. 1887.
799	Nov. 24, 1876	Sutherland, Frederick.....	.....	M.D. Ch. D. Univ. McGill, Montreal, Canada, 1861.
1672	April 8, 1891	Sutherland, George Whitefield.	Sydney	M.B. Univ. Edin. 1890; Mast. Surg. Univ. Edin. 1890; M.B. Univ. Lond. 1888; M.D. Univ. Lond. 1891.
237	July 1, 1843	Sutherland, William Sinclair.	Victoria.....	Lic. R. Coll. Surg. Edin. 1835.
1028	Sept. 13, 1882	Swanston, Charles	Sydney	Lic. R. Coll. Phys. Edin. 1881; Lic. R. Coll. Surg. Edin. 1881.
1839	Aug. 9, 1893	Sweet, Geoffrey Bruton ...	.....	M.B. Univ. Sydney 1893; Mast. Surg. Univ. Sydney, 1893.
1397	July 13, 1887	Swinson, George Newton	Bowral	Mem. R. Coll. Surg. Eng. 1855; Lic. R. Coll. Phys. Edin. 1860.
943	Dec. 8, 1880	Symes, Richard Henry ...	Drumree	Lic. R. Coll. Surg. Irel. 1878; Lic. K. and Q. Coll. Phys. Irel. 1879.
710	April 2, 1872	Tarbolton, Arthur Strickland.	Minmi	Lic. R. Coll. Phys. Edin. 1865; Lic. R. Coll. Surg. Edin. 1865.
642	April 7, 1868	Tarrant, Harman John ...	Sydney	Lic. R. Coll. Surg. Irel. 1887; Lic. R. Coll. Phys. Edin. 1867; Fell. R. Coll. Surg. Edin. 1887.
634	Oct. 1, 1867	Tassell, Robert.....	England	M.D. Univ. St. And. 1862; Mem. R. Coll. Surg. Eng. 1849; Lic. Soc. Apoth. Lond. 1849.
1385	May 11, 1887	Taylor, George Henry.....	.....	Lic. R. Coll. Phys. Edin. 1882; Lic. R. Coll. Surg. Edin. 1882.
1022	Aug. 9, 1882	Taylor, Rogers Wetherill Gore.	Oberon	M.B. Trin. Coll. Dub. 1877; M. Ch. Trin. Coll. Dub. 1878; M.D. Univ. Dub. 1885; Lic. Mid. K. et Q. Coll. Phys. Irel. 1883.
604	July 3, 1886	Taylor, Wm. Frederick ...	Queensland	Lic. Soc. Apoth. Lond. 1862.
661	July 6, 1869	Taylor, William George ...	Molong	Mem. R. Coll. Surg. Eng. 1861; Lic. Soc. Apoth. Lond. 1866.
699	July 3, 1871	Tennant, Edward Glover	Victoria.....	Mem. R. Coll. Surg. Eng. 1870.
1026	Aug. 9, 1882	Tennant, Thomas Hately	Hillston	Lic. Fac. Phys. et Surg. Glasg. 1877.
1680	June 10, 1891	Ternau, Percival John Whitfield.	.....	Lic. K. et Q. Coll. Phys. Irel. 1896; Lic. R. Coll. Surg. Irel. 1886.
1309	May 12, 1886	Terry, Caleb.....	Kiama	M.B. Univ. Edin. 1885; Mast. Surg. Univ. Edin. 1885.
1763	May 11, 1892	Thackwell, John Bolton ...	Tenterfield	M.B. et Mast. Surg. Univ. Edin. 1887.
1721	Dec. 9, 1891	Thane, Edgar Herbert ...	Wagga Wagga ...	M.D. Lond. 1889; Mem. R. Coll. Surg. Eng. 1885; Lic. R. Coll. Phys. Lond. 1887.
1054	Feb. 14, 1883	Thane, Philip Thornton	Yass	Lic. R. Coll. Phys. Lond. 1882; Lic. Soc. Apoth. Lond. 1881; Mem. R. Coll. Surg. Eng. 1881.
1554	Sept. 11, 1889	Theed, Stanley Vipan.....	Victoria... ..	L.R.C.P. Edin. 1880; M.R.C.S. Eng. 1880.
1703	Sept. 9, 1891	Thom, Alexander Philip	Queensland	M.B. Univ. Aberd. 1883; Dip. San. Sci. Vict. 1890; C.M. Univ. Aberd. 1883.
1521	Mar. 13, 1889	Thomas, David.....	Manly	Lic. R. Coll. Phys. Lond. 1835; Mem. R. Coll. Surg. Eng. 1884; Fell. R. Coll. Surg. Eng. 1887.
748	Nov. 2, 1874	Thomas, John Davis	Adelaide	Lic. Soc. Apoth. Lond. 1866; Mem. R. Coll. Surg. Eng. 1867; Fell. R. Coll. Surg. Eng. 1870; M.B. Univ. Lond. 1869; M.D. Univ. Lond. 1871; Lic. R. Coll. Phys. Lond. 1869.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1059	April 11, 1883	Thomson, John	Silverton	M.B. Univ. Aberd. 1877; C.M. Univ. Aberd. 1875.
1460	April 11, 1888	Thompson, Charles Emilius	Broken Hill	Mem. R. Coll. Surg. Eng. 1880; Lic. Soc. Apoth. Lond. 1879.
941	Dec. 8, 1880	Thompson, John Ashburton.	Sydney	Mem. R. Coll. Surg. Eng. 1868.
1623	Aug. 13, 1890	Thompson, Percy Weekes	.....	M.B. Univ. Toronto 1888; Lic. R. Coll. Phys. et Surg. Edin. 1888.
1574	Jan. 8, 1890	Thompson, Robert	Queensland	M.B. 1888, B.S. 1888, Univ. Durham; Mem. R. Coll. Surg. Eng. 1888; Lic. R. Coll. Phys. Lond. 1888.
1258	Oct. 14, 1885	Thornton, Philip	Ipswich, Queensland.	Lic. Soc. Apoth. Lond. 1870; Mem. R. Coll. Surg. Eng. 1872; Lic. R. Coll. Phys. Edin. 1873; Mem. R. Coll. Phys. Edin. 1879.
1200	Jan. 11, 1885	Thorp, Charles Gabourel...	Queensland	M.B. Univ. Edin. 1884; Mast. Surg. Univ. Edin. 1884.
199	Jan. 11, 1885	Thorp, Robert Crossing ...	Parramatta	Army Medical Department.
1308	May 12, 1886	Thring, Edward Thomas...	Petersham	Mem. R. Coll. Surg. Eng. 1882; Lic. R. Coll. Phys. Lond. 1883; Fell. R. Coll. Surg. Eng. 1885.
1220	April 8, 1885	Thurston, William French	Queensland	Lic. R. Coll. Phys. Edin. 1866; Lic. Soc. Apoth. Lond. 1866; Mem. R. Coll. Surg. Eng. 1866; Lic. Mid. R. Coll. Surg. Eng. 1866.
497	April 5, 1859	Tibbits, Walter Hugh.....	Enfield	Mem. R. Coll. Surg. Eng. 1857.
1754	April 13, 1892	Tidswell, Frederick.....	.....	M.B. Univ. Sydney 1892.
1420	Nov. 9, 1887	Todd, Robert Henry	Sydney	M.B. 1886, M.D. 1886, Ch. B. 1886, Diploma in State Medicine 1886, Trin. Coll. Dub.; Fell. R. Coll. Surg. Irel. 1887.
1218	Mar. 11, 1885	Tomlins, William Henry...	Wardell	Lic. Soc. Apoth. Lond. 1884; Mem. R. Coll. Surg. Eng. 1884.
1854	Dec. 13, 1893	Towle, William Bentley...	.....	M.D. et Ch. M. Bishop's Coll. Montreal 1889; Lic. Coll. Phys. et Surg. Quebec 1889.
1599	April 9, 1890	Townley, Percy Langford	Queensland	M.B. Univ. Sydney 1890; M. Ch. Univ. Sydney 1890.
820	Aug. 6, 1877	Trail, Mark W.	Burwood	Lic. R. Coll. Phys. Lond. 1876; Mem. R. Coll. Surg. Eng. 1875.
1276	Jan. 12, 1886	Treloar, Richard Henry...	Wickham	Lic. K. and Q. Coll. Phys. Irel. 1885; M.D. Bellevue Hosp. Med. Coll. U.S.A. 1885.
1151	June 16, 1884	Tresidder, Edward Stanley	Glen Innes	Lic. R. Coll. Phys. Lond. 1883; Mem. R. Coll. Surg. Eng. 1882.
1205	Feb. 11, 1885	Tresidder, Harry Innis ...	Dubbo	Lic. R. Coll. Phys. Lond. 1883; Mem. R. Coll. Surg. Eng. 1883.
1524	April 15, 1889	Trindall, Richard Barzillai	Newtown	M.B. Univ. Sydney, 1889.
657	April 6, 1869	Tristram, William	Warkworth	Mem. R. Coll. Surg. Eng. 1862.
1501	Dec. 12, 1888	Turner, Alfred Jefferis ...	Queensland	M.B. Lond. 1884; M.D. Lond. 1886; Mem. R. Coll. Surg. Eng. 1884.
992	Feb. 8, 1882	Twynam, George Edward	Darlinghurst ...	Lic. R. Coll. Phys. Lond. 1881; Mem. R. Coll. Surg. Eng. 1880.
1001	Dec. 12, 1883	Usher, John Edward	Melbourne.....	Lic. R. Coll. Phys. Lond. 1881; Lic. Soc. Apoth. Lond. 1880.
1815	April 12, 1893	Vallack, Arthur Styles ...	.....	M.B. et Ch. M. Univ. Sydney 1893.
1219	April 8, 1885	Vallée, Louis	Inverell.....	Lic. R. Coll. Phys. Edin. 1884; Lic. R. Coll. Surg. Edin. 1884.
1628	Oct. 8, 1890	Van Someren, George Arbutnot.	Orange	M.B. et Mast. Surg. Univ. Edin. 1882; M.D. Univ. Edin. 1892.
987	Jan. 11, 1882	Vanzetti, Giulio	Forbes	M.D. Univ. Padua, 1868.
809	June 4, 1877	Vause, Arthur J.....	.....	M.B. et C.M. Univ. Edin. 1875.
1892	——, 1894	Veech, Michael .....	.....	M.B. et Mast. Surg. Univ. Syd. 1894.
1911	——, 1894	Vines Edward Prince.....	.....	Lic. Soc. Apoth. Lond. 1872; Lic. R. Coll. Surg. Edin. 1875.
1825	May 10, 1893	Vines, Henry Jeckell Kendrick.	Sydney	Lic. 1869, Mem. 1877, Fell. 1878, R. Coll. Phys. Edin.; Lic. Soc. Apoth. Lond. 1869; Mem. R. Coll. Surg. Eng. 1870.
1090	Oct. 10, 1883	Violette, William Bradley	Parramatta	M.B. Univ. Glasg. 1881; Mast. Surg. Univ. Glasg. 1881.
1685	July 8, 1891	Von Lukowicz, Maximilian Carl Marcel.	.....	State Exam. Certif. Berlin, 1885.
1707	Oct. 14, 1891	Vores, Arthur .....	.....	Lic. Soc. Apoth. Lond. 1879; Mem. R. Coll. Surg. Eng. 1879.
1360	Jan. 12, 1887	Wade, Thomas Fowler ...	Wollongong	Lic. R. Coll. Surg. Irel. 1885; Lic. K. and Q. Coll. Phys. Irel. 1886.
728	Jan. 5, 1874	Wades, John Wade Brown	Sydney	M.D. Univ. Aberd. 1859; M.D. Univ. N. York, 1858; Lic. R. Coll. Surg. Edin. 1857.
1167	Aug. 13, 1884	Wadham, Frederick	Strathfield	Lic. R. Coll. Phys. Lond. 1878; Fell. R. Coll. Surg. Eng. 1884.
662	July 6, 1869	Walker, William.....	Hobart, Tasmania	Lic. Fac. Phys. et Surg. Glasg. 1868; Lic. R. Coll. Phys. Edin. 1870; Fell. R. Coll. Surg. Edin. 1871.
1016	July 12, 1882	Walker, Hugh Eccles .....	.....	Lic. Soc. Apoth. Lond. 1870; Mem. R. Coll. Surg. Eng. 1870.
1891	——, 1894	Wallace, Samuel Lane ...	.....	Lic. R. Coll. Phys. Edin. 1871; Lic. R. Coll. Surg. Edin. 1871.
871	Dec. 2, 1878	Walley, Thos. Bennett ...	Tamworth.....	L.K.Q.C.P. Irel. 1878; L.R.C.S. Irel. 1878; Fell. R. Coll. Surg. Irel. 1887.
1293	Mar. 10, 1868	Wallis, Frederick Charles..	England	Mem. R. Coll. Surg. Eng. 1883.
1712	Nov. 11, 1891	Walpole, George Albert...	Tibooburra	Lic. R. Coll. Surg. Irel. 1882; Lic. K. et Q. Coll. Phys. Irel. 1883.
1735	Feb. 10, 1892	Walter, Henry.....	Pymble	M.B. Royal Univ. Irel. 1884; M. Ch. Royal Univ. Irel. 1884.
1487	Sept. 12, 1888	Ward, John	Newcastle	M.D. Univ. St. Andrews 1862; Mem. R. Coll. Surg. Eng. 1863.
395	Oct. 18, 1853	Ward, Robt. Dalzell	St. Leonards.....	Mem. R. Coll. Surg. Eng. 1842.
437	Aug. 3, 1855	Ward, William J.	Brisbane	Mem. R. Coll. Surg. Eng. 1840; Lic. Soc. Apoth. Lond. 1840.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
387	Oct. 4, 1853	Warren, Henry Charles ...	Orange	Mem. R. Coll. Surg. Eng. 1850; Lic. Soc. Apoth. Lond 1852.
949	Feb. 9, 1881	Warren, Henry Guy Seymour.	Dubbo	Lic. R. Coll. Phys. Lond. 1880; Mem. R. Coll. Surg. Eng. 1880.
991	Feb. 8, 1882	Warren, John Monteith...	New Zealand ...	M.D. Queen's Univ. Irel. 1874; M. Ch. Queen's Univ. Irel. 1874.
810	June 4, 1877	Warren, W. Edward	Sydney	M.D. et M. Ch. Queen's Univ. Irel. 1873.
1836	—, 1894	Watkins, Frank Augustus .....	.....	Lic. R. Coll. Phys. Lond. 1887; Lic. Soc. Apoth. Lond. 1887; Mem. R. Coll. Surg. Eng. 1887.
948	Feb. 9, 1881	Watkins, Sydney Collins...	Manly	Mem. R. Coll. Surg. Eng. 1879.
1400	July 13, 1887	Watson, Arthur	Yass	M.B. et Mast. Surg. 1874; M.D. 1879, Univ. Edin.
745	Oct. 5, 1874	Watson, Charles Russell ..	Newtown	Mem. R. Coll. Surg. Eng. 1872; Lic. Soc. Apoth. Lond. 1873.
1484	Aug. 8, 1888	Watson, Walter Carter ...	Newtown	M.D. Bellevue Hosp. Med. Coll. New York U.S.A. 1888.
715	Jan. 6, 1873	Watson, William George..	Sydney	Lic. Soc. Apoth. Lond. 1871; Mem. R. Coll. Surg. Eng. 1871.
1433	Dec. 14, 1887	Watt, George	Hay	M.B. Univ. Aberd. 1887; Mast. Surg. Univ. Aberd. 1887; Diploma in Public Health Univ. Aberd. 1887.
680	April 4, 1870	Waugh, Isaac	Parramatta	M.B. Univ. Dub. 1863; Mast. Surg. Univ. Dub. 1863.
329	July 9, 1850	Waugh, John Neild	Brisbane	Mem. R. Coll. Surg. Eng. 1810.
1806	Feb. 8, 1893	Weber, Arthur Segismund ..	Goulburn	M.D. Univ. Paris 1877.
1464	May 10, 1888	Weekes, Charles Jones ...	Lithgow	Lic. R. Coll. Phys. Lond. 1888; Mem. R. Coll. Surg. Eng. 1888.
1446	Feb. 8, 1888	Welchman, Henry Palmer	Norfolk Island ...	Lic. Soc. Apoth. Lond. 1877; Mem. R. Coll. Surg. Eng. 1876.
1804	Jan. 11, 1893	Wellford, Francis .....	.....	M.B. Cantab. 1891; B.C. Cantab. 1891.
574	Oct. 12, 1881	West, William Augustus...	Glebe.....	Lic. K. et Q. Coll. Phys. Irel. 1880; Lic. R. Coll. Surg. Irel. 1879.
1624	Aug. 13, 1890	Westbrook, Richard Talbot	Narraudera	Lic. Apoth. Hall Dublin, 1887; Mem. R. Coll. Surg. Eng. 1887.
558	Jan. 6, 1863	Westropp, Thomas .....	.....	Mem. R. Coll. Surg. Eng. 1852.
1382	April 13, 1887	Westrum, Wilhelm Adolph	Nyngan.....	M.D. Univ. Munich 1880; State Exam. Certif. Munich 1886.
527	Oct. 2, 1860	Wetherell, Benjamin John	North Sydney ..	Mem. R. Coll. Surg. Eng. 1850.
1899	—, 1894	Wheeler, Edward Henry...	.....	Lic. et Lic. Midwif. K. et Q. Coll. Phys. Irel. 1837.
782	April 3, 1876	Whitaker, Joseph	Victoria.....	M.D. Queen's Univ. Irel. 1862; Lic. R. Coll. Surg. Irel. 1863.
353	April 6, 1852	White, Arthur David	London	M.D. Univ. Camb. 1844; Mem. R. Coll. Phys. Lond. 1844; Mem. R. Coll. Surg. Eng. 1851.
1810	Mar. 8, 1893	White, James Purves	Muswellbrook ...	M.B. Univ. Melb. 1889.
1183	Oct. 8, 1884	Whitworth, Edward	England	Lic. R. Coll. Phys. Edin. 1875; Mem. R. Coll. Surg. Eng. 1874.
783	April 3, 1876	Wigan, George	Armidale	Mem. R. Coll. Surg. Eng. 1874.
1786	Sept. 14, 1892	Wignall, Walter .....	.....	Lic. R. Coll. Phys. Edin. 1884; Lic. R. Coll. Surg. Edin. 1884.
852	July 17, 1878	Wilkie, David William Balfour.	Queensland	M.B. Univ. Melb. 1878; M.R.C.S. Eng. 1876.
1034	Nov. 8, 1872	Wilkinson, John Sebastian	Sydney	Mem. R. Coll. Surg. Eng. 1857; Fell. R. Coll. Surg. Eng. 1865.
1052	Feb. 14, 1883	Wilkinson, William Camac	Sydney	Mem. R. Coll. Surg. Eng. 1882; M.B. Lond. 1882; M.D. Lond. 1884; Mem. R. Coll. Phys. Lond. 1834.
1801	Dec. 14, 1892	Will, Alick Murray.....	Sydney	M.B. et Mast. Surg. Univ. Aberd. 1888.
1091	Oct. 10, 1883	Williams, Alexander	Scotland	M.B. Univ. Aberd. 1876; Mast. Surg. Univ. Aberd. 1876; M.D. Univ. Aberd. 1878.
432	July 3, 1885	Williams, David John ...	Queenscliffe, Vic.	Mem. R. Coll. Surg. Eng. 1841; M.D. Univ. St. And. 1842; Lic. Soc. Apoth. Lond. 1815.
1341	Nov. 10, 1886	Williams, Ezra Hurlburt..	Melbourne	M.D. Univ. Trin. Coll. Toronto 1884; Lic. R. Coll. Phys. Lond. 1884; C.M. Univ. Trin. Coll. Toronto 1884; Mem. Coll. Phys. et Surg. Ont. 1884.
1584	Feb. 12, 1890	Williams, Frederick.....	S. Australia	Mem. R. Coll. Surg. Eng. 1841; Lic. Soc. Apoth. Lond. 1840.
1436	Jan. 11, 1888	Williams, Michael Paul ...	Uralla	M.D. Royal Univ. Irel. 1886; Mast. Surg. Royal Univ. Irel. 1886; Lic. Mid. K. et Q. Coll. Phys. Irel. 1886.
989	Jan. 11, 1882	Williams, William Daniel Campbell.	Sydney	Lic. R. Coll. Phys. Lond. 1880; Mem. R. Coll. Surg. Eng. 1879.
927	July 16, 1880	Williamson, William Cotter.	Hospital Insane, Newcastle.	M.D. et M. Ch. Queen's Univ. Irel. 1876.
1782	Aug. 10, 1892	Wilson, Albert Oxley .....	.....	M.B. et Mast. Surg. Univ. Edin. 1890.
1568	Dec. 11, 1889	Wilson, Francis	Muswellbrook ...	Lic. R. Coll. Phys. Edin. 1878; Lic. R. Coll. Sur. Edin. 1877; Diploma in State Med. R. Coll. Phys. Edin. 1883.
1388	May 11, 1887	Wilson, James Thomas ...	Sydney	M.B. et Mast. Surg. Univ. Edin. 1883.
774	Feb. 14, 1876	Wilson, John Scott	Scotland	M.D. Univ. Glas. 1863; C.M. Univ. Glas. 1875.
1150	June 16, 1884	Wilson, John Smith	Bowral	Lic. R. Coll. Phys. Edin. 1873; Mem. R. Coll. Surg. Eng. 1873.
1632	Nov. 12, 1890	Wilson, Joseph Henry ...	Warren	Lic. R. Coll. Phys. Edin. 1888; Lic. R. Coll. Surg. Edin. 1888; Lic. Fac. Phys. et Surg. Glasg. 1888.
1244	Aug. 12, 1885	Wilson, Peter Birnie	Western Australia	M.D. Call. Med. Coll. U.S.A. 1884.
1438	Jan. 11, 1888	Wilson, Robert Archibald	Balmain	M.B. Univ. Glasg. 1873; M.D. Univ. Glasg. 1876; Mast. Surg. Univ. Glasg. 1873.
1686	July 8, 1891	Wilson, Robert	Sydney	Lic. R. Coll. Phys. et Surg. Edin. 1879.
1702	Sept. 9, 1891	Wiltshak, Julius .....	.....	M.D. Univ. Vienna 1874.
1687	July 8, 1891	Winter, Frank.....	.....	M.B. et B.S. Univ. Durham 1887.
1906	—, 1894	Wolrige, Herbert Ernest Rhodes.	.....	Lic. R. Coll. Phys. Ed'n. 1880; Mem. R. Coll. Surg. Eng. 1879.

No. of Certificate and Date of Registration.		Name.	Address.	Qualifications registered.
No.	Date.			
1608	June 11, 1890	Wood, Percy Moore	Ashfield.....	Lic. R. Coll. Phys. Lond. 1879; Mem. R. Coll. Surg. Eng. 1878.
1331	Oct. 13, 1886	Wood, William Atkinson..	Victoria.....	M.B. M. Ch. Univ. Melb. 1885.
1277	Jan. 12, 1886	Wood, William Edward Ramsden.	Petersham.....	M.D. Cantab. 1880; Mem. R. Coll. Phys. Edin. 1880; Fell. R. Coll. Surg. Edin. 1878.
670	Jan. 3, 1870	Wood, William Henry ...	.....	Mem. R. Coll. Surg. Eng. 1867; Lic. Soc. Apoth. Lond. 1867.
1496	Nov. 14, 1888	Woodforde, Alfred Ernest	Walgett.....	Lic. R. Coll. Phys. et Surg. Edin. 1884.
1505	Dec. 12, 1888	Woodforde, George Arthur Herbert.	.....	Lic. R. Coll. Phys. Edin. 1884; Lic. R. Coll. Surg. Edin. 1884.
1686	Dec. 10, 1890	Woodforde, William Sidney Ridout.	Queensland	M.B. et Mast. Surg. Univ. Edin. 1886; Lic. Soc. Apoth. Lond. 1884.
689	April 3, 1871	Woods, Francis Holles ...	Uralla	Lic. R. Coll. Phys. Eng. 1860; Mem. R. Coll. Surg. Eng. 1859.
1079	July 11, 1883	Woods, William Cleaver..	Albury	M.B. Univ. Edin. 1882; C.M. Univ. Edin. 1882; M.D. Univ. Edin. 1886.
1698	Aug. 12, 1891	Woodward, Ernest Adolphus.	Blayney	M.B. et Mast. Surg. Univ. Edin. 1888.
1048	Feb. 14, 1883	Woodward, George Paul Minchin.	Sydney	Mem. K. et Q. Coll. Phys. Irel. 1879; Fell. R. Coll. Surg. Irel. 1879; M.D. Univ. Brax. 1879.
1202	Feb., 11 1885	Worrall, Ralph	Sydney	M.D. Queen's Univ. Irel. 1878; Ch. M. Queen's Univ. Irel. 1878.
241	Jan. 11, 1844	Wren, Erasmus	Wagga Wagga....	Mem. R. Coll. Surg. Eng. 1837; Lic. Soc. Apoth. Lond. 1837.
1603	May 14, 1890	Wright, Almroth Edward	England	M.D. Univ. Dub. 1889; B. Ch. Univ. Dub. 1883.
1857	Dec. 13, 1893	Wright, Henry Richard...	.....	M.B. et Mast. Surg. Univ. Edin. 1867.
406	July 4, 1854	Wright, Horatio George Anthony.	Sydney	Mem. R. Coll. Surg. Eng. 1850; Lic. Soc. Apoth. Lond. 1851.
1538	May 8, 1889	Wright, Thomas Cole.....	.....	M.B. Mast. Surg. Univ. Edin. 1868.
1855	Dec. 13, 1893	Wright, Thomas Nisbett...	.....	Lic. et Lic. Mid. R. Coll. Phys. Irel. 1893; Lic. R. Coll. Surg. Irel. 1884.
985	Dec. 14, 1881	Wrigley, Frederick Hamilton.	Glen Innes	Lic. Apoth. Hall Dub. 1876; Lic. R. Coll. Surg. Edin. 1877.
1121	Feb. 13, 1884	Wuth, Ernest Magnus ...	.....	M.D. Ch. D. et O.D. Univ. Giessen, 1858.
1370	Feb. 9, 1887	Yeates, Edward	Quirindi	Lic. and Lic. Mid. K. and Q. Coll. Phys. Irel. 1886; Lic. R. Coll. Surg. Irel. 1886.
960	June 8, 1881	Young, Arthur.....	Queensland	M.B. Cantab. 1881; Mem. R. Coll. Surg. Eng. 1878.
1679	June 10, 1891	Young, Hugh Corbett Taylor.	Grafton.....	M.B. Univ. Glasg. 1890; C.M. Univ. Glasg. 1890.
521	Oct. 2, 1860	Young, John de Courey ...	Victoria	Lic. Fac. Phys. et Surg. Glas. 1858; Lic. R. Coll. Phys. Edin. 1872.
1365	Feb. 9, 1887	Young, Richard Weekes...	Macleay	L. S. A., Lond. 1886; Mem. R. Coll. Surg. Eng. 1886.
1306	May 12, 1886	Young, William Edward...	Melbourne	Lic. R. Coll. Phys. Edin. 1871; Lic. R. Coll. Surg. Edin. 1871.

(Signed)

R. D. WARD, Chairman.
 F. MILFORD, M.D.
 P. SYDNEY JONES, M.D., F.R.C.S.E.
 F. H. QUAIFFE, M.D.
 W. H. GOODE, M.D.

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

PICTURESQUE ATLAS COMPANY.

(PETITION FROM THE COMMITTEE OF THE PICTURESQUE ATLAS DEFENCE ASSOCIATION, PRAYING THE HOUSE TO REAPPOINT A COMMITTEE OR PUBLISH THE EVIDENCE.)

Received by the Legislative Assembly, 3 July, 1895.

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in
Parliament assembled.

The respectful Petition of the Committee and sympathisers of the Picturesque Atlas Defence Association,—

HUMBLY SHOWETH :—

That in the early part of 1893 your Honorable House appointed a Select Committee to take evidence upon sundry matters connected with the transactions of the Picturesque Atlas Company with their subscribers.

That such Committee held numerous meetings, took much evidence, and received many documents which are and have been impounded ever since.

That the dissolution of Parliament closed the labours of the said Committee without any result.

Your Petitioners, therefore, respectfully pray your Honorable House to either reappoint a Committee, so as to complete the labours commenced, or otherwise publish the evidence received, and return all documents to their proper owners.

Trusting your Honorable House will grant this Petition, your Petitioners will, as in duty bound, ever pray.

[*Here follow 20 signatures.*]

1894-5.

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

WIDTH OF TIRES BILL.

(MESSAGE No. 64.)

Ordered by the Legislative Assembly to be printed, 6 June, 1895.

FREDK. M. DARLEY,
Lieutenant-Governor.

Message No. 64.

In accordance with the provisions contained in the 54th section of the Constitution Act, the Lieutenant-Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to regulate the width of the tires of stage-carriages and vehicles constructed to carry loads, and the weight of the loads to be carried on the said vehicles; to provide for painting on the said vehicles the names and residences or places of business of the owners and the weight of the vehicles, and for purposes incidental thereto.

Government House,
Sydney, 30th May, 1895.
